ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ಸಂಖ್ಯೆ: ಮಂವಿ/ಕುಸ/ಸಿಂಡಿ/ಎಸ್2/67/2022/40513

ಕುಲಸಚಿವರ ಕಛೇರಿ ಮಂಗಳಗಂಗೋತ್ರಿ-574199 ದಿನಾಂಕ: 29.11.2022. **ತುರ್ತು ರವಾನೆ**

- Oynalcale Dection-MANGALOKE UNIVERSHI

ರಿಗೆ:

ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿಯ ಎಲ್ಲಾ ಮಾನ್ಯ ಸದಸ್ಯರುಗಳಿಗೆ,

ಮಾನ್ಯರೇ,

ವಿಷಯ: ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿಯ 2022-23 ನೇ ಸಾಲಿನ ತೃತೀಯ ಸಾಮಾನ್ಯ ಸಭೆಯ ಪೂರ್ವಭಾವಿ ಕಾರ್ಯಸೂಚಿಗಳನ್ನು ಕಳುಹಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: ಈ ಕಛೇರಿಯ ಪತ್ರ ಸಮ ಸಂಖ್ಯೆ ದಿನಾಂಕ 07.11.2022.

ದಿನಾಂಕ 15.12.2022 ರಂದು ಪೂರ್ವಾಹ್ನ ಗಂಟೆ 11.00 ಕ್ಕೆ ಸರಿಯಾಗಿ ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಆಡಳಿತ ಸೌಧದ ರಾಣಿ ಅಬ್ಬಕ್ಕ (ಹೊಸ ಸೆನೆಟ್) ಸಭಾಂಗಣದಲ್ಲಿ ನಡೆಯಲಿರುವ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿಯ 2022-23 ನೇ ಸಾಲಿನ ತೃತೀಯ ಸಾಮಾನ್ಯ ಸಭೆಯ ಪೂರ್ವಭಾವಿ ಕಾರ್ಯಸೂಚಿಗಳನ್ನು ಇ.ಮೈಲ್ ಮೂಲಕ ಕಳುಹಿಸಿಕೊಡಲಾಗಿದೆ.

ತಮ್ಮ ವಿಶ್ವಾಸಿ,

ಪ್ರತಿ:

- 2. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯಕಾರ್ಯದರ್ಶಿ (ಉನ್ನತ ಶಿಕ್ಷಣ), ಶಿಕ್ಷಣ ಇಲಾಖೆ, 5 ನೇ ಮಹಡಿ, ಬಹುಮಹಡಿಗಳ ಕಟ್ಟಡ, ಡಾ. ಅಂಬೇಡ್ಕರ್ ವೀಧಿ, ಬೆಂಗಳೂರು-560 001.
- 3. ನಿರ್ದೇಶಕರು, ಐ.ಕ್ಯೂ.ಎ.ಸಿ, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮಂಗಳಗಂಗೋತ್ರಿ.

ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ದಿನಾಂಕ 15.12.2022ರೆಂದು ಪೂರ್ವಾಹ್ನ ಗಂಟೆ 11.00ಕ್ಕೆ ಸರಿಯಾಗಿ ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಆಡಳಿತ ಸೌಧದ ರಾಣಿ ಅಬ್ಬಕ್ಕೆ (ಹೊಸ ಸೆನೆಟ್) ಸಭಾಂಗಣದಲ್ಲಿ ನಡೆಯಲಿರುವ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿಯ 2022-23ನೇ ಸಾಲಿನ ತೃತೀಯ ಸಾಮಾನ್ಯ ಸಭೆಯ ಕಾರ್ಯಸೂಚಿಗಳು.

		ಮುಖಪುಟ	
ವಿಷಯ	ಹಾರ್ಯವಂಚಿ ಸಂಸ್	6 , ,	ಪುಟ
ಸಂಖ್ಯೆ	ರಾಯ್ ಮಾಡ ನಂಖ್ಯ	ವಿಷಯ	ಸಂತಿ
		ದಿನಾಂಕ 16.06.2022ರಂದು ನಡೆದ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿಯ	
Recta		2022-23ನೇ ಸಾಲಿನ ಪ್ರಥಮ ಸಾಮಾನ್ಯ ಸಭೆಯ ನಡವಳಿಯ	
		ದೃಢೀಕರಣ.	
		<u> </u>	
		ಪರಿನಿಯಮ / ವಿನಿಯಮಗಳು :	
CONTR MULTIPLE STREET		ಪಿ.ಜಿ. ಡಿಪ್ಲೋಮಾ ಇನ್ ಸ್ಕೆಬರ್ ಸಕ್ಯೂರಿಟಿ ಆಂಡ್ ಎಥಿಕಲ್	
		ಹ್ಯಾಕಿಂಗ್ ಕಾರ್ಯಕ್ರಮವನ್ನು ನಿಯಂತ್ರಿಸುವ ವಿನಿಯಮದ	
		ಅನುಮೋದನೆ ಬಗ್ಗೆ.	
Tana a		ಕಾರ್ಯಸೂಚೆಗಳು	
	- 9. 9. m ²	ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ	-
	ಎಸನ:ಶೈ.ಮ.ಸಾ.ಸ.	ಬಿ.ಹೆಚ್.ಎಂ. ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ಪ್ರಥಮ ಮತ್ತು ದ್ವಿತೀಯ	1
97. H	3:1 (2022-23)	ಸೆಮಿಸ್ಟರ್ಗಳ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	
	ಎಸಿಸೆ:ಶೈ.ಮ.ಸಾ.ಸ.	Artificial Intelligence, ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸನ್ನು ಬೋಧಿಸಲು	
	3:2 (2022-23)	ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆ ನಿಗದಿಪಡಿಸುವ ಬಗ್ಗೆ.	2
	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.	ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸುಗಳಡಿ ಬರುವ Artificial Intelligence	
	3:3 (2022-23)	ಕೋರ್ಸ್ನ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ	3
	ುಷಿಸಿ. ಮಹಾ ಪ	ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ	
	3.4 (2022-23)	ಬಿ.ಎಸ್ಸಿ. (ಫುಡ್ ಟೆಕ್ನಾಲಜಿ) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ತೃತೀಯ ಮತ್ತು	4
	0.7 (2022 20)	ಚತುರ್ಥ ಸಮಿಸ್ವರ್ಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.	ಸ್ನಾತಕೋತ್ತರ ಎಂ.ಬಿ.ಎ. (ಹೆಲ್ತ್ ಸೇಫ್ಟಿ ಆಂಡ್ ಎನ್ಚಿರಾನ್ಮೆಂಟ್)	5-6
	3:5 (2022-23)	ಕಾರ್ಯಕ್ರಮದ ವಿ.ನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	
stranger to cards to star	ಸಿಬ್ಬಂದಿ:	ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್	
	ಶೈ.ಮ.ಸಾ.ಸ.	ಬಯೋಲಜಿ (Molecular Biology) ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ	7-8
	3:6 (2022-23)	ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	
	ಸಿಬ್ನಂದಿ :	ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ	
	್ಶ ಶ್ಯೆ.ಮ.ಸಾ.ಸ.	ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ	9-10
	3:7 (2022-23)	ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ	
	•	ಅನುಮೋದನೆ ಬಗ್ಗೆ.	

	11 11 11 11 11 11	
14.10	ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಪ್ರಾಚೀನ ಇತಹಾಸ ಮತ್ತು	ಸಿಬ್ಬಂದಿ:
11-12	ಪುರಾತತ್ವಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದಗಳ	ಶೈ.ಮ.ಸಾ.ಸ.
	ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	3:8 (2022-23)
	ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಫುಡ್	
13-14	ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ	ಸಿಬ್ಬಂದಿ:
	ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ	ಶೈ.ಮ.ಸಾ.ಸ.
	ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	3:9 (2022-23)
15	ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಅಧೀನದಲ್ಲಿರುವ ಸ್ವಾಯತ್ತ	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.
	ಕಾಲೇಜುಗಳನ್ನು ನಿರ್ವಹಿಸುವ ಅನುಶಾಸನದ ತಿದ್ದುಪಡಿ ಬಗ್ಗೆ.	3:10 (2022-23)
16	ಪರಿಸರ ಅಧ್ಯಯನ, Ability Enhancement Compulsory Courseನ	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.
	ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	3:11 (2022-23)
	'ಪರಿಸರ ಅಧ್ಯಯನ' Ability Enhancement Compulsory	
17	Courseನ್ನು ಬೋಧಿಸಲು ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆ	ಎಸಿಸಿ:ಶೃ.ಮ.ಸಾ.ಸ.
	ನಿಗದಿಪಡಿಸುವ ಬಗ್ಗೆ.	3:12 (2022-23)
	ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ 2020ರ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ	
18	ಬಿ.ಎಸ್ಸಿ. (ಫುಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಆಂಡ್ ಡೈಟೆಟಿಕ್ಸ್) ಪದವಿ	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.
	ಕಾರ್ಯಕ್ರಮದ I-IV ಸೆಮಿಸ್ಟರ್ಗಳ (I-II ಸೆ. ಪರಿಷ್ಕೃತ)	3:13 (2022-23)
	ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.	
	I-IV ಸೆಮಿಸ್ಟರ್ ಬಿ.ಎ./ಬಿ.ಎಸ್ಸಿ. ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳ Physical	
10	. Education, Sports & Yoga ಕೋರ್ ಕೋರ್ಸಿನ (।-।। ಸೆ. ಪರಿಷ್ಕೃತ)	ಎಸಿಸಿ:ಶೈ.ಮ.ಸಾ.ಸ.
13	ಮತ್ತು ಮೌಲ್ಯಾಧಾರಿತ ಕೋರ್ಸುಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ	3:14 (2022-23)
	ಬಗ್ಗೆ.	

ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ಫನತೆವೆತ್ತ ಕುಲಾಧಿಪತಿಗಳಿಂದ ಅನುಮೋದನೆ ಪಡೆದುಕೊಂಡ ವಿನಿಯಮದ ವಿವರ

2 - 1	ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿಷಯ	ಪ್ರಸ್ತಾವನೆಯನ್ನು ಸಲ್ಲಿಸಿದವರು	ಕುಲಾಧಿಪತಿಗಳ ಪತ್ರದ ವಿವರ
		Regulations Governing Post Graduate Diploma Programme in Cyber Security and Ethical Hacking.	ಕುಲಸಚಿವರು, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ : ಕುಲಸಚಿವರ ಪತ್ರ ಸಂಖ್ಯೆ ಮಂವಿ/ಶೈಕ್ಷಣಿಕ/ ಸಿ.ಆರ್.59/2020-21/ ಎ2, ದಿನಾಂಕ 28.03.2022 ರೊಂದಿಗೆ ವಿನಿಯಮವನ್ನು ಘನತೆವೆತ್ತ ಮಾನ್ಯ ಕುಲಾಧಿಪತಿಗಳ ಅನುಮೋದನೆಗಾಗಿ ಸರ್ಕಾರಕ್ಕೆ ಸಲ್ಲಿಸಲಾಗಿತ್ತು.	ಸದರಿ ವಿನಿಯಮಕ್ಕೆ ದಿನಾಂಕ 15.07.2022ರಂದು ಮಾನ್ಯ ರಾಜ್ಯಪಾಲರು ಹಾಗೂ ಕುಲಾಧಿಪತಿಗಳು ಅನುಮೋದನೆ ನೀಡಿರುತ್ತಾರೆ ಎಂದು ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ, ಬೆಂಗಳೂರು ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ ಇಡಿ 5 ಯುಡಿಎಸ್ 2021 ದಿನಾಂಕ 19.09.2022ರಲ್ಲಿ ತಿಳಿಸಿರುತ್ತಾರೆ.

ź





ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಕ್ರಮಾಂಕ: ಇಡಿ 5 ಯುಡಿಎಸ್ 2021

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಚಿವಾಲಯ ಬಹ್ರುಮಹಡಿಗಳ ಕಟ್ಟಡ ಬೆಂಗಳೂರು, ದಿನಾಂಕ 19.09.2022

ಇಂದ

ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ಶಿಕ್ಷಣ ಇಲಾಖೆ (ಉನ್ನತ ಶಿಕ್ಷಣ), ಬೆಂಗಳೂರು - 560 001.

<u>ನೋಂದಾಯಿತ ಅಂಚೆ ಮೂಲಕ</u>

ಇವರಿಗೆ

ಕುಲಸಚಿವರು, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾಲಯ, ಮಂಗಳೂರು.

ಮಾನ್ಯರೆ,

ವಿಷಯ:-	ಪಿ.ಜಿ ಡಿಪ್ಲೋಮಾ ಇನ್ ಸೈಬರ್ ಸೆಕ್ಯುರಿಟಿ ಅಂಡ್ ಪಿಥಿಕಲ್
	ಹಾಕಿಂಗ್ ಕಾರ್ಯಕ್ರಮವನ್ನು ನಿಯಂತ್ರಿಸುವ ವಿನಿಯಮದ
	ಅನುಮೋದನೆ ಬಗ್ಗೆ.
ಉಲ್ಲೇಖ:-	ತಮ್ಮ ಪತ್ರ ಸಂಖ್ಯೆ: ಮಂವಿ ಶೈಕ್ಷಣಿಕ/ಸಿಆರ್ 59/2020-21/ಎ2.
	ದಿನಾಂಕ 28.03.2022

ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಸರ್ಕಾರಕ್ಕೆ ಸಲ್ಲಿಸಲಾಗಿದ್ದ Regulation governing Postgraduate Diploma in Cyber security and Ethical Hacking ಗೆ ಮಾನ್ಯ ರಾಜ್ಯಪಾಲರು ಹಾಗೂ ಕುಲಾಧಿಪತಿಗಳು ದಿನಾಂಕ 15.07.2022 ರಂದು ಅನುಮೋದನೆ ನೀಡಿರುತ್ತಾರೆ ಎಂದು ತಿಳಿಸಲು ಹಾಗೂ ಮಾನ್ಯ ರಾಜ್ಯಪಾಲರು ಹಾಗೂ ಕುಲಾಧಿಪತಿಗಳಿಂದ ಅನುಮೋದಿಸಲ್ಪಟ್ಟಿರುವ ಪೂರ್ವೋಕ್ತ ವಿನಿಯಮಗಳ ಮೂಲ ಪ್ರತಿಯನ್ನು ಈ ಪತ್ರದೊಂದಿಗೆ ಲಗತ್ತಿಸಿ, ತಮಗೆ ಕಳುಹಿಸಿಕೊಡಲು ನಾನು ನಿರ್ದೇಶಿಸಲ್ಪಟ್ಟಿದ್ದೇನೆ.

MANGALORE UNIVERSITY ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ RESTACT OFFICE & SAUSSE SUCO 27 SEP 2022

Regn No

ತಮ್ಮ ನಂಬುಗೆಯ

(ಶೇತಲ್ ಎಂ ಹಿರೇಮಠ) ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ(ಪ್ರ) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ(ವಿಶ್ವವಿದ್ಯಾಲಯ-2)

MANGALORE UNIVERSITY

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REGULATIONS GOVERNING POST GRADUATE DIPLOMA PROGRAMME IN CYBER SECURITY AND ETHICAL HACKING

(Framed as per Section 44 (1) (c) of K.S.U. Act 2000)

Preamble

The main aim of National Education Policy -2020 is to increase the employability skill of a student while pursuing any kind of programme of his choice. It will provide an active link between education system and the industry and provide the skill sets in a job oriented specialized programme.

Cyber Security awareness is the combination of both knowing and doing something to protect information assets. When an enterprise's employees are cyber security aware, it means they understand what cyber threats are, the potential impact a cyber-attack will have on their business and the steps required to reduce risk and prevent cyber -crime infiltrating their online workspace. In all these circumstances Mangalore University has proposed to start Post Graduate Diploma in Cyber Security and Ethical Hacking.

1. Title and Commencement

- 1.1 These regulations shall be called "Regulations governing Postgraduate Diploma in Cyber security and Ethical Hacking".
- 1.2 These regulations shall come into force from the date of assent of the Chancellor.

2. Eligibility for Admission

- 2.1 Candidates who have passed any Bachelor's Degree examination or an examination recognized by the University as equivalent shall be eligible for this Post Graduate Diploma Programme.
- 2.2 Selection shall be on the basis of merit-cum-reservation and according to the Government's reservation policy existing at the time of implementation.

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- 2.3 Those who are pursuing any Masters's degree programme in Mangalore University are eligible to pursue this programme as a part time programme along with their Master's programme which will be stretched for 2 years.
- 2.4 Working professionals can also apply for the programme and pursue it on part time basis.

3. Duration of the Programme

One year – full time

Two years – part time

4. Medium of Instruction

The medium of instruction and examination shall be English.

5. Attendance

Each course shall be treated as an independent unit for the purpose of attendance. A student shall attend a minimum of 75% of the total instruction hours in a course including tutorials and seminars. If the student does not satisfy the above condition, he/she shall be required to repeat the programme in a subsequent year.

6. Maximum period for Completion of the Programme

The candidate shall complete the programme within the period prescribed in the regulations governing maximum period for completing various degree/diploma programmes of Mangalore University.

7. Mode of delivery, Hours of Instruction and Scheme of Examinations

The mode of delivery can be one among online or offline or blended modes, whichever is suitable at the time of the implementation of a batch.

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MANGALORE UNIVERSITY MANGALAGANGOTHRI - 574 199 The details of hour of instruction and the scheme of examination shall be as stated below.

•		Duration	IA	Exam	Total	Credit
Courses	Instruction	Duration		,		
	Hrs. Per	orexam				
	course/Week	(hrs.)				
I Semester				01170	0v100	3X/
3 Courses	3x4	3x3	3x30	3x/0	31100	344
(Hard Core)						
(1111-	к. 4				01100	020
2 courses	2x3	2X3	2x30	2x70	2x100	243
(Soft Core)						0.27.0
(Dore Core)	2X4	2X3	2x30	2x70	2X100	2X2
2 Placticals			210	490	700	22
Total						
II Semester			01/20	2x70	3x100	3x4
3 Courses	3x4	3x3	3x30	3x/0	JALOO	
(Hard Core)						
				01170	0v100	282
2 courses	2x3	2x3	2x30	2x70	2X100	240
(Soft Core)					01100	020
2 Practicals	2X4	2X3	2X30	2x70	2X100	282
1 Cominar	1X1	-	15	35	50	1X1
1 Seminar			225	525	750	23
Total						

8. Internal Assessment:

8.1 The Internal assessment marks shall be based on tests and assignments.

- 8.2. Marks scored in the internal assessment shall be indicated separately in the Marks card.
- 8.3 Internal assessment marks of a failed candidate shall be retained and carried forward to his/her subsequent examination.

9. Registering for Examination:

A candidate shall register for all the courses/papers in the programme when he/she appears for the examination for the first time.

10. Minimum for Pass:

10.1 No candidates shall be declared to have passed in the examination unless he/she has obtained not less than 40% marks in the University Examination in each Course. Further, the candidate shall have obtained a cumulative of 40% marks in examination and internal assessment.

Registrar MANGALORE UNIVERSITY MANGALAGANGOTRI-574 199 3

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10.2 There shall be no minimum in respect of internal assessment.

10.3 A candidate who fails in any of the theory courses shall reappear in that theory course and pass the examination subsequently.

11. Classification of successful candidates:

- 11.1 The results of successful candidates shall be classified on the basis of aggregate marks obtained.
- 11.2 The candidates who pass the examinations in the first attempt are eligible for ranks provided they secure at least 60%.

Percentage of marks for declaring class:

First class with Distinction	70% and above
First Class	60% and above, but less than $70%$
Second Class	50% and above, but less than 60%
Pass Class	40% and above, but less than 50%

12. Improvement of Results

- 12.1 A candidate may be permitted to improve the results of the whole examination, within 30 days after the publication his/her result or 10 days from the date of dispatch of his/her Marks cards by the Registrar (E) to the department whichever is later, and reappear for improvement. Course-wise improvement shall not be permitted.
- 12.2 The improvement option shall be exercised only once and the rejection once exercised cannot be revoked.
- 12.3 Application for improvement along with the payment of prescribed fee shall be submitted through the department together with the original statement of marks.
- 12.4 The internal assessment marks secured by the candidate during the programme shall be carried forward.
- 12.5 A Candidate who appears for improvement is eligible only for class and not for ranking.

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HAAWARCHAND GHANGALAGANGOTHRI - 574 192 CHANCELLOR சாலாகாலு. வலல்: தீ. வ. க. டீ. 3:1 (2022-23)

ವಿಷಯ: ರಾಷ್ಕ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ ಬಿ.ಹೆಚ್.ಎಂ. ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ಪ್ರಥಮ ಮತ್ತು ದ್ವಿತೀಯ ಸೆಮಿಸ್ಟರ್ ಗಳ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ಪ್ರೊ. ನಿಖಲೇಶ್ ನಾಯರ್, ಅಧ್ಯಕ್ಷರು, ಪದವಿ ಮಟ್ಟದ ಹೊಟೇಲ್ ಮ್ಯಾನೇಜ್ಮೆಂಟ್ ಅಧ್ಯಯನ ಮಂಡಳಿ ಇವರು ದಿನಾಂಕ:12.11.2022 ರಂದು ನಡೆದ ಪದವಿ ಮಟ್ಟದ ಹೊಟೇಲ್ ಮ್ಯಾನೇಜ್ಮೆಂಟ್ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯಲ್ಲಿ ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ ಬಿ.ಹೆಚ್.ಎಂ. ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ಪ್ರಥಮ ಮತ್ತು ದ್ವಿತೀಯ ಸಮಿಸ್ಟರ್ಗಳ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮವನ್ನು ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ನಡವಳಿಯೊಂದಿಗೆ ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ.

NNNNNN

ಸದರಿ ಪಠ್ಯಕ್ರಮವನ್ನು ವಾಣಿಜ್ಯ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ.

23/11/2022

Mangalore 12/11/2022

To,

The Registrar, Mangalore University Mangalagangothri

Subject:Agenda of Board of Studies (BOS) meeting for BHM of MangaloreUniversity.Ref:your letter No.MU/Reg./Syn (S5)/36/2022-37506 dt.09-11-2022

Dear Sir,

This is with reference to the above mentioned subject regarding the Agenda of Board of Studies (BOS) meeting for BHM of Mangalore University.

Proposed date: 12th November, 2022.

Venue: Moti Mahal College of Hotel Management, Mangalore.

Proposed Arenda is as follows:

The Review of Syllabus for the academic session 2022-23; I & II Semester BHM

As per the instruction from the Mangalore University, BOS -BHM meeting was conducted on 12/11/2022 and during the meeting Syllabus is reviewed as per the Model structure provided by the University. We have matched 25 credits as per the University model structure.

I request you to kindly do the needful.

Thanking You,

Yours Paithfully,

(Prof. Nikhilesh Nair)

BOS Chairperson-BHM Mangalore University Mangalagangothri.

Board of studies [BHM] Meeting

Proposed date: 12/11/2022 (Saturday) Venue: Moti Mahal College of Hotel Management, Mangalore.

Meeting chaired by Prof. Nikhilesh Nair, Chairman, BOS (BHM)

Members:

1	Prof. Nikhilesh Nair Moti Mahal College of Hotel Management, Mangalore	Chairman- BOS	Ha
2.	Mr. J. Vijay Shree Devi College of Hotel Management, Mangalore	Member- BOS	Softin
3.	Mr. Uday Menon Sarosh Institute of Hotel Administration, Mangalore	Member-BOS	Marti
4.	Mrs. Jayaprada K. P. Udupi College of Professional Studies, Manipal	Member-BOS	Jaul 22
5.	Prof. Sooraj R V Principal, Moti Mahal College of Hotel Management, Mangalore	Principal, Moti Mahal College of Hotel Management	Commy

(Prof. Nikhilesh Nair) BOS Chairperson-BHM Mangalore University Mangalagangothri. C7. Model Programme Structure for Undergraduate Programin Bachelors of Hotel Management with Hotel Management as Core subject with Practical

Sem	Discipline core (DSC)	Discipline Elective (DSE) / Open Elective	PSE) / ective edits) Ability Enhancement Compulsory courses (AECC), Languages (Credits) (L+T+P)		Skill Enhancemen	Total Credits			
	(Credits) (L+T+P)	(OE) (Credits) (L+T+P)			Skill Based (Credits) (L+T+P)	Value (Credit			
1	HM C1 Food & Beverage Production – I (3+2) (3+0+4) HM C2 Accommodation Operations – I (3+2) (3+0+4) HM C3 Food & Beverage Service – I (3+2) (3+0+4)	OE1/OE2/OE3 (3) (3+0+0) For Non-BHM Students	Language 1 – 1 (3) (4+0+0) Language 2 1 (3) (4+0+0)		SEC 1: Digital Fluency (2) (2+0+0)	Yoga (1) (0+0+ 2)	Health & Wellness (1) (0+0+2)	25	
2	HM C4 Food & Beverage Production – II (3+2) (3+0+4) HM C5 Food & Beverage Service – II (3+2) (3+0+4) HM C6 Accommodation Operations – II (3+2) (3+0+4)	OE4 / OE5 / OE6 (3) (3+0+0) For Non-BHM Students	Language 1 – 2 (3) (4+0+0) Language 2 (3) (4+0+0)	Environ mental Studies (2) (2+0+0)		Sports (1) (0+0+ 2)	NCC / NSS / R&R (S&G) / Cultural (1) (0+0+2)	25	

Course Details

			COUI	RSE DETAILS OF BACHELORS MANAGEMENT PROGRA	S IN HOT M	TEL		l en 1		
Sem	Course code	Category of course	Theory/ Fractical	Paper Title	Instr uctio n hrs. / Week	Durat ion of Exam (Hrs)		Schen Examin Evalua	te of ation ation	Credits
							IA	Exa m	Total	
		AECC	Theory	Language 1	1 x 4	1 x 2	40	60	100	3
	L2 1	AECC	Theory	Language 2	1 x 4	1 x 2	40	60	100	3
	HM C 1 (T)	DSC	Theory	Food & Beverage Production I	1 x 3	1 x 2	40	60	100	3
	HM C 1 (P)	DSC	Practical	Food & Beverage Production I	1 x 4	1 x 4	25	25	50	2
	HM C 2 (T)	DSC	Theory	Accommodation Operations I	1 x 3	1 x 2	40	60	100	3
	HM C 2 (P)	DSC	Practical	Accommodation Operations I	1 x 4	1 x 4	25	25	50	2
	HM C 3 (T)	DSC	Theory	Food & Beverage Service I	1 x 3	1 x 2	40	60	100	3
1	HM C 3 (P)	DSC	Practical	Food & Beverage Service I	1 x 4	1 x 4	25	25	50	2
	VB 1	VB	Practical	Physical Education Yoga	1 x 2		25	25	50	1
	VB 2	VB	Practical	Physical Education Health & Wellness	1 x 2	1	25	25	50	1
4	SEC 1	SEC	Theory	Digital Fluency	1 x 2	1 x 2	20	30	50	2
	TOTAL					A stated for	A CAR			2
		OE 1		Service Quality Management						43
	OE*	OE 2	Theory	Housekeeping Decorations	1x3	1 x 2	40	60	100	3*
		OE 3		Food & Nutrition					100	
				*For Non BHM Students						

Sem	Course code	Category of course	Theory/ Practical	Paper Title	Instruction hrs. / Week	Duration of Exams (Hrs)	I	Scheme Examina Evaluat	of tion ion	Credits
				-			IA	Exam	Total	
	L12	AECC	Theory	Language 1	1 x 4	1 x 2	40	60	100	3
	L2 2	AECC	Theory	Language 2	1 x 4	1 x 2	40	60	100	3
	HM C 4 (T)	DSC	Theory	Food & Beverage Production II	1 x 3	1 x 2	40	60	100	3
	HM C 4 (P)	DSC	Practical	Food & Beverage Production II	1 x 4	1 x 4	25	25	50	2
gi en la seta Seta del seta	HM C 5 (T)	DSC	Theory	Food & Beverage Service II	1 x 3	1 x 2	40	60	100	3
	HM C 5 (P)	DSC	Practical	Food & Beverage Service II	1 x 4	1 x 4	25	25	50	2
	HM C 6 (T)	DSC	Theory	Accommodation Operations II	1 x 3	1 x 2	40	60	100	3
II	HM C 6 (P)	DSC	Practical	Accommodation Operations II	1 x 4	1 x 4	25	25	50	2
	VB 3	VB	Practical	Physical Education Sports	1 x 2		25	25	50	1
	VB 4	VB	Practical	Physical Education NCC / NSS / R&R (S & G) / Cultural	1 x 2		25	25	50	1
	AECC 1	AECC	Theory	Environmental Studies	1 x 2	1 x 2	20	30	50	2
	TOTAL			and the second						25
- Ka		OE 4		Tour Operations Management			ne excelance adaptions	Contraction of the second s	and an an an and the second	
	OE*	OE 5	Theory	Hygiene & Food Safety	1 x 3	1 x 2	20	30	100	3*
		OE 6		Tourism and Climate Change						
1.				*For Non BHM Students			1			
Exit	Option with Ce	rtificate in H	otel Manage	ment with the completion of courses	equal to a mini	mum of 48 (Credi	ts		la statistica. La statistica

SEMESTER - I

1N8.	ma of the Dreament II. ()	• •
	me of the Program: Hotel	
Manag	gementCourse Code: HM C	. 일이는 사람감 한가는
양성을 통하지 않는 것이라는 것이다. 것은 것이다. 같은 것은 것은 것은 것이 같은 것이다. 귀구한 것	(1)	동네 날날 영광 방송 영상은
Cours	se category: Discipline Core Course	
Name of the Co	ourse: Food & Beverage Pro (Theory)	duction-I
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs.	40 Hrs.
Course Objectives:		
a. Elaborate on the evolution of t	he culinary industry	성원의 경험을 전철을 즐길러 가지는 것으로 있다. 1996년 1월 1일 - 전문에 가지는 것으로 있다.
b. Explain the use and characteris	stics of food commodities	[방송·화고 연락하는 것이다. [방송·제제] - 이 아이는 것이다.
c. Evaluate the various kitchen sa	afety and security measures	관련 친구랑 관리 등 도
d. Acquire necessary knowledge	required for a career in the fie	eld of culinary
Course Outcomes:		in or varmar j
a. Explain the Origin and Evolution of	of Modern Cookery	23. 1948년 11월 12일 - 12일 - 12일 - 12일 - 12일 12일 - 14일 - 12일
b. Identify various tools used for coo	king	
c. Elaborate on the role and importan	nce of various cooking ingredi	ents
d. Analyze the basic food nutrients a	nd its role	경험적 그 방법적 것으로 집 것을 했다.
e. Assess the importance of kitchen s	afety measures	
e. Assess the importance of kitchen s f. Elucidate the importance of waste	afety measures management in kitchen	(영상) 1943년 - 1943년 1949년 - 1943년 - 1943년 - 1943년 1949년 - 1943년 - 19
e. Assess the importance of kitchen s f. Elucidate the importance of waste in UNIT-1: INTRODUCTION TO T	afety measures management in kitchen HE ART OF COOKERY	
e. Assess the importance of kitchen s f. Elucidate the importance of waster UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs.	afety measures management in kitchen HE ART OF COOKERY	
 e. Assess the importance of kitchen s f. Elucidate the importance of waster UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 	afety measures management in kitchen HE ART OF COOKERY	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 	afety measures management in kitchen HE ART OF COOKERY	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Description 	afety measures management in kitchen HE ART OF COOKERY ription & Specification	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Desce 1.4 Identification of Kitchen equipm 	afety measures management in kitchen HE ART OF COOKERY ription & Specification tent, utensils, layout	
 e. Assess the importance of kitchen s f. Elucidate the importance of waster UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Descu 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles & M 	afety measures management in kitchen HE ART OF COOKERY ription & Specification tent, utensils, layout fethods of Cooking Food	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Desce 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles &M 1.6 Types of Cooking Fuels 	afety measures management in kitchen HE ART OF COOKERY ription & Specification lent, utensils, layout fethods of Cooking Food	
 e. Assess the importance of kitchen s f. Elucidate the importance of waster UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Desce 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles &M 1.6 Types of Cooking Fuels 1.7 Personal Hygiene &Kitchen Ethi 	afety measures management in kitchen HE ART OF COOKERY ription & Specification lent, utensils, layout fethods of Cooking Food	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Desce 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles &M 1.6 Types of Cooking Fuels 1.7 Personal Hygiene &Kitchen Ethi UNIT-2: FOOD COMMODITIES 	afety measures management in kitchen HE ART OF COOKERY ription & Specification tent, utensils, layout fethods of Cooking Food	
 e. Assess the importance of kitchen s f. Elucidate the importance of waster UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Desce 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles &M 1.6 Types of Cooking Fuels 1.7 Personal Hygiene &Kitchen Ethi UNIT-2: FOOD COMMODITIES No of Hours: 15 Hrs. 	ription & Specification nent, utensils, layout fethods of Cooking Food	
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Descendent 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles & M 1.6 Types of Cooking Fuels 1.7 Personal Hygiene & Kitchen Ethi UNIT-2: FOOD COMMODITIES No of Hours: 15 Hrs. 2.1 Classification, Origin & Cuts of finance 	ription & Specification ent, utensils, layout dethods of Cooking Food ics	
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 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Descendent 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles & Market 1.6 Types of Cooking Fuels 1.7 Personal Hygiene & Kitchen Ethin UNIT-2: FOOD COMMODITIES No of Hours: 15 Hrs. 2.1 Classification, Origin & Cuts of fi 2.2 Role of Fats and Oils used in Cook 2.3 Spices and Herbs used in Indian Grains Pulses Cook 	ription & Specification nent, utensils, layout dethods of Cooking Food ics ruits and vegetables okery Cuisine	cookerv
 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Descendent 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles & Markov 1.6 Types of Cooking Fuels 1.7 Personal Hygiene & Kitchen Ethin UNIT-2: FOOD COMMODITIES No of Hours: 15 Hrs. 2.1 Classification, Origin & Cuts of fi 2.2 Role of Fats and Oils used in Cook 2.3 Spices and Herbs used in Indian G 2.4 Role of Indian Grains, Pulses, Cook 2.5 Classification, Composition & Pr 	afety measures management in kitchen HE ART OF COOKERY ription & Specification tent, utensils, layout dethods of Cooking Food ics ruits and vegetables okery Cuisine ondiments, Herbs & Spices in o	cookery
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 e. Assess the importance of kitchen s f. Elucidate the importance of wasten UNIT-1: INTRODUCTION TO T No of Hours: 15 Hrs. 1.1 Introduction to Culinary 1.2 Evolution of Global Food Culture 1.3 Kitchen hierarchy and Job Descendent 1.4 Identification of Kitchen equipm 1.5 Aims, Objectives, Principles & M 1.6 Types of Cooking Fuels 1.7 Personal Hygiene & Kitchen Ethin UNIT-2: FOOD COMMODITIES No of Hours: 15 Hrs. 2.1 Classification, Origin & Cuts of fi 2.2 Role of Fats and Oils used in Cod 2.3 Spices and Herbs used in Indian G 2.4 Role of Indian Grains, Pulses, Cod 2.5 Classification, Composition & Pr 2.6 Classification & Cuts of Fish, Me 2.7 Cleaning and pre-preparation of fish 	afety measures management in kitchen HE ART OF COOKERY ription & Specification tent, utensils, layout 4ethods of Cooking Food ics ruits and vegetables okery Cuisine ondiments, Herbs & Spices in of reparation of Eggs eats (Beef, Lamb, Pork & Pou food commodities	cookery lltry)

UNIT-3: KITCHEN SAFETY AND QUALITY CONTROL No of Hours: 10 Hrs.

- 3.1 Introduction to FSSAI & HACCP
- 3.2 Kitchen Safety measures (Fire Safety & Handling Fire Extinguishers)
- 3.3 Anatomy, Classification & Handing of kitchen Knives
- 3.3 Food Safety & Preservation Techniques
- 3.4 Purchase Quality & Storage of Food Products Meat, Fish, Vegetable, Fruits Etc.
- 3.5 Kitchen Waste Management

3.6 Basic First Aid

Suggestive Readings:

- a. Food Production Operations by Chef Parvinder S. Bali
- b. Practical Professional Cookery by Cracknell and Kaufmann
- c. Catering Management by Mohini Sethi & Surjeet Malhan
- d. Hygiene and Sanitation by S. Roday
- e. Indian Food: A Historical Companion by Achaya KT

f. Food: A Culinary History by Jean-Louis Flandrin

Online Resources

a. Culinary Dictionary Index

Link: https://whatscookingamerica.net/glossary/

b. The Cook's Thesaurus

Link: http://www.foodsubs.com/

c. Real Food Encyclopedia

Link: https://foodprint.org/eating-sustainably/real-food-encyclopedia/

C

	Name of t C Course c	he Program: Hotel Managem ourse Code: HM C1 (P) ategory: Discipline Core Cour	ent
	Name of the Course:	Food & Beverage Production	-I (Practical)
	Course Credits	No. of Hours per Week	Total No. of Teaching Hours
	2 Credits	4 Hrs.	52 Hrs.
1	a. Acquire knowledge and sl b. Get familiar with the lates	es: cills in the areas of culinary ope t food preparation skills and tee	erations and management chniques
a b c	Demonstrate the basic cuts Demonstrate basic cooking Prepare culinary delicacies	of Meats, Poultry, vegetables an techniques used in commercial belonging to various Indian Cu	nd fruits kitchens isines
	WEEK1: Foundation of cooking – Ide Operations of Equipments a	entification of Kitchen Utensils, nd Knife Handling Procedures,	Equipments & Ingredients, Kitchen Hygiene
	WEEK2: Basic Cooking Methods and Macedoine, Brunoise, Paysa	Pre-Preparations – Cuts of Ve nne, Dices, Cubes, Shred, Mire	getables (Julienne, Jardinière, poix, etc.)
1)	Blanching		일을 다 정말 한다. 1993년 - 1997년 - 1997년 1997년 - 1997년 -
2)	Boiling	일상, 역가 이미요, 것은 강하는 것도 않 모습니다. 것은 것은 것이 같아요. 것	
3)	Sautéing	and the second	
9	WEEK3:		
	Basic Cooking Methods and	Pre-Preparations - Cuts of Chi	cken
1) 2) 3)	Roasting Braising Broiling		
	WEEK4:		
1) 2) 3)	Basic Cooking Methods and Frying (Deep Frying & Sallo Stewing Steaming	Pre-Preparations - Cuts of Fish w Frying)	

WEEK 5: Egg Cookery

Demonstration and Preparation of Egg dishes

- 1) Boiled Egg (Soft & Hard)
- 2) Fried Egg (Easy Over, Bull's Eye, Double fried Etc.)
- 3) Scrambled Egg
- 4) Poached Egg (Egg Benedict)
- 5) Omelette (Plain, Stuffed, Spanish)

WEEK 6: Karnataka Cuisine - 3 Course Menu with Accompaniments

WEEK 7: Chettinad Cuisine - 3 Course Menu with Accompaniments

WEEK 8: Kerala Cuisine - 3 Course Menu with Accompaniments

WEEK 9: Andhra Cuisine - 3 Course Menu with Accompaniments

WEEK 10: Goan Cuisine - 3 Course Menu with Accompaniments

WEEK11: Maharashtrian Cuisine - 3 Course with Accompaniments

WEEK12: Coastal Karnataka Cuisine (Karavali) - 3 Course Menu with Accompaniments

WEEK13: Hyderabadi Cuisine - 3 Course Menu with Accompaniments

Suggestive Readings:

a. Food Production Operations by Chef Parvinder S. Bali

b. Practical Professional Cookery by Cracknell and Kaufmann

c. Catering Management by Mohini Sethi & Surjeet Malhan

d. Hygiene and Sanitation by S. Roday

e. Indian Food: A Historical Companion by Achaya KT

f. Food: A Culinary History by Jean-Louis Flandrin

Online Resources

a. Culinary Dictionary Index

Link: https://whatscookingamerica.net/glossary/

b. The Cook's Thesaurus

Link: http://www.foodsubs.com/

c. Real Food Encyclopedia

Link: https://foodprint.org/eating-sustainably/real-food-encyclopedia/

Name of the Program: Hotel Management Course Code: HM C2 (T)

Course category: Discipline Core Course

Name of the Course: Accommodation Operations - I (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs.	40 Hrs.

Course Objectives:

- a. To provide students with a systematic approach to managing accommodation operations in the hospitality industry.
- b. To prepare students with what it takes to direct the day-to-day operations of this vital department, from "big picture" management down to technical details.

Course Outcomes:

- a. Explain the meaning and evolution of Hospitality and Tourism Industry
- b. Compare the various types of Hotels, Guest rooms and Tariff plans
- c. Describe the various functional areas of the accommodations department
- d. Highlight the importance of intra & inter departmental coordination
- e. Identify various Guest services challenges faced by accommodations personnel

UNIT-1: INTRODUCTION TO HOSPITALITY INDUSTRY

No of Hours: 13 Hrs.

- 1.1 Meaning, Definition & Origin of Hospitality Industry
- 1.2 Importance of Travel & Tourism sector for hotels
- 1.3 Evolution & Growth of Global & Indian Hospitality Industry
- 1.4 Classification of Accommodation facilities
- 1.5 Types of Guests Rooms
- 1.6 Core and Non-Core departments of a hotel
- 1.7 Organizational structure of a hotel
 - 1.8 Role of Information Technology in Accommodation operations

1.9 Careers in Accommodations department

UNIT- 2: INTRODUCTION TO ACCOMMODATIONS DEPARTMENT (FRONT OFFICE) No of Hours: 14 Hrs.

2.1 Functional Areas, Sections and Layouts of Hotel Front Office

2.2 Front Office Department Hierarchy

2.3 Duties and Responsibilities of Front Office Personnel

2.4 Qualities of Front Office Personnel

- 2.5 Front Office Communication
- 2.6 Interdepartmental Coordination & Communication

2.7 Introduction to Room Tariffs

UNIT- 3: INTRODUCTION TO ACCOMMODATIONS DEPARTMENT(HOUSEKEEPING) No of Hours: 13Hrs.

3.1 Functional Areas, Sections and Layouts of Housekeeping

3.2 Qualities of Front Office Personnel

3.3 Responsibilities and Functions of Housekeeping personnel

- 3.4 Role of Housekeeping in Allied Industries
- 3.5 Housekeeping Organizational Structure
- 3.6 Inter departmental Coordination
- 3.7 Job description and specification of housekeeping personnel

Suggestive Readings:

- a. Managing Front Office Operations Michael L Kasavanna& Richard M.Brooks
- b. Front Office Operations and Management Jatashankar R. Tiwari
- c. Principles of Hotel Front Office Operations- Su Baker, Pam Bradley
- d. Hotels for Tourism Development Dr. Jagmohan Negi
- e. Housekeeping Operations, Design and Management by Malini Singh, Jaya B George
- f. Green Housekeeping By Christina Strutt

Online Resources

a. Hotel Housekeeping Duties: A Day in the Life - Hotel Tech Report

Link: https://hoteltechreport.com/news/hotel-housekeeping-duties/

b. Role of Housekeeping in Guest Satisfaction and Repeat Business - Himanshu Rajak

Link: https://hmhub.me/role-of-housekeeping-in-guest-satisfaction-and-repeat-business/

c. Top issues and solutions for your housekeeping department- Larry Mogelonsky

Link: <u>https://www.todayshotelier.com/2018/06/11/top-issues-and-solutions-for-your-housekeeping-department/</u>

Note: Any other relevant reference/textbooks can be included.

	Name of the Program: Hotel	
	HM C2 (P)	
가 한 사람으로 한 것을 가지. 같이 한 사람들은 것을 가지? 같이 한 사람들은 것을 가지?	Course category: Discipline Core Course	
Name of	f the Course: Accommodation Op I (Practical)	erations -
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 Credits	4 Hrs.	52 Hrs.
Course Objectives:		
b. To prepare students w department, from "big picture" ma	ith what it takes to direct the day-to nagement down to technical details	-day operations of this vita
Course Outcomes:		
- D-1-		
a. Develop a smart persona	ality in tune with the hospitality ind	lustry standards
b. Efficiently handle guest	ality in tune with the hospitality ind requirements and complaints	lustry standards
a. Develop a smart personb. Efficiently handle guestc. Perform guest reservation	ality in tune with the hospitality ind requirements and complaints on and registration functions	lustry standards
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette	lustry standards
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage	lustry standards
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body lat WEEK 3: Welcoming / Gr 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage reeting the guest	lustry standards
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest cals & Currencies of the world	lustry standards
 a. Develop a smart persona b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest cals & Currencies of the world of the world, Important Tourism d	estinations of the World
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines WEEK 6: Luggage handlir Errand Cards for each 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest cals & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev	estinations of the World v and Groups + Preparing
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines WEEK 6: Luggage handling Errand Cards for each WEEK 7: Identification and 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest cals & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev	estinations of the World v and Groups + Preparing
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 3: Welcoming / Gr WEEK 5: Official Airlines WEEK 5: Official Airlines WEEK 6: Luggage handling Errand Cards for each WEEK 7: Identification and WEEK 8: Identification of 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest als & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev and usage of Cleaning Chemicals Housekeeping Equipment	estinations of the World v and Groups + Preparing
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines WEEK 5: Official Airlines WEEK 6: Luggage handling Errand Cards for each WEEK 7: Identification and WEEK 8: Identification of WEEK 9: Bed Making Par 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest tals & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev nd usage of Cleaning Chemicals Housekeeping Equipment t 1	estinations of the World v and Groups + Preparing
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines WEEK 5: Official Airlines WEEK 6: Luggage handling Errand Cards for each WEEK 7: Identification and WEEK 8: Identification of WEEK 9: Bed Making Par WEEK 10: Bed Making Par 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest cals & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev and usage of Cleaning Chemicals Housekeeping Equipment t 1 art 2	estinations of the World v and Groups + Preparing
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body late WEEK 3: Welcoming / Gring WEEK 3: Welcoming / Gring WEEK 4: Countries, Capita WEEK 5: Official Airlines WEEK 5: Official Airlines WEEK 6: Luggage handlir Errand Cards for each WEEK 7: Identification and WEEK 8: Identification of WEEK 9: Bed Making Par WEEK 10: Bed Making Par WEEK 11: Identification and 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest als & Currencies of the world of the world, Important Tourism d ng – FIT, Walk-Ins, Corporate, Crev and usage of Cleaning Chemicals Housekeeping Equipment t 1 art 2 nd maintenance of Guest & Non-G	estinations of the World v and Groups + Preparing uest Linen
 a. Develop a smart personal b. Efficiently handle guest c. Perform guest reservation WEEK 1: Personal Hygie WEEK 2: Positive Body la WEEK 3: Welcoming / Gr WEEK 3: Welcoming / Gr WEEK 4: Countries, Capit WEEK 5: Official Airlines WEEK 5: Official Airlines WEEK 6: Luggage handling Errand Cards for each WEEK 7: Identification and WEEK 9: Bed Making Par WEEK 10: Bed Making Par WEEK 11: Identification a WEEK 12: Glossary Terms 	ality in tune with the hospitality ind requirements and complaints on and registration functions ne, Grooming and Etiquette anguage eeting the guest als & Currencies of the world of the world, Important Tourism d ag – FIT, Walk-Ins, Corporate, Crev and usage of Cleaning Chemicals Housekeeping Equipment t 1 art 2 nd maintenance of Guest & Non-G s Part 1 (Front Office)	estinations of the World v and Groups + Preparing uest Linen

Name of the Program: Hotel Management Course Code: HM C3 (T) Course category: Discipline core Courses Name of the Course: Food & Beverage Service - I (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs.	40 Hrs.
Construction Obligation		

Course Learning Objectives:

1. To provide an insight of the Global Hospitality and Catering industry

2. To illustrate the functioning of the Food & Beverage Service Department in Hotels.

3. To familiarize the ongoing and upcoming trends in the Food & Beverage industry

Course Outcomes:

1. To understand the importance of the Food & Beverage Service department

2. Describe a structure of the Food and Beverage Service sequence

3. Understand the scope of F & B and its role in Hotel Industry

4. Explain the various F & B Outlets in a hotel

5. Discuss the F & B Industry and its components

6. Explain the Role of F & B Service department

UNIT-1: OVERVIEW OF HOSPITALITY & CATERING INDUSTRY

No. of Hours 15 Hrs.

1.1 Introduction to the Hospitality Industry and growth of the industry in India

- 1.2 Role of the Catering Establishment in the Travel and Tourism industry
- 1.3 History and achievements of accomplished hospitality brands/ leaders in India and abroad
- 1.4 Employment opportunities in Hospitality Industry
- 1.5 Types of Food & Beverage operations
- 1.6 Classification of catering operations

1.7 Organization of Food & Beverage department of a hotel

1.8 Principal staff of various types of Food & Beverage operations

1.9 Duties & responsibilities of Food & Beverage Service personnel

1.10 French terminologies related to Food & Beverage

1.11 Attributes of F&B Service personnel

1.12 Inter departmental and intra department co- ordination

UNIT- 2: FOOD SERVICE AREAS AND EQUIPMENTS USED

No of Hours: 15 Hrs.

2.1 Specialty Restaurants

2.2 Coffee Shop

2.3 In Room Dining (IRD)

2.4 Banquet catering

2.5 Live Kitchen

2.6 Bar & Lounge

2.7 Butler Service

2.8 Pantry, Food Pick-Up area, Stores, Linen Room, Kitchen Stewarding

2.9 Cutlery & Crockery

2.10 Glassware & Hollow ware

2.11 Food service Trolleys

2.12 French glossary related to the above

UNIT- 3: NON-ALCOHOLIC BEVERAGES

No of Hours: 10 Hrs.

3.1 Classification of Non-Alcoholic Beverages

3.2 Tea - History, Origin, Manufacture, Types and Brands

3.3 Coffee - History, Origin, Manufacture, Types and Brands

3.4 Cocoa and Malted Beverages - Origin and manufacture

3.5 Preparation of different types of coffee - Recipe and Ingredients

3.6 Juices and Aerated beverages - History, Origin, Manufacture, Types and Brands

3.7 Service of non-alcoholic Beverage

Suggestive Readings:

a. Food & Beverage Service Training Manual- By Sudhir Andrews

b. Food & Beverage Service by R Singaravelan

c. The Steward by Peter Diaz

d. Food & Beverage Service by Anil Sagar

e. The World Atlas of Coffee by James Hoffman

Online Resources

a. Top 30 mocktail ideas

Link: https://www.bbcgoodfood.com/howto/guide/top-10-non-alcoholic-drinks

b. Trends Affecting Restaurant Industry

Link: https://www.brandwatch.com/blog/the-biggest-restaurant-industry-trends/

c. The Key Factors Driving and Hampering F&B Sustainability

Link: https://www.precog.co/blog/sustainability-food-and-beverage-manufacturing/

Na Co Name of the	me of the Program: Hotel Manage Course Code: HM C3 (P) ourse category: Discipline core Co e Course: Food & Beverage Servic	ement urses :e - I (Practical)	
Course Credits No. of Hours per Week Total No. of Teaching Hou			
2 Credits	4 Hrs.	52 Hrs.	
Course Learning Objectives 1. To expose the students to th 2. To train the students on the 3. To expose the students to th	: ne operational aspects of the Food & hard and soft skills essential for effi ne art of coffee making and its servio	Beverage Department icient food and beverage service ce	
Course Outcomes: 1. Explain the various function 2. Gain the essential skills nee 2. Understand the scope of F a 4. Demonstrate the art of coffe	nal areas of a restaurant eded in the Food and Beverage Servi & B and its role in Hotel Industry ee making and service	ice areas	
WEEK 1: Familiarization of F WEEK 2: Food & Beverage S WEEK 3: Familiarization of F	ervice Etiquette		
WEEK 4: Care & Maintenanc	e Of Food & Beverage Service Equi	ipment	
WEEK 5: Basic Technical Sk	kills - Handling Service Gear, Carryi	ing a tray or salver	
WEEK 6: Basic Technical Sk	tills - Laying a Table Cloth, Changin	ng a table cloth during service	
WEEK 7: Basic Technical Sk	tills - Organizing side station, Napki	n Folds, Service of water,	
WEEK 8: Basic Technical Sk	tills - Sequence of Food Service		
WEEK 9: Basic Technical Sk	ills - Sequence of Food Service		
WEEK 10: Tea– Preparation &	& Service		
WEEK 11: Coffee – Preparatio	on & Service		
WEEK 12: Coffee – Preparatio	on & Service		
WEEK 13: Service of other No	on- alcoholic Beverages		

Suggestive Readings:

- a. Food & Beverage Service Training Manual- By Sudhir Andrews
- b. Food & Beverage Service by R Singaravelan
- c. The Steward by Peter Diaz
- d. Food & Beverage Service by Anil Sagar
- e. The World Atlas of Coffee James Hoffman

Online Resources:

- a. Top 30 mocktail ideas
- Link: <u>https://www.bbcgoodfood.com/howto/guide/top-10-non-alcoholic-drinks</u> b. Trends Affecting Restaurant Industry
 - Link: https://www.brandwatch.com/blog/the-biggest-restaurant-industry-trends/
- c. The Key Factors Driving and Hampering F&B Sustainability Link: <u>https://www.precog.co/blog/sustainability-food-and-beverage-manufacturing/</u>

	Name of the Program: Hotel M	anagement		
	Course Code: OE 1			
	Course category: Open El	lective		
Ν	ame of the Course: Service Qualit	ty Management		
Course CreditsNo. of Hours per WeekTotal No. of Teaching Hou3 Credits3 Hrs.40 Hrs.				
a. To introduce the basic	principles and applications of impl	ementing and managing service quality		
in organizations	후 12 후 2013년 12 후 2013년 12 10 10 10 10 10 10 10 10 10 10 10 10 10			
b. To develop & impleme	nt service quality strategies to achiev	ve excellence and meet customer's need		
c. To build strong custom	er relationships and improve service	to internal customers as well as externa		
customers	그 그 아이는 물건을 다 가지?			
d. To help gain an unders	tanding of the essential skills and be	ehavior of effective team leaders		
Course Outcomes:		-		
a. Explain the concept o	f Service Quality Management			
b. Evaluate the pros & c	ons of Quality Management			
c. Elaborate on the princ	ciples of Leadership			
d. Elucidate on Strategic	Business Models in Service industri	ry		
e. Analyze Service Qual	ity Gaps in Service sectors			
f. Assess the role of peo	ple in Quality Management			
UNIT-1: INTRODUCT	ION TO QUALITY MANAGEM	ENT		
No of Hours: 10 Hrs.				
1.1 Introduction to the cor	ncept of Quality			
1.2 Background & Histor	y			
1.3 Traditional Vs Non-T	raditional Approaches to Quality			
1.4 Tangible Vs Intangibl	e Benefits			
1.5 Deming's 14 Points fo	or Transformation			
1.6 Customers & Quality	김 사람이 물고 있는 것이 다.			
1.7 Role of Internal & Ex	ternal Customers			
UNIT- 2: LEADERSHI	P IN QUALITY MANAGEMENT	C		
No of Hours: 15 Hrs.				
2.1 Principles of Leadersh	nip			
2.2 Leadership Decision I	Making			
2.3 Strategic Objectives o	of Businesses			
2.4 Business Processes - I	Planning, Control & Capability			
2.5 Managing Variation R	Reduction using SPC	김 승규는 것이 같이 많이 많이 했다.		
2.6 The Transactional Sup	oplier Relationship Model			
2.7 Partnering beyond the	Supply Chain			

UNIT- 3: PEOPLE IN QUALITY MANAGEMENT

No of Hours: 15 Hrs.

3.1 Respect for Individuals

- 3.2 Empowerment, Motivation, Participation and Teamwork
- 3.3 Ethics and Corporate Social Responsibility
- 3.4 Learning, Change and Process Improvement
- 3.5 Delivering and Measuring Service Quality
- 3.6 Service Quality gaps
- 3.7 Implementing Quality Management

Suggestive Readings:

- a. Quality Management by Graeme Knowles
- b. Service Quality Management in Hospitality, Tourism, and Leisure by Mok Connie
- c. Service Quality Management in Hospitality and Tourism by Metti M.C
- d. Service Quality Management in Hospitality, Tourism, and Leisure by Beverley Sparks, Connie Mok, and Jay Kandampully
- e. Quality Management: Theory and Application by Peter D. Mauch

Online Resources

a. How to measure the 5 dimensions of service quality

Link: <u>https://www.getfeedback.com/resources/cx/how-to-measure-the-5-dimensions-of-service-quality/</u>

- b. Service Quality and Customer Satisfaction in the Post Pandemic World Link: <u>https://www.frontiersin.org/articles/10.3389/fpsyg.2022.842141/full</u>
- c. 8 must-have qualities of an effective leader Link: <u>https://www.michaelpage.co.in/advice/management-advice/leadership/8-must-have-qualities-effective-leader</u>

Course Credits No. of Hours per Week Total No. of Teaching Hour 3 Credits 3 Hrs. 40 Hrs. Course Objectives:	Name of the Program: Hotel Management Course Code: OE 2 Course category: Open Elective Name of the Course: Housekeeping Decorations		
3 Credits 3 Hrs. 40 Hrs. Course Objectives: . . a. To familiarize the students on the planning principles for designing various interior spaces b. To expose the students on the fundamentals of Space designing and management c. To aid the students apply aesthetics and creative abilities in making attractive and functional interiors. Course Outcomes: a. Explain the basic concepts of design b. Elaborate on the principles and elements of design c. Design layouts of Rooms, Restaurants, Lobby and other guest areas of a hotel d. Illustrate on color wheels and color combinations e. Explain various types of lighting f. Elucidate on different types of walls, furnishes and furniture UNIT-1: INTRODUCTION TO INTERIOR DECORATION No of Hours: 10 Hrs. 1.1 Concepts and definition of Design 1.2 Design: Structural & Decorative 1.3 Elements of Design 1.4 Principles of Design 2.1 Classification of Rooms 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes	Course Credits	Total No. of Teaching Hours	
Course Objectives: a. To familiarize the students on the planning principles for designing various interior spaces b. To expose the students on the fundamentals of Space designing and management c. To aid the students apply aesthetics and creative abilities in making attractive and functional interiors. Course Outcomes: a. Explain the basic concepts of design b. Elaborate on the principles and elements of design c. Design layouts of Rooms, Restaurants, Lobby and other guest areas of a hotel d. Illustrate on color wheels and color combinations e. Explain various types of lighting f. Elucidate on different types of walls, furnishes and furniture UNIT-1: INTRODUCTION TO INTERIOR DECORATION No of Hours: 10 Hrs. 1.1 Concepts and definition of Design 1.2 Design: Structural & Decorative 1.3 Elements of Design UNIT-2: LAYOUT OF ROOMS & COLOR SCHEMES No of Hours: 15 Hrs. 2.1 Classification of Rooms 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes	3 Credits	3 Hrs.	40 Hrs.
 a. To familiarize the students on the planning principles for designing various interior spaces b. To expose the students on the fundamentals of Space designing and management c. To aid the students apply aesthetics and creative abilities in making attractive and functional interiors. Course Outcomes: a. Explain the basic concepts of design b. Elaborate on the principles and elements of design c. Design layouts of Rooms, Restaurants, Lobby and other guest areas of a hotel d. Illustrate on color wheels and color combinations e. Explain various types of lighting f. Elucidate on different types of walls, furnishes and furniture UNIT-1: INTRODUCTION TO INTERIOR DECORATION No of Hours: 10 Hrs. 1.1 Concepts and definition of Design 1.2 Design: Structural & Decorative 1.3 Elements of Design 1.4 Principles of Design 1.4 Principles of Design 2.1 Classification of Rooms 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes UNIT-2: I UCHTINC EURNITIEE AND EURNISHINCS	Course Objectives:		
Course Outcomes: a. Explain the basic concepts of design b. Elaborate on the principles and elements of design c. Design layouts of Rooms, Restaurants, Lobby and other guest areas of a hotel d. Illustrate on color wheels and color combinations e. Explain various types of lighting f. Elucidate on different types of walls, furnishes and furniture UNIT-1: INTRODUCTION TO INTERIOR DECORATION No of Hours: 10 Hrs. 1.1 Concepts and definition of Design 1.2 Design: Structural & Decorative 1.3 Elements of Design 1.4 Principles of Design UNIT-2: LAYOUT OF ROOMS & COLOR SCHEMES No of Hours: 15 Hrs. 2.1 Classification of Rooms 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes UNIT 3: LICHTINC EURNITURE AND EUDNICHINCS	 a. To familiarize the student b. To expose the student c. To aid the students ap interiors. 	dents on the planning principles for s on the fundamentals of Space desi ply aesthetics and creative abilities i	designing various interior spaces gning and management in making attractive and functional
 a. Explain the basic concepts of design b. Elaborate on the principles and elements of design c. Design layouts of Rooms, Restaurants, Lobby and other guest areas of a hotel d. Illustrate on color wheels and color combinations e. Explain various types of lighting f. Elucidate on different types of walls, furnishes and furniture UNIT-1: INTRODUCTION TO INTERIOR DECORATION No of Hours: 10 Hrs. 1.1 Concepts and definition of Design 1.2 Design: Structural & Decorative 1.3 Elements of Design UNIT-2: LAYOUT OF ROOMS & COLOR SCHEMES No of Hours: 15 Hrs. 2.1 Classification of Rooms 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes 	Course Outcomes:		
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 2.2 Basic furniture layout plan 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes 	2.1 Classification of Room	ns	
 2.3 Layout of rooms 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes 	2.2 Basic furniture layout	plan	
 2.4 Layouts of Food and Beverage outlets 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes 	2.3 Layout of rooms		
 2.5 Introduction to Colour 2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes UNIT- 3: LICHTING, FURNITURE AND FURNISHINGS 	2.4 Layouts of Food and I	Beverage outlets	
2.6 Colour wheel 2.7 Classification and importance of Colours 2.8 Colour Schemes UNIT- 3: LICHTING, FURNITURE AND FURNISHINGS	2.5 Introduction to Colou		
2.7 Classification and importance of Colours 2.8 Colour Schemes UNIT- 3.1 ICHTING FURNITURE AND FURNISHINGS	2.0 Colour wheel	ortance of Colours	동네는 소설이 집 것을 깨끗해?
UNIT. 3. I ICHTING FURNITURE AND FURNISUINGS	2.7 Classification and Imp 2.8 Colour Schemes	ortance of Colours	
UNTER J. LANDERTHAR, PURITEURIZATAR AUTORIAN AND AND AND AND AND AND AND AND AND A	UNIT- 3: LIGHTING R	URNITURE AND FURNISHING	S

3.1 Introduction to Light

3.2 Classification of Lighting

3.3 Use of Light in various areas of the hotel

3.4 Introduction to Wall coverings

3.5 Types of Windows

3.6 Types of floor finishes (hard - granite, marble, tile, semi hard - rubber linoleum, cork,

Wood, Soft-carpet and types of carpets, rugs, durries)

Suggestive Readings:

a. Hotel, hostel and hospital housekeeping, Branson and Lennox

b. Hotel Housekeeping - Operations and Management, G. Raghubalan and Smritee Raghubalan

c. The Professional Housekeeper – Schneider, Tucker and Scoviak

d. Housekeeping Operations, Design and Management - Malini Singh, Jaya B George

e. Interior Design and Decoration – P. Seetharaman and ParveenPannu, CBS Publishers

Online Resources

- a. Hotel Housekeeping Duties: A Day in the Life Hotel Tech Report Link: <u>https://hoteltechreport.com/news/hotel-housekeeping-duties</u>
- b. Everything You Need to Know About Hotel Interior Design Link: <u>https://www.cvent.com/en/blog/hospitality/hotel-interior-design</u>
- c. New Trends in Hotel Guestroom Decoration Link: <u>https://www.hycdesign.com/blogs/design-guides/2021-new-trends-in-hotel-guestroom-decoration</u>

Course Credits No. 3 Credits No. 3 Credits Course Objectives: a. To familiarize students with fund b. To provides a broad overview of by our dietary choices c. To examine the core principles of nutrition supports the immune syste Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	Course Code: 1 Course category: Op e of the Course: Foo . of Hours per Wee 3 Hrs. lamentals of food, nu the concept of nutrit f healthy eating, the c em	OE 3 oen Elective od & Nutrition k Total No. of Teaching Hour k 40 Hrs. utrients and their relationship to Health. tion, along with how human health is affect causes and effects of eating disorders and h lth
Course Credits No. 3 Credits No. 3 Credits Secondary Course Objectives: Secondary a. To familiarize students with fund Secondary b. To provides a broad overview of Secondary by our dietary choices Secondary c. To examine the core principles of Secondary nutrition supports the immune system Secondary Course Outcomes: Secondary a. Analyse the relation between foo Secondary b. Elaborate on the Basic chemistry Secondary Secondary Secondary	course category: Op e of the Course: For e of Hours per Wee 3 Hrs. damentals of food, nu the concept of nutrit f healthy eating, the c em id, nutrition, and heal y and composition of	Sen Elective od & Nutrition Sek Total No. of Teaching Hour 40 Hrs. 40 Hrs. utrients and their relationship to Health. tion, along with how human health is affect causes and effects of eating disorders and health lth Sec of the inclusion has been defined.
NameCourse CreditsNo.3 CreditsCourse Objectives:a. To familiarize students with fundb. To provides a broad overview ofby our dietary choicesc. To examine the core principles ofnutrition supports the immune systeCourse Outcomes:a. Analyse the relation between foob. Elaborate on the Basic chemistryon health	e of the Course: Foo . of Hours per Wee 3 Hrs. lamentals of food, nu the concept of nutrit f healthy eating, the c em d, nutrition, and heal y and composition of	od & Nutrition Ek Total No. of Teaching Hour 40 Hrs. utrients and their relationship to Health. tion, along with how human health is affect causes and effects of eating disorders and health lth
Course CreditsNo.3 Credits3 CreditsCourse Objectives:a. To familiarize students with fundb. To provides a broad overview ofby our dietary choicesc. To examine the core principles ofnutrition supports the immune systeCourse Outcomes:a. Analyse the relation between foob. Elaborate on the Basic chemistryon health	3 Hrs. 3 Hrs. damentals of food, nu the concept of nutrit f healthy eating, the c em d, nutrition, and heal y and composition of	Total No. of Teaching Hour 40 Hrs. utrients and their relationship to Health. tion, along with how human health is affect causes and effects of eating disorders and h lth
3 Credits Course Objectives: a. To familiarize students with fund b. To provides a broad overview of by our dietary choices c. To examine the core principles of nutrition supports the immune syste Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	3 Hrs. damentals of food, nu the concept of nutrit f healthy eating, the c em d, nutrition, and heal y and composition of	40 Hrs. utrients and their relationship to Health. tion, along with how human health is affect auses and effects of eating disorders and h
Course Objectives: a. To familiarize students with fund b. To provides a broad overview of by our dietary choices c. To examine the core principles of nutrition supports the immune syste Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	lamentals of food, nu the concept of nutrit f healthy eating, the c em id, nutrition, and heal y and composition of	utrients and their relationship to Health. tion, along with how human health is affect auses and effects of eating disorders and h
 a. To familiarize students with funct b. To provides a broad overview of by our dietary choices c. To examine the core principles of nutrition supports the immune system Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health 	damentals of food, nu the concept of nutrit f healthy eating, the c em id, nutrition, and heal y and composition of	utrients and their relationship to Health. tion, along with how human health is affect causes and effects of eating disorders and h
nutrition supports the immune syste Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	em id, nutrition, and heal y and composition of	lth
Course Outcomes: a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	nd, nutrition, and heal y and composition of	
a. Analyse the relation between foo b. Elaborate on the Basic chemistry on health	od, nutrition, and heal y and composition of	
influence human health and nutritio d. Articulate the challenges the wor and nutrition	n rld is facing and will	l encounter in the future with respect to f
UNIT-1: Basic concepts in food a	and nutrition	
No of Hours: 10 Hrs.		
1.1 Relationship between food, nut	rition and health	
1.2 Functions of Food-Physiologica	al, Psychological and	l Social
1.3 Nutrition and Diet		
1.4 Water as an essential nutrient		
1.5 Health and Nutrition related Su	stainable Developme	ent Goals
UNIT-2: Nutrients and Food Gro	oups	
No of Hours: 20 Hrs.		그는 일을 감독했다. 그는 것 같아요.
2.1 Carbohydrates, lipids and protei	ins	
2.2 Vitamins & Minerals		
2.3 Cereals & Pulses		
2.4 Fruits and vegetables		양관계 신승규가 없는 것이 다.
2.5 Milk & Milk Products		그는 동안 경험을 가지는 것이 없는
2.6 Meat, poultry and fish		

UNIT- 3: Methods of Cooking and Preventing Nutrient losses No of Hours: 10 Hrs.

- 3.1 Dry, moist, frying and microwave cooking
- 3.2 Advantages, disadvantages and the effect of various methods of cooking on nutrients
- 3.3 Minimizing nutrient losses
- 3.4 Global Malnutrition Problem
- 3.5 New Trends in nutrition and diet planning

Suggestive Readings:

- a. Food Nutrition and Health by Clydesdale Fergus M
- b. Encyclopedia of Food Nutrition Dietetics & Health by Bhavana Sabarwal
- c. Food, Nutrition and Health by Beena Mathur
- d. Principles of food sanitation Marriott hotels
- e. Essentials of food safety and sanitation David M S Swane, Nancy R Rue, Richard Linton

Online Resources

- a. Food & Nutrition Trends
- Link: https://nutritionfornonnutritionists.com/2022/01/food-nutrition-trends-2022/
- b. Nutrition: Tips for Improving Your Health
 - Link: https://familydoctor.org/nutrition-tips-for-improving-your-health/
- c. Malnutrition is a world health crisis Link: <u>https://www.who.int/news/item/26-09-2019-malnutrition-is-a-world-health-crisis</u>

SEMESTER - II

Name of the Program: Hotel Management Course Code: HM C 4 (T) Course category: Discipline Core Course Name of the Course: Food & Beverage Production-II (Theory)			
Course Credits No. of Hours per Week Total No. of Teach			
3 Credits	3 Hrs.	40 Hrs.	
Course Learning Objectives: a. To elaborate the fundamenta b. To introduce various types an c. To expose the students to the	ls concepts of Indian Cookery nd categories of Indian Food basics of bakery operations		
a. Explain the history of Indian b. Compare various Indian Mas c. Identify the emerging trends i d. Explain the various types of I e. Explicate on Indian Regional	food Culture alas and its characteristics in Indian Cuisine ndian Breads , Traditional & Comfort foods OF INDIAN COOKERY		
No of Hours: 15 Hrs. 1.1 Introduction to Indian Food	Culture		
1.2 Heritage of Indian Cuisine		는 것이다. 전한 동안에 가지 않는다. 	
1.3 Role of Indian Condiments,	Herbs &Spices in cookery		
1.4 Different Masalas used in In	dian cookery (Wet & Dry)		
1.5 Blending of spices and conce	ept of Masala Preparations		
1.0 Indian Gravies& Curries			
1.7 Inickening and Coloring Ag	rms and Dopular dishas		
1.9 Emerging Trends in Indian C	hisine		
UNIT 2- INDIAN FOOD			
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs.			
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs. 2.1 Indian breads – Roti, Naan, k	ulcha, PhulkaEtc		
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs. 2.1 Indian breads – Roti, Naan, k 2.2 Origin and history of Indian s	ulcha, PhulkaEtc sweets		
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs. 2.1 Indian breads – Roti, Naan, k 2.2 Origin and history of Indian s 2.3 Ingredients, Equipments, Col	ulcha, PhulkaEtc sweets oring &Flavoring Agents usedin 1	Preparation of Indian Sweets	
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs. 2.1 Indian breads – Roti, Naan, k 2.2 Origin and history of Indian s 2.3 Ingredients, Equipments, Col 2.4 Indian Regional, Traditional	ulcha, PhulkaEtc sweets oring &Flavoring Agents usedin 2 & Comfort Foods	Preparation of Indian Sweets	
UNIT 2– INDIAN FOOD No of Hours: 13 Hrs. 2.1 Indian breads – Roti, Naan, k 2.2 Origin and history of Indian s 2.3 Ingredients, Equipments, Col 2.4 Indian Regional, Traditional 2.5 Traditional Home-style India	ulcha, PhulkaEtc sweets oring &Flavoring Agents usedin & Comfort Foods n cooking – Concepts, Demand &	Preparation of Indian Sweets	

UNIT 3 -INTRODUCTION IN BAKERY

No of Hours: 12 Hrs.

3.1 Origin & History of Baking

3.2 Flours - Types, Characteristics, Importance & Uses

3.3 Raising Agents - Types, Characteristics, Importance & Uses

3.4 Equipment and tools used in Bakery

3.5 Breads- Types, Preparation & Bread Faults

Suggestive Readings:

a. Food Production Operations by Chef Parvinder S. Bali

b. Practical Professional Cookery by Cracknell and Kaufmann

c. Catering Management by Mohini Sethi & Surjeet Malhan

d. Hygiene and Sanitation by S. Roday

e. Indian Food: A Historical Companion by Achaya KT

f. Food: A Culinary History by Jean-Louis Flandrin

Online Resources

a. Culinary Dictionary Index

Link: https://whatscookingamerica.net/glossary/

b. The Cook's Thesaurus

Link: http://www.foodsubs.com/

c. Real Food Encyclopedia

Link: https://foodprint.org/eating-sustainably/real-food-encyclopedia/
Name Cour Name of the Course: F	e of the Program: Hotel Manage Course Code: HM C4 (P) rse category: Discipline Core Co ood & Beverage Production-II (ement ourse Practical)
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 Credits	4 Hrs.	52 Hrs.
 Course Learning Objective a. To provide the knowledge b. To acquaint with the latest c. To train the students on the 	es: and skills pertaining to Indian Cu skills and techniques used in prep basic cooking techniques used g	isine paring Indian food lobally
 a. Prepare culinary delicacies b. Demonstrate the preparation c. Demonstrate the preparation d. Demonstrate the preparation WEEK 1: Guiarati Cuisine - 	belonging to various Indian Cuis on of various types of Breads on of various types of Sponges on of various types of Hot & Cold 3 Course Menu with Accompanie	ines Desserts ments
WEEK 2: Kashmiri Cuisine	- 3 Course Menu with Accompany	iments
WEEK 3: Awadhi Cuisine	- 3 Course Menu with Accompan	iments
WEEK 4: Bengali Cuisine -	3 Course Menu with Accompanin	nents
WEEK 5: Rajasthani Cuising	e - 3 Course Menu with Accompa	niments
WEEK 6: Panjabi Cuisine - 3	3 Course Menu with Accompanin	ients
WEEK 7: Tandoori - 3 Cour	se Menu with Accompaniments	
WEEK 8: Indian Sweets (An	y 4 Sweets)	
WEEK 9: Bread Making-1		
Demonstration and Preparatio	on of	
 Bread Loaf (2 Varieties) Bread Rolls (Soft rolls and Bread Sticks 	Hard rolls)	
WEEK 10: Bread Making -2		
Demonstration and Preparation	on of	
1) French Bread		

WEEK 11: Basic Sponge Cakes

Demonstration and Preparation of

- 1) Plain Fatless Sponge Cake
- 2) Swiss Rolls
- 3) Fruit Cake & Muffins

WEEK 12: Simple Cookies

Demonstration and Preparation of

- 1) Melting moments
- 2) Tri colour biscuits
- 3) Chocolate chip Cookies
- 4) Salt Cookies

WEEK 13: Hot/Cold Desserts

Demonstration and Preparation of

- 1) Caramel Custard
- 2) Bread and Butter Pudding
- 3) Hot Soufflé (2 Flavors)
- 4) Mousse (2 Types)
- **Suggestive Readings:**
 - a. Food Production Operations by Chef Parvinder S. Bali
 - b. Practical Professional Cookery by Cracknell and Kaufmann
 - c. Catering Management by Mohini Sethi & Surjeet Malhan
 - d. Hygiene and Sanitation by S. Roday
 - e. Indian Food: A Historical Companion by Achaya KT
 - f. Food: A Culinary History by Jean-Louis Flandrin

Online Resources

a. Culinary Dictionary Index

Link: https://whatscookingamerica.net/glossary/

- b. The Cook's Thesaurus
 - Link: http://www.foodsubs.com/
- c. Real Food Encyclopedia

Link: https://foodprint.org/eating-sustainably/real-food-encyclopedia/

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Note: Any other Latest Edition of reference/textbooks can be included.

Name of the Program: Hotel Management Course Code: HM C5 (T) Course category: Discipline core Courses Name of the Course: Food & Beverage Service - II (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hrs.	40 Hrs.
Course Learning Objectives:		
m	a	
a. To acquire theoretical knowle	age pertaining to Menu Planning	5
b. To understand the operations	benind Food & Beverage Servic	e operations in notels
c. To understand the concept of	using the French Classical Menu	이 같은 가장 같은 것이 안 다 봐. 통해 가격하였다. 같은 것이 같은 것이 같은 것이 같은 것이 같은 것이 같이
Course Outcomes: On success	ful completion of the course, th	e students will be able to
a. Explain the various terminolo	gies used in Food and Beverage	operations
b. Illustrate a flow chart for cove	er set up.	2월 28일 전국 전자에 이상 가장에서 이용하는 것이 가능하는 것이다. 1997년 1월 20일 - 1997년 1월 20일 - 1997년 1월 20일 - 1997년 1월 20일 - 1997년 1월 20일
c. Describe the cover layout base	ed on the menu	
d. Explain the role of Food & Be	everage Service in enhancing gue	est satisfaction
UNIT-1: FOOD SERVICE, ME	NU KNOWLEDGE AND PLA	ANNING
No of Hours: 14 Hrs.		
1.1 Food Service Styles - Waiter	Service, Self Service, Assisted	Service, etc
1.2 Origin, Functions & Types o	f Menus	홍정 같은 이상이 그는 일을 모양할
1.3 French Classical Course		승규는 것 같은 것이 같은 것 같은 것을 했다.
1.4 Dishes and their Description	for French Classical Menu	성격 중소리에 나는 동물감 관람을 즐기는 것이 많다.
1.5 Cover and Accompaniments	, 옷을 전 방법하려면 것	
1.6 Factors influencing planning	menu	
1.7 Compiling A La Carte & Tal	ble D'hote Menu	영상 집이 없다. 아파 영상 성격의
1.8 Menu as a Sales & Marketin		
UNIT- 2: FOOD SERVICE OF	PERATIONS	가 가지 않는 것이 있는 것이 가지 못한 분위했다. 이 가지 않는 것이 있는 것이 가지 않는 것이 같아요. 이 가지 않는 것이 같이 있는 것이 같아요.
No of Hours: 14 Hrs.	ו••••••••	
2.1 Breakfast, Lunch, Dinner - C	Drigin & Types	성장님 - 비리 그 건물 불량이
2.2 Planning a Breakfast, Lunch,	, Dinner Menu	눈값에 제공을 감독 노동물 수영을 받았다.
2.3 Service of Breakfast in Resta	iurants	영상에는 것이 없는 것이 같을 것을 했다.
2.4 Brunch & Afternoon Tea - O	brigin & Types	그 같아요? 왜 말는 것 못못못했어?
2.5 Room Service - Concept & C)rigin	
2.6 Location & Equipments requ	lired for Room Service	상품 전에 가지 않는 것을 알았다.
2.7 Room Service Procedure	• • • • •	승규는 승규는 이번 영화
2.8 Gueridon Service - Concept	æ origin	승규는 것 같은 것 같은 것이 없다.
2.9 Types of Gueridon Trolleys	data Trallati	사람은 것을 통한 모양값 강화했다.
2.10 Equipments used in a Gueri	aon Irolley	

2.11 Guéridon Food Preparation Techniques

2.12 Pros & Cons of Guéridon Service

2.13 Basic Guéridon Dishes

UNIT-3: PERSONALIZED SERVICE / BUTLER SERVICE

No of Hours: 12 Hrs.

3.1 Butler service - History, Meaning and Importance

3.2 Core values and Skills of a Butler

3.3 Essential techniques of Butler service

3.4 Types of Butler service

3.5 Butler Service Operations - House management, Staff Management, Table Management Laundry and Wardrobe Management, Valet skills

3.6 Standard Operating Procedures

3.7 F&B Situation Handling

Suggestive Readings:

a. Food & Beverage Service Training Manual- By Sudhir Andrews

b. Food & Beverage Service By R Singaravelan

c. The Steward By Peter Diaz

d. Food & Beverage Service By Anil Sagar

e. The World Atlas of Coffee – James Hoffman

f. A butler's life: scenes from the other side of the silver salver - Christopher Allen

Online Resources

a. 7 Steps for Quick and Easy Menu Planning

Link: <u>https://www.unlockfood.ca/en/Articles/Menu-Planning/7-Steps-for-Quick-and-Easy-Menu-Planning.aspx</u>

b. The role of a Butler

Link: https://hoteltalk.app/the-role-of-a-butler/

c. Sustainability is Critical in Food and Beverage Manufacturing

Link: <u>https://foodsafetytech.com/column/8-reasons-sustainability-is-critical-in-food-and-beverage-manufacturing/</u>

Note: Any other Latest Edition of reference/text books can be included.

Nam Cou Name of the C	e of the Program: Hotel Managem Course Code: HM C 5 (P) rse category: Discipline core Cour ourse: Food & Beverage Service -	ent ses II (Practical)			
Course Credits No. of Hours per Week Total No. of Teaching Hor					
2 Credits	4 Hrs.	52 Hrs.			
Course Learning Objectives: a. To acquaint the students with th b. To train the students on basic fo c. To expose the students on the fu	e basics of menu engineering od and beverage service sequence ndamentals of Guéridon and Butler S	Service			
Course Outcomes: On successful	completion of the course, the stud	onto will be able to			
 a. To understand the importance of b. Describe a structure of the Food c. Understand the scope of F & B a d. Explain the various F & B Outle e. Discuss the F & B Industry and a f. Explain the Pole of F & P. Service 	The Food & Beverage Service depar and Beverage Service sequence and its role in Hotel Industry ts in a hotel its components	tment			
WEEK 1: Menu Engineering					
WEEK 1. World Engineering	날개를 못하는 것을 가 물통했다.	문건은 공부가 관계하는 것			
WEEK 2: Menu Planning					
WEEK 2. Cover Seture All Meete					
WEEK 3: Cover Setup - All Meals		이는 것이 있는 것이 가장하는 것이 있는 것이다. 같이 아이지 않는 것이 있는			
WEEK 4: Sequence of Service					
WEEK 5: Sequence of Service	나라는 사람이가 가지 않는 것이 가지 않는다. 같은 것은 것은 것은 것은 것이 많이 많이 많이 많이 없다.				
WEEK 6: Room Service Tray Setup					
WEEK 7: Room Service Order takin	g Operations				
WEEK 8: Banquet functions and Bo	ard Room Set-up				
WEEK 9: Guéridon Service - Banana	i Flambé, Crêpe Suzette or Similar				
WEEK 10: Contribution Contribution	11.1.0. // D.1				
WEEK IU: Gueridon Service - Cockta	ill de Crevettes, De-boning of Grilled fis	sh or Similar			
WEEK 11: Butler Service - Basic But	ler Etiquette, Styles of Butler Service				
WEEK 12: Butler Service - House, Ta	ble & Wardrobe Management, Valet	Skills			
WEEK 13: Food & Beverage Situat	ion Handling				

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Suggestive Readings:

- a. Food & Beverage Service Training Manual by Sudhir Andrews
- b. Food & Beverage Service by R Singaravelan
- c. The Steward by Peter Diaz
- d. Food & Beverage Service by Anil Sagar
- e. The World Atlas of Coffee by James Hoffman
- f. A butler's life: scenes from the other side of the silver salver by Christopher Allen

Online Resources

a. 7 Steps for Quick and Easy Menu Planning

Link: <u>https://www.unlockfood.ca/en/Articles/Menu-Planning/7-Steps-for-Quick-and-Easy-Menu-Planning.aspx</u>

b. The role of a Butler

Link: https://hoteltalk.app/the-role-of-a-butler/

c. Sustainability is Critical in Food and Beverage Manufacturing

Link: <u>https://foodsafetytech.com/column/8-reasons-sustainability-is-critical-in-food-and-beverage-manufacturing/</u>

Course category: Discipline core Course Name of the Course: Accommodation Operations - Course Credits No. of Hours per Week Total 3 Credits 3 Hrs. - Course Objectives: a. To understand the basic accommodation operations in hotels and in challenges. b. To acquire theoretical and practical operational knowledge of the accommodations department. c. To illustrate the complexities and demands of working in the index accommodations operations. Course Outcomes: a. Explain the basic concepts of accommodation processes b. Explain the significance of accommodation operations in allied sect c. Analyze the various operational processes in accommodations sector d. Evaluate the changing trends in accommodations operations e. Appreciate the role of accommodations personnel during natural & UNIT-1: FRONT OFFICE PROCESSES IN ACCOMMODATION No of Hours: 13 Hrs. 1.1 Guest Cycle 1.2 Types, Modes & Sources of Reservation 1.3 Processing Reservation Requests 1.4 Guest Registration & Check-In 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions	II (Theory) No. of Teaching Hours 40 Hrs. dentify the associated key sub sections of dustry through the scope o tors or manmade disasters VS DEPARTMENT
Name of the Course: Accommodation Operations - Course Credits No. of Hours per Week Total 3 Credits 3 Hrs. - Course Objectives: - - a. To understand the basic accommodation operations in hotels and i challenges. - - b. To acquire theoretical and practical operational knowledge of the accommodations department. - - c. To illustrate the complexities and demands of working in the ind accommodations operations. - - Course Outcomes: - - - a. Explain the basic concepts of accommodation operations in allied sectors. - - b. Explain the significance of accommodation operations in allied sectors. - - c. Analyze the various operational processes in accommodations sectors. - - b. Explain the significance of accommodations operations. - - c. Analyze the various operational processes in accommodations sectors. - - b. Explain the significance of accommodations operations. - - c. Analyze the various operational processes in accommodations sectors. - - d. Evaluate the changing trends in accom	II (Theory) No. of Teaching Hours 40 Hrs. dentify the associated key sub sections of dustry through the scope o tors or manmade disasters VS DEPARTMENT
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 c. Analyze the various operational processes in accommodations sector d. Evaluate the changing trends in accommodations operations e. Appreciate the role of accommodations personnel during natural & UNIT-1: FRONT OFFICE PROCESSES IN ACCOMMODATION No of Hours: 13 Hrs. 1.1 Guest Cycle 1.2 Types, Modes & Sources of Reservation 1.3 Processing Reservation Requests 1.4 Guest Registration & Check-In 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions 	or manmade disasters NS DEPARTMENT
 d. Evaluate the changing trends in accommodations operations e. Appreciate the role of accommodations personnel during natural & UNIT-1: FRONT OFFICE PROCESSES IN ACCOMMODATION No of Hours: 13 Hrs. 1.1 Guest Cycle 1.2 Types, Modes & Sources of Reservation 1.3 Processing Reservation Requests 1.4 Guest Registration & Check-In 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions 	manmade disasters
 e. Appreciate the role of accommodations personnel during natural & UNIT-1: FRONT OFFICE PROCESSES IN ACCOMMODATION No of Hours: 13 Hrs. 1.1 Guest Cycle 1.2 Types, Modes & Sources of Reservation 1.3 Processing Reservation Requests 1.4 Guest Registration & Check-In 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions 	manmade disasters NS DEPARTMENT
 UNIT-1: FRONT OFFICE PROCESSES IN ACCOMMODATION No of Hours: 13 Hrs. 1.1 Guest Cycle 1.2 Types, Modes & Sources of Reservation 1.3 Processing Reservation Requests 1.4 Guest Registration & Check-In 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions 	NS DEPARTMENT
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 1.5 Guest Services & Complaints 1.6 Guest Check-out and Settlement 1.7 Potential Check-out Problems & Solutions 	
1.6 Guest Check-out and Settlement1.7 Potential Check-out Problems & Solutions	
1.7 Potential Check-out Problems & Solutions	
1.7 Totential encek-out Problems & Bolutons	
1 & Post Check out Services	
INIT 2. HOUSEKEEPING PROCESSES IN ACCOMMODATIO	ONS DEPARTMENT
No of House 1/ Hug	
10 01 Hours: 14 ms.	<u>n an an an Albert an</u> The Albert and Mark Mark and Albert an Alb
2.1 Quest Robins - Types and Layous	그가서 말 맞추는 것을 못했다.
2.5 Cleaning Schedule - Daily, Wollding and Annually	
2.4 Types of Cleaning agents & Cleaning equipment	
2.5 Storage, Upkeep & Maintenance of Chemicals & Equipment	
2.6 Cleaning of Guest Rooms and Public Areas	
2.7 Pest control, Hygiene & sanitation	
2.8 Key Operations in Housekeeping	

- Communication with Guests
- Inter & Intra Departmental Communication
- Preparation of Daily routines
- Key Control & Lost & Found
- Linen & Uniform room and laundry operations

MODULE 3: SAFETY AND SECURITY IN HOTELS

No of Hours: 13 Hrs.

- 3.1 Hotel security Staff & Systems
- 3.2 OSHA Guidelines for Workplace Safety
- 3.3 Security & Control of Room Keys
- 3.4 Fire Safety Classification of Fire, SOPs in the event of Fire
- 3.5 Accidents Accidents in Hotels, Accident Report
- 3.6 First Aid First Aid Box, first-aid for some common problems
- 3.7 Handling unusual events and emergencies Terrorism, Robbery & Theft

Suggestive Readings:

- a. Managing Front Office Operations Michael L Kasavanna& Richard M.Brooks
- b. Front Office Operations and Management Jatashankar R. Tiwari
- c. Principles of Hotel Front Office Operations- Su Baker, Pam Bradley
- d. Hotels for Tourism Development Dr. Jagmohan Negi
- e. Housekeeping Operations, Design and Management by Malini Singh, Jaya B George

Online Resources

a. Hotel Housekeeping Duties: A Day in the Life by Hotel Tech Report

Link: https://hoteltechreport.com/news/hotel-housekeeping-duties

b. Role of Housekeeping in Guest Satisfaction and Repeat Business by Himanshu Rajak

Link: https://hmhub.me/role-of-housekeeping-in-guest-satisfaction-and-repeat-business/

c. Top issues and solutions for your housekeeping department by Larry Mogelonsky Link: <u>https://www.todayshotelier.com/2018/06/11/top-issues-and-solutions-for-your-housekeeping-department/</u>

Note: Any other relevant reference/textbooks can be included.

Name of t	Name of the Program: Ho Course Code: HM Course category: Disciplin he Course: Accommodation	tel Management C6 (P) 1e core Courses Operations - II (Practical)			
Course Credits No. of Hours per Total No. of Teaching Hour Week					
2 Credits	4 Hrs.	52 Hrs.			
 challenges. b. To acquire theoretical and accommodations department c. To illustrate the complex accommodations operations Course Outcomes: a. Develop a smart person b. Handle guest complaint 	nd practical operational know t. kities and demands of working ality in tune with the hospitali s and fulfill guest requirement	ledge of the key sub sections of g in the industry through the scope of ty industry standards			
c. Perform various housek WEEK 1: Reservations - Tak	eeping operational tasks and o ing down reservations for FIT	deliver superior quality services , FFIT, Corporate guests, Groups & Crews			
WEEK 2: Check In processes	- Filling Registration Forms	for FIT, FFIT & Corporate guests			
WEEK 3: Check In processes	- Filling Registration Forms	for Groups & Crews			
VEEK 4: Check-out processe	es - Guest Check-out and Settl	ement procedures			
WEEK 5: Role play: Accepting	ng / Rejecting a Reservation, (Checking-In & Checking-out a guest			
VEEK 6: Role play: Handlin	g Special Requests, Guest Ser	vices & Complaints			
WEEK 7: Cleaning procedure	s – Bathroom cleaning & Gla	ss cleaning			
VEEK 8: Cleaning procedure	es – Area cleaning - Rooms &	Public Areas			
VEEK 9: Towel Art - Lotus : Bird towel design	flower towel design, Flower in	n vase towel design, Peacock towel design,			
WEEK 10: Towel Art - Eleph owel design	ant towel design, Towel flowe	r basket design, Towel swans. Swan basket			
WEEK 11: Identification of v	arious wall covering				
VEEK 12: Identification of v	arious floor surfaces				
statungs and include the second second status in the second second second second second second second second se					

Suggestive Readings:

- a. Managing Front Office Operations Michael L Kasavanna& Richard M.Brooks
- b. Front Office Operations and Management Jatashankar R. Tiwari
- c. Principles of Hotel Front Office Operations- Su Baker, Pam Bradley
- d. Hotels for Tourism Development Dr. Jagmohan Negi
- e. Housekeeping Operations, Design and Management by Malini Singh, Jaya B George

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Link: https://hoteltechreport.com/news/hotel-housekeeping-duties

b. Role of Housekeeping in Guest Satisfaction and Repeat Business by Himanshu Rajak Link: <u>https://hmhub.me/role-of-housekeeping-in-guest-satisfaction-and-repeat-business/</u>
c. Top issues and solutions for your housekeeping department by Larry Mogelonsky Link: <u>https://www.todayshotelier.com/2018/06/11/top-issues-and-solutions-for-your-housekeeping-department/</u>

Note: Any other relevant reference/textbooks can be included.

Ň	Name of the Program: Hotel Course Code: OE Course category: Open ame of the Course: Tour Operat	Management 4 Elective ions Management			
Course Credits No. of Hours per Week Total No. of Teaching H					
3 Credits	3 Hrs.	40 Hrs.			
 a. To enable students to management. b. To provide expertise tourism and hospitality c. To develop skills to strategies to capitalize of Course Outcomes: a. Explain the fundament b. Elaborate on the conditionation tourism as well as the intervention of the conditionation of the strategies in the diverse national strateg	o gain an insight into the framework in the management of tour-operation sector. analyze the current and upcomin in the same. Analyse the current and upcomin in the same. Analyse the current and upcomin in the same.	ork of various aspects of tour operations ing agencies, as well as other jobs in the g travel and hospitality trends and plar ent, marketing and financial perspectives nework of the system, types and form of and place, global/local perspectives,			
UNIT-1: INTRODUCT					
No of Hours: 10 Hrs.	ION TO TRAVEL AND TOURI	SM			
No of Hours: 10 Hrs. 1.1 Basic Concepts of Tr 1.2 Origin growth and de 1.3 Linkage between Ho 1.4 Travel Agencies & T 1.5 Major Travel destina 1.6 Sustainable Tourism	TION TO TRAVEL AND TOURI avel and Tourism evelopment of Global Tourism spitality & Tourism our Operators tions of the World and its significance	SM			
No of Hours: 10 Hrs. 1.1 Basic Concepts of Tr 1.2 Origin growth and de 1.3 Linkage between Ho 1.4 Travel Agencies & T 1.5 Major Travel destina 1.6 Sustainable Tourism UNIT- 2: TRAVEL OP No of Hours: 15 Hrs.	TION TO TRAVEL AND TOURI avel and Tourism evelopment of Global Tourism spitality & Tourism our Operators tions of the World and its significance ERATIONS	SM			

2.7 Sources and Modes of Travel reservations

2.8 MICE Tourism

UNIT-3: TOUR MANAGEMENT

No of Hours: 15 Hrs.

3.1 Tour Escorts and Tour Managers

3.2 Butler's Model and Leiper's Model of Tourism

3.3 Travel Behaviour

3.4 Marketing Travel Destinations

3.5 Segmenting the Travel Market

3.6 Passports & Visas

3.7 Travel Formalities

Suggestive Readings:

- a. Hotel for Tourism Development- Dr Jagmohan Negi
- b. Profiles of Indian Tourism Shalini Singh
- c. Tourism Today Ratnadeep Singh
- d. Dynamics of Tourism Pushpinder S Gill

e. Operations Management in the Travel Industry by Peter Robinson

Online Resources

a. Tourism Trends That Will Shape the Travel Industry Link: <u>https://pro.regiondo.com/tourism-trends-2018-2/</u>

b. Tourism in the post-COVID world: Three steps to build better forward Link: <u>https://blogs.worldbank.org/voices/tourism-post-covid-world-three-steps-build-better-forward</u>

c. Sustainable Tourism

Link: <u>https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/asia-pacific-roadmap-3</u>

Note: Any other Latest Edition of reference/textbooks can be included.

	Name of the Program: Hotel N Course Code: OE :	Management 5			
이 이 가 가 있는 것 같은 것을 가 있었다. 이 이 이 가 있는 것이 있는 것 같이 있는 것 같은 이 이 가 있는 것이 있는 것 같이 있는 것 같이 있는 것 같이 있는 것이 같이 있는 것이 같이 있는 것이 같이 않는 것이 같이 있는 것이 있는 것	Course category: Open E	Clective			
	Name of the Course: Hygiene &	¿ Food Safety			
Course Credits No. of Hours per Week Total No. of Teaching Hours					
3 Credits	3 Hrs.	40 Hrs.			
 Course Objectives: a. To illustrate the fram b. To develop skills for commercial catering c. To explain the legal storage and overall cl Course Outcomes: a. Discuss the various nut b. Describe the minerals other organs c. Analyze the factors beh 	ework of various aspects of Food S maintaining appropriate hygienic c establishments procedures pertaining to food saf eanliness in catering establishments rients that provide the essential con required for forming essential struc-	afety and Hygiene onditions in commercial and non- ety practices, controlling hazards, foo s. nponents for our bodies ctural components of tissues, bones and e of food			
cross-contamination. UNIT-1: INTRODUCTI No of Hours: 10 Hrs.	ON TO FOOD HYGIENE AND	SANITIATION			
 1.1 Importance of hygiene 1.2 Sanitation and its imp 1.3 Common Foodborne r 1.4 Role of microorganism 1.5 Sustainable Developm 1.6 Water, Sanitation and 1.7 Global Scenario of Ma 	in catering establishments ortance nicroorganisms ns in food & beverage operations tent Goals Health alnutrition				
UNIT- 2: FOOD CONT. No of Hours: 15 Hrs.	AMINATION AND SPOILAGE				
 2.1 Types of Contaminant 2.2 Signs of spoilage in co 2.3 Reasons for Food Spo 2.4 Source of Food contart 2.5 Food-borne illnesses 2.6 Types of Eating Disort 2.7 Food Preparation and 	s n Foods ommon foods ilage nination ders and their Symptoms Storage				

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UNIT- 3: SAFE FOOD OPERATIONS No of Hours: 15 Hrs.

3.1 Receiving and Inspecting Food deliveries

3.2 Food storage techniques

3.3 Minimizing microbial load

3.4 Common faults in food faults

3.5 Protective display of foods

3.6 Rules to be observed during food service

Suggestive Readings:

a. Food hygiene and sanitation - S. Roday

b. Managing food hygiene - Nicholas John

c. Food hygiene for food handlers - Jill Trickett

d. Essentials of food safety and sanitation - David M S Swane, Nancy R Rue, Richard Linton

e. Fundamentals of Foods, Nutrition and Diet Therapy by Sumati R. Mudambi

Online Resources

- a. Food safety definition & why is food safety important Link: <u>https://www.fooddocs.com/post/why-is-food-safety-important</u>
- b. Why Hygiene is Important in Maintaining High Standards for Restaurants
 Link: <u>https://restaurant.indianretailer.com/article/Why-Hygiene-is-Important-in-Maintaining-High-Standards-For-Restaurants.10874</u>

c. Food Safety Basics: A Reference Guide for Foodservice Operators Link: <u>https://www.ndsu.edu/agriculture/extension/publications/food-safety-basics-reference-guide-foodservice-operators</u>

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Note: Any other Latest Edition of reference/textbooks can be included.

	Name of the Program: Hotel Ma Course Code: OE 6 Course category: Open Fla	nagement		
Na	me of the Course: Tourism and C	limate Change		
Course Credits No. of Hours per Week Total No. of Teaching H				
3 Credits 3 Hrs. 40 Hrs.				
Course Objectives:				
 a. To illustrate the relation fosters environmental a b. To elaborate on the con- environment from both c. To develop a greater environmental change. 	nships between the Earth's natural f nd cultural understanding, apprecia nplex relationships between geology spatial and temporal perspectives awareness of sustainable tourism	eatures and tourism, in a way that tion and conservation y, landscape, tourism and the n practices through the context of		
Course Outcomes:				
a Illustrate the basic proces	ses behind global warming and ali-	asta abay sa		
h Evaluate the new realities	sof alimate abanga with respect to			
o. Evaluate the human influe	s of climate change with respect to t	ourism industry		
d Aggage the immed of all	nce on climate change	지방 승규가 모두 그 가지 않는 것이다.		
a. Assess the impact of clin	ate change on tourism supply			
e. Evaluate the demand imp	lications of climate induced environ	mental changes on tourism		
I. Identify mitigation strate	gies in the tourism transport sector			
g. Analyze the pro-environr	nental behaviour of tourists			
h. Identify tourism and clim	ate change related Knowledge gaps	and Research needs		
UNIT-1: Climate change a	and its implications for the Touris	'n		
No of Hours: 08 Hrs.	<u>. А</u>			
1.1 The New Realities of To	ourism in an Era of Global Climate (Change		
1.2 Distinguishing Weather	Climate, and Climate Change	2012년 1월 2013년 1월 20 일본 1913년 1월 2013년 1월 2		
1.3 Human Influence on Cli	mate Change			
1.4 Global and Regional Cli	mate Change in the 21st Century			
UNIT- 2: Impacts and Ada	ptation at Tourism Destinations			
No of Hours: 16 Hrs.				
2.1 Impacts on Tourism Sup	oply			
2.2 Adaptation to Climate C	hange	방송 동안 것이 있다. 이 가는 것이 같은 것이 있다. 같은 것이 있는 것이 있다. 이 가는 것이 같은 것이 있다.		
2.3 Consumer Response to a	a Changing Climate	1997년 2월 1997년 - 1997년 1997년 1997년 1987년 월 1997년 - 1997년 - 1997년 1997년 1997년		
2.4 Demand Implications of	Climate-induced Environmental Ch	nange		
2.5 Current CO2 Emissions	and Radiative Forcing from Tourisr	\mathbf{n}		
2.6 Emissions Related to Ind	lividual Holiday	물건 것 같은 것 같은 것 같은 것이 없다.		

UNIT-3: Mitigation Policies and Measures

No of Hours: 16 Hrs.

3.1 Mitigation in the transport sector - Air, Surface, Water

3.2 Destination Mobility Management

3.3 Tourism Establishments - Mitigation Options & Emissions Management

3.4 The Role of Tour Operators and other Organizations

3.5 Tourist Behaviour - Consumer Choices & Carbon Offsetting

3.6 Knowledge Gaps and Research Needs

Suggestive Readings:

a. Climate Change and Tourism by Becken Susanne

- b. Tourism, Climate Change and Sustainability by Maharaj Vijay Reddy
- c. Climate Change and Tourism by Kalacas Maria Rellie B.

d. Tourism and Climate Change by Scott Daniel

e. Sustainable Tourism - A Global Perspective by Rob Harris, Tony Griffin & Peter Williams

Online Resources

a. Climate Change Adaptation and Mitigation in the Tourism Sector

Link: <u>https://www.unep.org/resources/report/climate-change-adaptation-and-mitigation-tourism-sector-frameworks-tools-and</u>

- b. Combat Climate Change Link: <u>https://sustainabletravel.org/our-work/climate-change/</u>
- c. How Tourism Contributes to Global Warming Link: <u>https://ecobnb.com/blog/2020/12/tourism-contributes-global-warming/</u>

Note: Any other Latest Edition of reference/textbooks can be included.

Mangalore University Question Paper Pattern of

UG Bachelor's in Hotel Management (BHM) core subjects

(NEP - 2020)

I. GUIDELINES FOR CONTINUOUS INTERNAL EVALUATION (CIE) AND SEMESTER END EXAMINATION (SEE)

The CIE and SEE will carry 40% and 60% weightage each, to enable the course to be evaluated for a total of 100 marks irrespective of its credits. The evaluation system of the course is comprehensive & continuous during the entire period of the Semester. For a course, the CIE and SEE evaluation will be on the following parameters:

SL No	Parameters for Evaluation	Marks
	Continuous Internal Evaluation (CIE)	
Α	Continuous & Comprehensive Evaluation (CCE)	20 Marks
B	Mid Semester Exam (MSE)	20 Marks
	Total of CIE	40 Marks
С	Semester End Examination (SEE)	60 Marks
· · · ·	Total of CIE & SEE	100 Marks

A. Continuous & Comprehensive Evaluation (CCE):

The CCE will carry a maximum of 20% weightage (20 marks) of total marks of a course. The faculty member can select any four of the following assessment methods, Minimum of four of the following assessment methods of 5 marks each:

Individual Assignments	Practical activities/Problem Solving Exercises
Seminars/Classroom Presentations/Quizzes	Mini Projects/Capstone Projects
Group / Class Discussion/ Group Assignments	Participation in Research activities, etc.
Case studies/Case lets / Field visits	Any other academic activity.
Participatory & Industry-Integrated Learning	Practical activities/Problem Solving Exercises

B. Mid Semester Exam (MSE):

The MSE will carry a maximum of 20% weightage (20 Marks) of total marks of a course, under this component, a test will have to be conducted after 50% of the completion of the syllabus ineach subject.

C. Mid Semester Examination (MSE):

The MSE will carry a maximum of 20% weightage (20 Marks) of total marks of a course, under this component, a test will have to be conducted after 50% of the completion of the syllabus ineach subject.

II. PATTERN OF QUESTION PAPER

Sections	Question Type	Mid Semester Exam
SECTION A 1. a, b, c, d, e, f	Answer any FOUR out of six Sub-questions	4 X 1 = 04 Marks
SECTION B 2, 3, 4	Answer any TWO out of three questions	2 X 3 = 06 Marks
SECTION C 5, 6	Answer any ONE out of two questions	1 X 10 = 10 Marks
	TOTAL	20 Marks

A. Mid Semester Exams

B. End Semester Examination

Semester-1 (Theory)

S.NO.	Subject with course code	Part A	Part B	Part C	Total
1	HM C1 (T) Food & Beverage Production –	5x2=10 Answer any <u>Five</u> Questions out of Eight.	4x5=20 Answer any <u>Four</u> Questions out of Six.	3x10=30 Answer any T <u>hree</u> Questions out of Five	60
2.	HM C2 (T) Accommodation Operations – I	5x2=10 Answer any <u>Five</u> Questions out of Eight.	4x5=20 Answer any <u>Four</u> Questions out of Six.	3x10=30 Answer any T <u>hree</u> Questions out of Five	60
3.	HM C3 (T) Food & Beverage Service – I	5x2=10 Answer any <u>Five</u> Questions out of Eight.	4x5=20 Answer any <u>Four</u> Questions out of Six.	3x10=30 Answer any T <u>hree</u> Questions out of Five	60
4.	OE Subjects	5x2=10 Answer any <u>Five</u> Questions out of Eight.	4x5=20 Answer any <u>Four</u> Questions out of Six.	3x10=30 Answer any T <u>hree</u> Questions out of Five	60

Duration of examination : 02 hours

Scheme of Valuation-

Semester-1 (Practical Subjects)

Paper: Food Production Practical-1 HM C1 (P)

Semester-1

Total Marks: 50 No. of Hours: 3 Hours Internal Assessment: 25 Marks

Personal Grooming	05 Marks
Journal/Record Book	05 Marks
Preparation & Presentation of Three Course Menu-any one regional cuisine with accompaniments as per syllabus	10 Marks
Viva	05 Marks

Scheme of Valuation

Paper: Accommodation Operation -1 HM C2 (P)

Semester-1

Total Marks: 50

No. of Hours: 3 Hours

Internal Assessment: 25 Marks

Personal Grooming	05 Marks
Journal/Record	05 Marks
Bed Making with Turndown service	05 Marks
Identification of housekeeping equipment and	05 Marks
Viva	05 Marks

Scheme of Valuation

2

Paper: Food and Beverage Service Practical-1 BHM C3 (P)

Semester: 1

Total Marks: 50 Marks

Internal Assessment: 25 marks

Identification of service equipment	03 Marks
Grooming	04 Marks
Journal/Record	05 Marks
Basic Service Skills	03 Marks
Plan a Three course Indian menu with sequence of food service	05 Marks
Viva	05 Marks

Mangalore University Question Paper Pattern of

UG Bachelor's in Hotel Management (BHM) core subjects

(NEP – 2020)

Scheme of Valuation-

Semester-II (Theory)

Duration of examination : 02 hours

S.NO.	Subject with course code	Part A	Part B	Part C	Total
1	HM C4 (T) Food & Beverage Production – II	5x2=10	4x5=20	3x10=30	60
		Answer any <u>Five</u>	Answer any <u>Four</u>	Answer any T <u>hree</u>	
		Questions out of	Questions out of	Questions out of Five	
		Eight.	Six.		
2.	HM C5 (T) Food & Beverage Service – II	5x2=10	4x5=20	3x10=30	60
1		Answer any <i>Five</i>	Answer any <i>Four</i>	Answer any Three	
		Questions	Questions	Questions	
		Eight.	Six.	out of Five	
3.	HM C3 (T)	5x2=10	4x5=20	3x10=30	60
	Accommodation Operations - II	Answer	Answer	Answer any	
		Questions	Questions	Questions	
		out of Eight.	out of Six.	out of Five	
4.	OE Subjects	5x2=10	4x5=20	3x10=30	60
		Answer any <u>Five</u>	Answer any <u>Four</u>	Answer any T <u>hree</u>	
		Questions out of	Questions out of	Questions out of Five	
		Eight.	Six.		

Scheme of Valuation-

Semester-II (Practical Subjects)

Paper: Food Production Practical-2 HM C4 (P)

Semester-2

Total Marks: 50 No. of Hours: 3 Hours Internal Assessment: 25 Marks

Personal Grooming	05 Marks
Journal/Record Book	05 Marks
Preparation & Presentation of Three Course Menu-any one regional cuisine with accompaniments as per syllabus	10 Marks
Viva	05 Marks

Scheme of Valuation

Paper: Food and Beverage Service -II HM C5 (P)

Semester-2

Total Marks: 50

No. of Hours: 3 Hours

Internal Assessment: 25 Marks

Gueridon service; prescribed by the examiner	06 Marks
Grooming	04 Marks
Journal/Record	05 Marks
Plan a Three course menu with cover setup	05 Marks
Viva	05 Marks

Scheme of Valuation

· Carton

Paper: Accommodation Operation -II HM C6 (P)

Semester-2

Total Marks: 50

No. of Hours: 3 Hours

Internal Assessment: 25 Marks

Personal Grooming	05 Marks
Journal/Record	05 Marks
Cleaning of various surfaces with preparation of Job card	05 Marks
Forms and format used in front office and Housekeeping.	05 Marks
Viva	05 Marks

சாலாகால்: ಎಸಿಸಿ : 3, ಮ. கா. 2: 2 (2022-23)

ವಿಷಯ: Artificial Intelligence, ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸನ್ನು ಬೋಧಿಸಲು ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆ ನಿಗದಿಪಡಿಸುವ ಬಗ್ಗೆ.

ದಿನಾಂಕ: 27.10.2022 ರಂದು ನಡೆದ ಕಂಪ್ಯೂಟರ್ ಸಾಯನ್ಸ್ ಮತ್ತು ಕಂಪ್ಯೂಟರ್ ಅಪ್ಲೀಕೇಷನ್ಸ್ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯು Artificial Intelligence, ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸನ್ನು ಬೋಧಿಸಲು ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆಯನ್ನು ಈ ಕೆಳಗಿನಂತೆ ನಿಗದಿಪಡಿಸಲು ಶಿಫಾರಸ್ಸು ಮಾಡಿರುತ್ತದೆ.

-2-

- 1. Masters degree in Computer Science / Computer Applications /Computer Science and Engineering
- 2. Masters degree in Electronics / Electronics and Communication Engineering
- 3. Any Other Masters degree with PGDCA
- 4. If above mentioned Qualified teachers are not available, then any other teacher working in the college having professional certification on the said course issued by the Government recognised agency.

Artificial Intelligence ಕೋರ್ಸನ್ನು ಶೈಕ್ಷಣಿಕ ವರ್ಷ 2022-23ನೇ ಸಾಲಿನಲ್ಲಿ ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳ (ಬಿ.ಸಿ.ಎ ಹೊರತುಪಡಿಸಿ) ತೃತೀಯ/ಚತುರ್ಥ ಸಮಿಸ್ಟರ್ಗಳಿಗೆ ಕೌಶಲ್ಯವರ್ಧಕ ಕೋರ್ಸಾಗಿ ಅಳವಡಿಸಬೇಕಾಗಿದ್ದರಿಂದ, ಸದರಿ ವಿದ್ಯಾರ್ಹತೆಯನ್ನು ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ನಿರ್ಣಯವನ್ನು ಕಾಯ್ದಿರಿಸಿ ಆಧಿಸೂಚಿಸಲಾಗಿದ್ದು, ಈ ವಿಷಯವನ್ನು ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಘಟನೋತ್ತರ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಿದೆ.

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சாலாகி: வல்ல் : தீ. கி. கி. கி. 3:3 (2022-23)

ವಿಷಯ: ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸುಗಳಡಿ ಬರುವ Artificial Intelligence ಕೋರ್ಸ್ನ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯದಲ್ಲಿರುವ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳಲ್ಲಿ ತೃತೀಯ ಅಥವಾ ಚತುರ್ಥ ಸಮಿಸ್ಟರ್ಗಳಿಗೆ ಅಳವಡಿಸಿರುವ Artificial Intelligence ಕೋರ್ಸ್ ಮಾದರಿಯಲ್ಲಿ ಏಕರೂಪತೆ ತರುವ ನಿಟ್ಟಿನಲ್ಲಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಉನ್ನತ ಶಿಕ್ಷಣ ಪರಿಷತ್ ಸಲ್ಲಿಸಿರುವ Artificial Intelligence, ಕೌಶಲ್ಯ ವರ್ಧಕ ಕೋರ್ಸ್ನ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮವನ್ನು ಪ್ರೂ.ಬಿ.ಹೆಚ್ ಶೇಖರ್, ಅಧ್ಯಕ್ಷರು, ಪದವಿ ಮಟ್ಟದ ಕಂಪ್ಯೂಟರ್ ಸಾಯನ್ಸ್ ಮತ್ತು ಕಂಪ್ಯೂಟರ್ ಅಷ್ಟೀಕೇಷನ್ಸ್ ಅಧ್ಯಯನ ಮಂಡಳಿ ಇವರು ದಿನಾಂಕ:27.10.2022 ರಂದು ನಡೆದ ಪದವಿ ಮಟ್ಟದ ಕಂಪ್ಯೂಟರ್ ಸಾಯನ್ಸ್ ಮತ್ತು ಕಂಪ್ಯೂಟರ್ ಅಷ್ಟೀಕೇಷನ್ಸ್ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. Artificial Intelligence ಕೋರ್ಸ್, ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ನಡವಳಿಯೊಂದಿಗೆ ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ.

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ಸದರಿ ಪಠ್ಯಕ್ರಮವನ್ನು ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ.

23/11/2022 2

- 3-

### **MANGALORE UNIVERSITY**

# **DEPARTMENT OF COMPUTER SCIENCE**

Proceedings of the meeting – UG Board of Studies in Computer Science and Computer Applications, held in the Department of Computer Science, Mangalore University, on 27<sup>th</sup> Oct. 2022 in ONLINE mode.

#### Members:

- 1. Prof. B H Shekar, Chairman UG Board of Studies in Computer Science and Computer Applications, Mangalore University
- 2. Mr. Prakash Kumar, Asst. Professor in Computer Science, Sri Vivekananda College of Arts, Science and Commerce, Puttur.
- 3. Mrs. Anupama Ajith, Asst. Professor in Computer Applications, MGM College, Udupi.
- 4. Mr. Pemmaiah, Asst. Professor in Computer Applications, Cauvery College, Gonikoppal.
- 5. Mrs. Divya Uchil, Asst. Professor in Computer Applications, SDM College of Business Management, Mangalore.

#### **Special Invitee:**

-

6. Prof. V. Ravindrachary, Professor of Physics and NEP Nodal Officer, Mangalore University, Mangalagangothri, Mangalore.

The Chairman welcome the members of the Committee and presented the following agenda for the opinion of the Board.

### Agenda-1: Model adoption for Artificial Intelligence as a Skill Enhancement Course

The Karnataka State Higher Education Council (KSHEC) has directed to consider only one model across the universities to maintain the uniformity in the proposed skill enhancement course on **Artificial Intelligence**, and hence it is <u>resolved and recommended to adopt the model curriculum provided by</u> the KSHEC which is also uploaded in the KSHEC web-site for its implementation with effect from this academic year (2022-23).

The Board recommended that the teachers with the following qualificate shall be eligible to teach Artificial Intelligence subject offered at degree level

- degree in Computer Science/Computer
- Applications/Computer Science & Engineering b. Master's degree in Electronics / Electronics and Communication
- c. Any other Master's degree with PGDCA d. If above mentioned qualified teachers are not available, then any other teacher working in the college having professional certification on the

said course issued by the government recognized agency. Further, the Board also recommended to adopt the question paper pattern

which is attached with this proceedings.

Finally, the Chairman thanked all the members for their cooperation and also requested their continued support in the forthcoming days in all the activities of university to implement the programme effectively.

Dr. B H Shekar

|Prof. Ravindrachary| Mr. Prakash Kumar| Mrs. Anupama Ajith | Mr. Pemmalah | Mrs. Divya Uchil ONLINE

# **MANGALORE UNIVERSITY**

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Dr. B H Shekar

ONLINE

|Prof. Ravindrachary| Mr. Prakash Kumar| Mrs. Anupama Ajith | Mr. Pemmalah | Mrs. Divya Uchil

### Skill Enhancement Course: SEC for B.Sc. & other Subject Students

#### Semester: III/IV

| Course Title: Artificial Intelligence                             | Course Credits: 2                       |
|-------------------------------------------------------------------|-----------------------------------------|
| Total Contact Hours: 13 hours of theory and 26 hours of practical | Duration of ESA: 01 Hour                |
| Formative Assessment Marks: 20 marks                              | Summative Assessment Marks:<br>30 marks |

#### Course Outcomes (COs):

At the end of the course, students will be able to:

- Appraise the theory of Artificial intelligence and list the significance of AI.
- Discuss the various components that are involved in solving an AI problem.
- Illustrate the working of AI Algorithms in the given contrast.
- Analyze the various knowledge representation schemes, Reasoning and Learning techniques of AI.
- Apply the AI concepts to build an expert system to solve the real-world problems.

#### Course Content (Artificial Intelligence)

|              | Details of topic                                             | Duration |
|--------------|--------------------------------------------------------------|----------|
| Course – 1 - | AI-900 pathway consists of 5 courses and 2 reading material: |          |
| Azure AI     | i. Introduction to AI on Azure                               |          |
| Fundamentals | ii. Use visual tools to create machine learning models with  |          |
| (AI-900)     | Azure Machine Learning                                       |          |
|              | iii. Explore computer vision in Microsoft Azure              |          |
| 2            | iv. Explore natural language processing                      |          |
| 1 B.         | v. Explore conversational AI                                 |          |
|              | vi. Tune Model Hyperparameters - Azure Machine Learning      |          |
|              | (Reading)                                                    |          |
|              | vii. Neural Network Regression: Module Reference - Azure     |          |
|              | Machine Learning (Reading                                    |          |
|              |                                                              |          |
| Practical    | 1. Prepare the data                                          | 13 hours |
|              | 2. Model the data                                            |          |
| A            | 3. Visualize the data                                        |          |
|              | 4. Analyse the data                                          |          |
|              | 5. Deploy and maintain deliverables                          |          |

| the second s |                                                                                                   |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------|
| Course – 2 -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DA-100 pathway consists of 5 courses and 2 reading material:                                      |          |
| Data Analyst 1. Get started with Microsoft data analytics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                   |          |
| Associate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2. Prepare data for analysis                                                                      |          |
| (DA-100)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3. Model data in Power BI                                                                         |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4. Visualize data in Power BI                                                                     |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5. Data analysis in Power BI                                                                      |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6. Manage workspaces and datasets in Power BI                                                     |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7. Key Influencers Visualizations Tutorial - Power BI                                             |          |
| с.<br>К                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8. Smart Narratives Tutorial - Power BI   Microsoft Docs                                          |          |
| Practical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1. Describe Artificial Intelligence workloads and considerations                                  | 13 hours |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2. Describe fundamental principles of machine learning on                                         | 15 nouis |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Azure                                                                                             |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3. Describe features of computer vision workloads on Azure                                        |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ol> <li>Describe features of Natural Language Processing (NLP)<br/>workloads on Azure</li> </ol> | 2<br>1   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                   |          |

#### References to learning resources:

1. The learning resources made available for the course titled "Azure AI Fundamentals (AI-900) and Data Analyst Associate (DA-100)." on Future Skills Prime Platform of NASSCOM.

#### Pedagogy

Flipped classroom pedagogy is recommended for the delivery of this course. For every class:

- 1. All the faculty who takes this class should go for a Faculty Development Program on these before starting the session.
- 2. Faculty needs to introduce this course to the students then students need to start learning from Future Skills PRIME platform.
- 3. Faculty also needs to explain the course outcomes and needs of the course and why it is needed for the students.
- 4. Then students need to start learning online after registering on the platform.
- 5. Classroom activities are designed around the topic of the session towards developing better understanding, clearing doubts and discussions of high order thinking skills like application, analysis, evaluation, and design.
- 6. Every theory class ends with announcement of exercise for practical activity of the week.

#### **Exercises:**

| Practical Exercises                                                                                        | Weightage in marks                                                       |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| After each chapter students' needs to<br>complete exercises based on the learning<br>in Azure environment. | No Weightage (But students need to complete it to move to next chapter). |

Assessment:

| Formative Assessment |                                                                                                                                                                                                                                                                                                               |                                                                                       |  |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|
| Assessment Occasion  |                                                                                                                                                                                                                                                                                                               | Weightage in Marks                                                                    |  |
| 1.                   | Summative Assessment: After completion of<br>both the courses, the student can optionally give<br>Assessment for each of the courses on Future<br>Skills Prime platform. Students will have two<br>attempts and those who score at least 50% marks<br>per course will get certificate from NASSCOM-<br>MeitY. | This assessment may be given 50% weight in computing the final grade of the students. |  |

#### Pattern of Question Paper

# Skill Enhancement Course: SEC for B.Sc. & other Subject Students

#### Semester: III/IV

#### Course Title: Artificial Intelligence

Duration: 2 hrs.

Max. Marks: 30

#### Section-A: Answer all the questions (1x10 = 10)

This section shall contain 10 questions of type such as multiple choice questions, fill in the blanks or true/false.

(The first five questions shall be given from  $\underline{\text{Course} - 1}$ : Azure AI Fundamentals and the next five questions shall be given from  $\underline{\text{Course} - 2}$ : Data Analyst Associate).

#### Section-B: Answer any five questions (2x5 = 10)

This section shall contain eight questions out of which five questionsshall be answered and all the questions shall be given from <u>Course</u>

<u>- 1: Azure AI Fundamentals.</u>

#### Section-C: Answer any five questions (2x5 = 10)

This section shall contain eight questions out of which five questions shall be answered and all the questions shall be given from <u>Course</u>

- 2: Data Analyst Associate.
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ವಿಷಯ: ರಾಷ್ಕ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ ಬಿ.ಎಸ್ಸಿ (ಫುಡ್ ಟೆಕ್ನಾಲಜಿ) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ತೃತೀಯ ಮತ್ತು ಚತುರ್ಥ ಸೆಮಿಸ್ಟರ್ ಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ದಿನಾಂಕ: 8.9.2022 ರಂದು ನಡೆದ ಪದವಿ ಮತ್ತು ಸ್ನಾತಕೋತ್ತರ ಫುಡ್ ಸಾಯನ್ಸ್ ಆಂಡ್ ಟೆಕ್ನಾಲಜಿ ಸಂಯುಕ್ತ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯಲ್ಲಿ ಸರ್ಕಾರ ಸಲ್ಲಿಸುವ ತೃತೀಯ ಮತ್ತು ಚತುರ್ಥ ಸಮಿಸ್ಟರ್ಗಳ ಬಿ.ಎಸ್ಸಿ ಫುಡ್ ಟೆಕ್ನಾಲಜಿ ಪಠ್ಯಕ್ರಮವನ್ನೇ ಅಳವಡಿಸಲು ಹಾಗೂ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿ ಅಧ್ಯಕ್ಷರು ಸುತ್ತೋಲೆ ಮುಖಾಂತರ ಅನುಮೋದಿಸಿ ಸಲ್ಲಿಸಲು ನಿರ್ಣಯಿಸಿರುವ ಪ್ರಕಾರ ಪ್ರೊ.ಮೋನಿಕ ಸದಾನಂದ, ಅಧ್ಯಕ್ಷರು, ಪದವಿ ಮತ್ತು ಸ್ನಾತಕೋತ್ತರ ಫುಡ್ ಸಾಯನ್ಸ್ ಅಂಡ್ ಟೆಕ್ನಾಲಜಿ ಸಂಯುಕ್ತ ಅಧ್ಯಯನ ಮಂಡಳಿ ಇವರು ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿಯ ಮಾದರಿಯಂತೆ ತಯಾರಿಸಿರುವ ಬಿ.ಎಸ್ಸಿ.(ಫುಡ್ ಟೆಕ್ನಾಲಜಿ) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ತೃತೀಯ ಮತ್ತು ಚತುರ್ಥ ಸಮಿಸ್ಟರ್ ಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಬಿ.ಎಸ್ಸಿ (ಫುಡ್ ಟೆಕ್ನಾಲಜಿ) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ನಡವಳಿಯೊಂದಿಗೆ ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ.

ಸದರಿ ಪಠ್ಯಕ್ರಮವನ್ನು ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ. Proceedings of the meeting of members of BOS (Composite) in Food Science and Technology held on 08.09.2022 in the Office of the Chairperson, Department of Biosciences, Mangalore University, Mangalagangothri

(Ref: MU/K.S/SND(S4)/57/2021-13015 dated 22.08.2022)

## **Members Present:**

| 1. | Prof. Prashantha Naik  | - | Member      |
|----|------------------------|---|-------------|
| 2  | Dr. S. N. Raghavendra  | - | Member      |
| 3. | Smt. Sanjana M         | - | Member      |
| 4. | Prof. Monika Sadananda | - | Chairperson |
|    |                        |   |             |

## Members Absent:

| 1. | Prof. Vijayalakshmi K. G. |   | External Member |
|----|---------------------------|---|-----------------|
| 2. | Dr. Shekhar Naik R        | - | External Member |

Chairperson welcomed the members and presented the agenda.

#### Agenda:

- 1. Preparation of Panel of Examiners (UG)
- 2. NEP Syllabus B.Sc. (Hons) Food Technology 3rd and 4th Semesters
- 3. Any other matter referred by the University

#### Decision:

- The panel of UG examiners in Food Technology has been updated based on the suggestions of the members and was approved. The Board recommended constitution of Gradation List for Food Technology to facilitate both Evaluation Section as well as Colleges/BoE in conduct of examinations.
- NEP syllabus The Board contacted the Chairperson of the NEP Food Technology Committee, who assured that NEP syllabus for 3<sup>rd</sup> and 4<sup>th</sup> semesters will be available shortly. It was decided to adopt/adapt the given syllabus for BSc FT. The Chairperson of BoS was authorized to get approval for the syllabus through circulation. The question paper pattern for theory examinations was revised and approved.
- Any other matter referred by the University No other matter was referred by the University.

The meeting ended with the Chairperson thanking the members for their cooperation.

### Signature of the members

1. Prof. Prashantha Naik

2. Dr. S N Raghavendra

Sanjone And

3. Smt. Sanjana M

-l Prof. Monika Sadananda Chairperson, UG/PG. BOS in Food Science and Technology B.O.S. in Feed Science and Technology Mangalore University, Mangalagangothri-574199

## B.Sc. (Basic & Hons.) Food Technology (Model I C)

Model Curriculum

Name of the Degree Program: B.Sc. Basic / Honours

Discipline Core: Food Technology

Total Credits for the Program: 224

Starting year of implementation: 2021-22

## Program Outcomes (POs)

At the end of the program, students will be able to:

| PO 1 | Disciplinary Knowledge: Bachelor degree in Food Technology helps to apply the      |
|------|------------------------------------------------------------------------------------|
|      | knowledge of science, engineering fundamentals, and mathematical concepts          |
|      | to the solution in the field of food technology, science and other allied subjects |
| PO 2 | Communication Skills: Communicate effectively and write effective reports and      |
|      | design documentation, make effective presentations through seminars, project       |
|      | dissertations                                                                      |
| PO 3 | Critical thinking and analytical reasoning: Recognize the need for, and have the   |
|      | preparation and ability to engage in independent/as an entrepreneur and life-      |
|      | long learning in the broadest context of technological change logical reasoning    |
|      | and capability of recognizing and distinguishing the various aspects of real-life  |
|      | problems.                                                                          |
| PO 4 | Problem Solving: Identify, formulate, review research literature, and analyze      |
|      | complex Food Technology/applications problems and Design solutions for             |
|      | complex problems and design system components or processes that meet the           |
|      | specified needs with appropriate consideration for the food sustainability         |
| PO 5 | Research related skills: Acquire the practical knowledge and demonstrate the       |
|      | ability to design, conduct/trouble shoot experiments and analyze data in the       |
|      | field of food technology                                                           |
| PO 6 | Information/digital Literacy: The completion of this programme will enable the     |
|      | learner to use appropriate software's to apply for bulk scale/industrial           |
|      | production of technology-based food products                                       |
| PO 7 | Self-directed learning: The student completing this program will develop an        |
|      | ability of working independently and to make an in-depth study of various          |
|      | disciplines of food technology.                                                    |
|      |                                                                                    |
|      | impact of the                                                                      |
| PO 8 | Moral and ethical awareness/reasoning: Understand the impact of the                |
|      | professional food technology solutions in societal and environmental contexts,     |
|      | and apply ethical principles and commit to professional ethics and                 |
|      | responsibilities                                                                   |

| PO 9  | Lifelong learning: This programme provides self-directed learning and lifelong learning skills to think independently and develop problem solving skills with respect to food industry |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PO 10 | Ability to peruse advanced studies and research in Allied fields of Food science.                                                                                                      |

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## Assessment:

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# Weightage for assessments (in percentage)

2

| Type of Course                           | Formative Assessment / IA | Summative Assessment |
|------------------------------------------|---------------------------|----------------------|
| Theory                                   | 30                        | 70                   |
| Practical                                | 15                        | 35                   |
| Projects                                 | 30                        | 70                   |
| Experiential Learning (Internships etc.) | 30                        | 70                   |

| Semest | Course | Theory/Pra                               | Credit    | Title of the Course       | Marks    | -     |
|--------|--------|------------------------------------------|-----------|---------------------------|----------|-------|
| er     | No.    | ctical                                   | s         |                           | S. A.    | I. A. |
| 111    | DSC    | Theory                                   | 3         | Legumes and Oil           | 60       | 40    |
|        | 3.1    |                                          |           | Seeds Technology          |          |       |
|        | DSC    | Practical                                | 2         | Legumes and Oil           | 25       | 25    |
|        | 3.1    | 2                                        |           | Seeds Technology          |          |       |
|        | DSC    | Theory                                   | 3         | Fruit and Vegetable       | 60       | 40    |
|        | 3.2    |                                          |           | Technology                |          |       |
|        | DSC    | Practical                                | 2         | Fruit and Vegetable       | 25       | 25    |
|        | 3.3    |                                          |           | Technology                |          |       |
|        | DSC    | Theory                                   | 3         | <b>Operations in Food</b> | 60       | 40    |
|        | 3.3    |                                          |           | Processing                |          |       |
|        | OE     | Theory                                   | 3         | Food Adulteration         | 60       | 40    |
|        | 3.1    |                                          |           |                           |          |       |
| IV     | DSC    | Theory                                   | 3         | Milk and Milk             | 60       | 40    |
|        | 4.1    |                                          |           | Product Technology        |          |       |
|        | DSC    | Practical                                | 2         | Milk and Milk             | 25       | 25    |
|        | 4.1    |                                          |           | Product Technology        |          |       |
|        | DSC    | Theory                                   | 3         | Baking and                | 60       | 40    |
|        | 4.2    |                                          |           | Confectionary             | g na 👘 👘 |       |
|        |        |                                          |           | Technology                |          |       |
|        | DSC    | Practical                                | 2         | Baking and                | 25       | 25    |
|        | 4.2    |                                          |           | Confectionary             |          |       |
|        |        | 5 - 12 - 12 - 12 - 12 - 12 - 12 - 12 - 1 |           | Technology                | -        |       |
|        | DSC    | Theory                                   | 3         | Food Laws and Food        | 60       | 40    |
| -      | 4.3    |                                          |           | Safety                    |          |       |
| 8      | OE     | Theory                                   | 3         | Traditional Food and      | 60       | 40    |
|        | 4.1    |                                          |           | Health                    |          |       |
|        |        | Exit Option                              | with Dipl | oma in Food Technology    | 1        |       |

## Contents of Courses for B.Sc. (Basic / Honours) Food Technology

3

Model Curriculum of BSc (Basic and Honours) in Food Technology

3<sup>rd</sup> and 4<sup>th</sup> Semesters

## LEGUMES AND OIL SEEDS TECHNOLOGY

| Program Name                  | B Sc Food Technology                | Semester                | 111     |
|-------------------------------|-------------------------------------|-------------------------|---------|
| Course Title                  | Legumes and Oil Seeds<br>Technology |                         |         |
| Course Code: DSC              | 3.1                                 | No. of Credits          | 3       |
| Formative<br>Assessment Marks | 40                                  | Duration of<br>ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                                  | 12.                     |         |
| Contact hours                 | 45 hrs                              |                         |         |

Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

#### **Objectives:**

1. To create awareness about the processing of major cereals like paddy, maize etc

- 2. To study the storage and handling techniques of cereals.
- 3. To study about the byproducts obtained during processing along with their uses.
- 4. To gain knowledge on processing and milling of cereals and pulses.

#### Course outcomes:

After successful completion of the course, students will be able to:

- CO 1. Students will learn about different process involved in cereal and legume processing.
- CO 2. Develop skills on the treatment and processing of the grain from cereal and legume.
- CO 3. Develop skill of preparation of different byproducts of cereals and legumes.

| Theory content                                                                                                                                                                                                                                                                                                | 45 Hours |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| UNIT I                                                                                                                                                                                                                                                                                                        | 15       |
| Present status and future prospects of legumes and oilseeds; Morphology of<br>legumes and oilseeds; Classification and types of legumes and oilseeds,<br>Chemical composition and nutritional value; Anti-nutritional compounds in<br>legumes and oilseeds; Methods of removal of anti-nutritional compounds. |          |
| UNIT-II                                                                                                                                                                                                                                                                                                       | 15       |
| Milling of legumes: home scale, cottage scale and modern milling methods, milling quality, efficiency and factors affecting milling; problems in dhal milling                                                                                                                                                 |          |

5

| UNIT-III 15                                                                                                                                                                                                                                                                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 15                                                                                                                                                                                                                                                                                                                                                                            |  |
| Cooking quality of legumes - factors affecting and i                                                                                                                                                                                                                                                                                                                          |  |
| Office the second second second second cooking quality.                                                                                                                                                                                                                                                                                                                       |  |
| Oliseeds: composition, methods of extraction, Desolventization and refining of<br>oils: degumming, neutralization bleaching, filtration, deodorization, etc. New<br>technologies in oilseed processing, Utilization of oil seed meals for food uses i.e.<br>high protein products like concentrate, isolates Byproduct of pulses and oil<br>milling and their value addition. |  |

| Format                    | tive Assessment    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment                | 05                 |
| Seminar                   | 05                 |
| Project                   | 10                 |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

| Course Title            | Legumes and Oil Seeds<br>Technology (Practical) | Practical credits   | 2 |
|-------------------------|-------------------------------------------------|---------------------|---|
|                         | Practical Content                               |                     |   |
| 1. Determination of p   | hysical properties of legumes and o             | pil seeds           |   |
| 2. Determination of p   | proximate composition of selected               | pulses and oilseeds |   |
| 3. Determination of n   | utritional quality of selected pulses           | and oilseeds        |   |
| 4. Study of mini dhal r | nill                                            |                     |   |
| 5. Study of mini oil mi | Г, -                                            |                     |   |
| 6. Preconditioning of p | oulses before milling                           |                     |   |
| 7. Preconditioning of c | ilseeds before milling.                         |                     |   |
| 8. Removal of anti-nut  | ritional compounds from selected                | oulses and oilseeds |   |
| G                       |                                                 |                     |   |

- 9. Laboratory milling of selected pulses and its quality evaluation
- 10. Laboratory milling of selected oilseeds and its quality evaluation
- 11. Laboratory refining of selected oils
- 12. Laboratory hydrogenation of selected oils
- 13. Study of cooking quality of dhal.
- 14. Processing of composite legume mix and preparation of value-added products
- 15. Visit to commercial dhal mills and oil mills.

| Formative Assessment          |                    |  |
|-------------------------------|--------------------|--|
| Assessment Occasion/ type     | Weightage in Marks |  |
| Test 1                        | 05                 |  |
| Test 2                        | 05                 |  |
| Practical Record              | 10                 |  |
| Participation and Involvement | 05                 |  |
| Total                         | 25                 |  |

## **Recommended Readings**

- 1. Pulses Harbhajan Singh Agrotech Pub. Academy, 2005, ISBN: 9788183210140
- Legumes Chemistry, Technology and Human Nutrition, Mathews RH Marcel Dekker, 1989
- Post harvest technology of cereals: pulses and oilseeds, Chakraverty A. Oxford & IG+BH publishing company, 1988, ISBN: 9788120402898
- Bailey's Industrial Oil & Fat Products, Bailey A.E. and Shahidi F. Wiley Publication, 2005, ISBN: 9780471385462
- 5. Food Legumes, Kay DE, Tropical Products Institute, 1979
- Food and Feed from Legumes and Oilseeds, Smartt J and Nwokolo E. Springer, 2012, ISBN: 9781461304333
- 7. Legumes and Oilseed Crops, Bajaj YPS, Springer, 2012, ISBN: 97836427444883
- Handbook of Seed Science and Technology, Basra A., CRC Press, 2006, ISBN: 9781560223153

## FRUIT AND VEGETABLE TECHNOLOGY

| Program Name                  | B Sc Food Technology           | Semester                | 111     |
|-------------------------------|--------------------------------|-------------------------|---------|
| Course Title                  | Fruit and Vegetable Technology |                         |         |
| Course Code: DSC              | 3.2                            | No. of Credits          | 3       |
| Formative<br>Assessment Marks | 40                             | Duration of<br>ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                             |                         |         |
| Contact hours                 | 45 hrs                         |                         |         |

# Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

## **Objectives:**

 To learn about the various process of plant products undertaken in an industrial level
 To gain the knowledge about the post-harvest technology and the novel technologies in the processing of the products

## Course outcomes:

After successful completion of the course, students will be able to:

CO 1. Interpret the history and need of preservation along with the best-known canning and bottling process for all the related vegetable and fruit products.

CO 2. Classify the science behind the processing and drying techniques of fruits and vegetables which leads to a final product with enhanced characteristics and shelf life.

- CO 3. Formulate and familiarize the reactions and changes taking place in fruits and vegetables, beverages and spices during the overall processing.
- CO 4. Apply the technological ideas and methodologies to preserve the harvest and turn it into multiple uses.

| Theory content                                                                                                                                                                                                                                  |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| UNIT I                                                                                                                                                                                                                                          | 15 |
| Introduction: Importance of fruits and vegetables. History and need of preservation, reasons of spoilage, method of preservation.                                                                                                               | 15 |
| <b>Canning and bottling of Fruits and vegetable:</b> Selection of fruits and vegetables, process of canning, factors affecting the process- time and temperature, containers of packing, lacquering, syrups and brines for canning, spoilage in |    |

| canned foods, Process of bottling, factors affecting the sterilization, factors affecting the quality of the bottles foods.                                                                                                     |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| <b>Fruits juices and tomato pulps:</b> Selection of fruits, Processing of fruit juices, preservation of fruit juices. Selection of tomatoes, pulping& processing of tomato juice, tomato puree, paste, ketchup, sauce and soup. |    |
| UNIT-II                                                                                                                                                                                                                         | 15 |
| Fruit squashes, Jams, Jellies, Marmalades and candies: Selection of fruits, Processing, essential constituents, types, technology and defects in Fruit squashes, Jams, Jellies, Marmalades and candies                          |    |
| <b>Pickles, Chutneys and Sauces:</b> Processing of pickles, chutneys and squashes, Types of pickles, chutneys and squashes, Causes of spoilage in pickling.                                                                     |    |
| Drying of Foods and Vegetables:                                                                                                                                                                                                 |    |
| Sun drying and mechanical drying of Food and Vegetables, process variation for fruits and vegetables, packing and storage.                                                                                                      |    |
| UNIT-III                                                                                                                                                                                                                        | 15 |
| Spices: Processing and properties of major and minor spices, essential oils & oleoresins, adulteration.                                                                                                                         |    |
| Tea, Coffee and Cocoa: Processing of Tea, Coffee and Cocoa, Variety Tea, Coffee and Cocoa and its products.                                                                                                                     |    |
| Browning: Enzyme activity enzymic browning Non enzymic browning, its prevention.                                                                                                                                                |    |

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| Formative Assessment                         |    |  |
|----------------------------------------------|----|--|
| Assessment Occasion/ type Weightage in Marks |    |  |
| Test 1                                       | 10 |  |
| Test 2                                       | 10 |  |
| Assignment                                   | 05 |  |
| Seminar                                      | 05 |  |
| Project                                      | 10 |  |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

| Course Title                 | Fruit and Vegetable Technology<br>(Practical) | Practical credits | 2 |
|------------------------------|-----------------------------------------------|-------------------|---|
|                              | Practical Content                             |                   |   |
| 1. Estimation of total solu  | ble solids (TSS).                             |                   |   |
| 3. Estimation of brix: acidi | ty ratio                                      |                   |   |
| 4. Estimation of ascorbic a  | cid and effect of heat treatment on i         | t.                |   |
| 5. To study the steps of ar  | tificial drying of vegetables.                |                   |   |
| 7. Adulteration of spices.   |                                               |                   |   |
| 8. Dehydration of fruits ar  | d vegetables.                                 |                   |   |
| 9. Rehydration of fruits an  | d vegetables.                                 |                   |   |
| 10. Salting of vegetables.   |                                               |                   |   |
| 11. Brining of vegetables.   |                                               |                   |   |
| 12. Organoleptic changes     | during dehydration of vegetables and          | fruits.           |   |

| Formative Assessment          |                    |  |
|-------------------------------|--------------------|--|
| Assessment Occasion/ type     | Weightage in Marks |  |
| Test 1                        | 05                 |  |
| Test 2                        | 05                 |  |
| Practical Record              | 10                 |  |
| Participation and Involvement | 05                 |  |
| Total                         | 25                 |  |

## Recommended Readings

- 1. Girdharilal, Siddappaa, G.S and Tandon, G.L.1998. Preservation of fruits & Vegetables, ICAR, New Delhi
- 2. Crusess W B.2004. Commercial Unit and Vegetable Products, W.V. Special Indian Edition, Pub: Agrobios India
- 3. Manay, S. & Shadaksharaswami, M.2004. Foods: Facts and Principles, New Age Publishers
- 4. Ranganna S.1986. Handbook of analysis and quality control for fruits and vegetable products, Tata Mc Graw-Hill publishing company limited, 2<sup>nd</sup> edition.
- 5. Srivastava, R.P. and Kumar, S. 2006. Fruits and Vegetables Preservation- Principles and Practices. 3<sup>rd</sup> Ed. International Book Distributing Co.
- 6. Manay, S. and Sharaswamy, M. 1987. Food Facts and Principles. Wiley Eastern Limited

## **OPERATIONS IN FOOD PROCESSING**

|                               |                                  |                         | 111     |
|-------------------------------|----------------------------------|-------------------------|---------|
| Program Name                  | B Sc Food Technology             | Semester                | 111     |
| Course Title                  | OPERATIONS IN FOOD<br>PROCESSING | - 0-<br>                |         |
| Course Code: DSC              | 3.3                              | No. of Credits          | 3       |
| Formative<br>Assessment Marks | 40                               | Duration of<br>ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                               |                         |         |
| Contact hours                 | 45 hrs                           |                         | 21      |
|                               |                                  |                         |         |

Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

## **Objectives:**

To learn about the principles, techniques and processes required for unit operations.

#### Course outcomes:

After successful completion of the course, students will be able to:

- CO 1. Gain know-how regarding principles of unit operations.
- CO 2. Understand the principles underlying various types of food processing
- CO 3. Familiarize with unit operations and techniques in food processing
- CO 4. Apply the knowledge of unit operations in food industry

| Theory content                                                                                                                                                                                                                                                                                                                                                                                                          |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| UNIT I                                                                                                                                                                                                                                                                                                                                                                                                                  | 15 |
| Theory Size reduction: Benefits, classification, sieve/screen analysis, principle<br>and mechanisms of comminution of food, Rittinger's, Kick's and Bond's<br>equations, work index, energy utilization; Size reduction equipment: Principal<br>types, hammer mills and impactors, attrition mills, buhr mill, tumbling mills,<br>tumbling mills, colloid mill, cutting machines (slicing, dicing, shredding, pulping); |    |
| UNIT-II                                                                                                                                                                                                                                                                                                                                                                                                                 | 15 |
| Mixing: Theory of solids mixing, criteria of mixer effectiveness and mixing<br>indices, rate of mixing, Theory of liquid mixing, power requirement for liquids<br>mixing; Mixing equipment: Mixers for low- or medium-viscosity liquids (paddle<br>agitators, impeller agitators, powder-liquid contacting devices, other mixers),                                                                                      |    |

| Mixers for high viscosity liquids and pastes, mixers for particulate solids;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | dry powders and                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNIT-III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15                                                                                                                                                                                                                       |
| Mechanical Separations: Theory, centrifugation, liquid-<br>liquid-solid centrifugation, clarifiers, desludging machin<br>filtration, rate of filtration, pressure drop during filtratio<br>equipment; plate and frame filter press, rotary filters, c<br>filters, filter aids; Membrane separation: General consid<br>membrane construction, Ultra-filtration, processing var<br>fouling, Applications of ultra-filtration in food processin<br>mode of operation, and applications, Membrane separation<br>filtration, ion exchange, per-evaporation and micro filtration | liquid centrifugation,<br>nes; Filtration: Theory of<br>on, applications Filtration<br>entrifugal filters and air<br>derations, materials for<br>iables, membrane<br>g, reverse osmosis,<br>ation methods, gel<br>ation. |

| Formative Assessment |  |  |
|----------------------|--|--|
| Weightage in Marks   |  |  |
| 10                   |  |  |
| 10                   |  |  |
| 05                   |  |  |
| 05                   |  |  |
| 10                   |  |  |
|                      |  |  |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

## **Recommended Readings**

. 1 Food Engineering Operation Brenan JG, Butters JR, Elsevier Applied Science London. 1990

2 Unit Operations in Food Processing Earle RL Elsevier, 2013

3 Unit Operations in Food Processing Ibarz A. and Gustavo VBC CRC Press, 2002

## **REFERENCE BOOKS**

1 Unit Operations of Chemical Engineering Warren LM, Julian Smith, Peter Harriott 7 th Ed. McGraw-Hill, Inc., NY, USA. 2004

2 Transport Processes and Separation Process Principles Christie John Geankoplis 4 th Ed. Prentice-Hall, NY, USA. 2003

3 Handbook of Food Processing Equipment Saravacos GD and Athanasios EK Springer Science+Business Media, New York, USA. 2002

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#### FOOD ADULTERATION

| Program Name                  | B Sc Food Technology | Semester                | 111             |
|-------------------------------|----------------------|-------------------------|-----------------|
| Course Title                  | FOOD ADULTERATION    |                         |                 |
| Course Code: OE               | 3.1                  | No. of Credits          | 3               |
| Formative<br>Assessment Marks | 40                   | Duration of<br>ESA/Exam | 2 Hours         |
| Summative<br>Assessment Marks | 60                   | -                       | 2 <sup>-1</sup> |
| Contact hours                 | 45 hrs               |                         |                 |

Course Pre-requisite(s): Certificate on completion of First year Bsc Food Technology.

#### Objectives:

1. To educate about common food adulterants and their detection.

2. To impart knowledge in the legislatory aspects of adulteration.

3. To educate about standards and composition of foods and role of consumer.

#### Course outcomes:

After successful completion of the course, students will be able to:

1. Get basic knowledge on various foods and about adulteration.

2. Understand the adulteration of common foods and their adverse impact on health

3. Comprehend certain skills of detecting adulteration of common foods.

4. Be able to extend their knowledge to other kinds of adulteration, detection and remedies.

5. Know the basic laws and procedures regarding food adulteration and consumer protection.

| Theory content                          | 45 Hours |
|-----------------------------------------|----------|
| UNITI                                   | 14       |
| Adulteration – Introduction             |          |
| <ul> <li>Definition – Types;</li> </ul> |          |

| <ul> <li>Common Foods subjected to Adulteration - Poisonous substances,<br/>Foreign matter, Cheap substitutes, Spoiled parts New adulterants in<br/>foods</li> <li>Adulteration through Food Additives – Intentional and incidental.</li> <li>General Impact on Human Health</li> </ul>                                                                                                                                                                                                                                                                                                                                                         |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| UNIT-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15 |
| <ul> <li>Adulteration of Common Foods and Methods of Detection</li> <li>Means of Adulteration</li> <li>Methods of Detection Adulterants in the following Foods; Milk, Oil,<br/>Grain, Sugar, Spices and condiments, processed food, Fruits and<br/>vegetables.</li> <li>Historical Food legislation in India; Central food iaboratory, Municipal<br/>laboratories,</li> </ul>                                                                                                                                                                                                                                                                   |    |
| UNIT-III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 16 |
| <ul> <li>Present Laws and Procedures on Adulteration: Highlights of Food Safety<br/>and Standards Act 2006 (FSSA)</li> <li>Food Safety and Standards Authority of India–Rules and Procedures of<br/>Local Authorities.</li> <li>Consumer protection: Role of voluntary agencies such as, Ag mark, I.S.I.<br/>Quality control laboratories of companies, Private testing laboratories,</li> <li>Quality control laboratories of consumer co-operatives.</li> <li>Consumer education, Consumer's problems rights and responsibilities,<br/>COPRA 2019 - Offenses and Penalties – Procedures to Complain –<br/>Compensation to Victims.</li> </ul> |    |

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| Formative Assessment      |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment                | 05                 |
| Seminar                   | 05                 |
| Project                   | 10                 |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

#### Reference e Books and Websites:

1. A first course in Food Analysis – A.Y. Sathe, New Age International (P)Ltd., 1999

2. Food Safety, case studies-Ramesh. V. Bhat, NIN, 1992

3. https://old.fssai.gov.in/Portals/0/Pdf/Draft Manuals/Beverages and confectionary.pdf

4. https://cbseportal.com/project/Download-CBSE-XII-Chemistry-Project-FoodAdulteration#gsc.tab=0 (Downloadable e material on food adulteration)

5. https://www.fssai.gov.in/

6. https://indianlegalsolution.com/laws-on-food-adulteration/

7. https://fssai.gov.in/dart/

8. https://byjus.com/biology/food-adulteration/

#### MILK AND MILK PRODUCT TECHNOLOGY

| Program Name                  | B Sc Food Technology | Semester             | 111     |
|-------------------------------|----------------------|----------------------|---------|
| Course Title                  | Dairy Technology     |                      |         |
| Course Code: DSC              | 4.1                  | No. of Credits       | 3       |
| Formative<br>Assessment Marks | 40                   | Duration of ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                   | 2                    |         |
| Contact hours                 | 45 hrs               | a 1                  |         |

Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

### **Objectives:**

 To learn about the varied processing of dairy products undertaken in an industrial level
 To gain the knowledge about the post-harvest technology and the novel technologies in the processing of the products

#### Course outcomes:

After successful completion of the course, students will be able to:

- CO 1. Acquire the basic knowledge of developments in dairy industries.
- CO 2. Comprehend the recent advances in processing of dairy products.
- CO 3. Acquire the knowledge in manufacturing of different dairy products.
- CO 4. Understand about types of dairy plants and working principles of dairy instruments.
- CO 5. Gain knowledge regarding hygiene and sanitation practices in the milk and milk products industry.

| Theory content                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 45 Hours |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| UNIT I                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15       |
| Dairy industry: Review of dairy development in India. Dairy industry in India and abroad. Co-operative dairying, Market survey; milk production & consumption pattern, national and global markets. Clean milk production & hygienic handling of raw milk. Milk collection/procurement and pricing.                                                                                                                                                                               |          |
| Recent developments in dairy sector: Dehydration, UHT processing, types of UHT plants, aseptic fillers, heat stability and deposit formation aspects, retort processing, use of bio-protective factors for preservation of raw milk and their effects on physicochemical, microbial and nutritional properties of milk and milk products. Packaging of dairy products.                                                                                                            |          |
| UNIT-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15       |
| Dairy products: Fluid milk: Full cream, standardized, toned & double toned milk, reconstituted, rehydrated and recombined milk, flavored milk.<br>Traditional dairy products, Fat-rich dairy products, Heat and acid coagulated milk products, Cheese (types and manufacture process), value added dairy products, ice-cream and frozen desserts, imitation dairy products, By-products Technology (Processing and utilization of whey, ghee residue, casein – classification and |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15       |
| Dairy Plant Management: Principles of dairy plant design, classification of dairy plants, Instrumentation and process control, microbial quality and safety in dairy industry, HACCP, GMP/GHP practices in dairy processing. Waste Disposal and Pollution Abatement, Current trends in cleaning and sanitization of dairy equipment.                                                                                                                                              |          |

| Formative Assessment      |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment                | 05                 |
| Seminar                   | 05                 |
| Project                   | 10                 |

Formative Assessment as per NEP guidelines are compulsory

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## Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

|          | Course Title                                        | Milk and Milk Product<br>Technology (Practical)                     | Practical credits                              | 2             |
|----------|-----------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------|---------------|
|          |                                                     | Practical Content                                                   |                                                |               |
| 1.       | Rapid tests for evaluation test, phosphatase, acidi | on of milk quality- Clot on boiling<br>ty, turbidity                | test, alcohol test, aliz                       | zarin alcohol |
| 2.       | Chemical analysis of mi<br>TSS.                     | lk and determination of its comp                                    | oonents like fat, SNF,                         | protein and   |
| 3.<br>4. | Preparation and quality coagulated milk produc      | evaluation of milk products: Heats, Cultured milk products, Fat rid | at desiccated/ Heat –<br>ch products, Puddings | acid<br>s/    |
| 5.<br>6. | desserts.<br>By product utilization e               | xperiments (Whey and ghee resid                                     | due)                                           |               |

7. Visit to dairy plant.

| Format                        | tive Assessment    |
|-------------------------------|--------------------|
| Assessment Occasion/ type     | Weightage in Marks |
| Test 1                        | 05                 |
| Test 2                        | 05                 |
| Practical Record              | 10                 |
| Participation and Involvement | 05                 |
| Total                         | 25                 |

## **Recommended Readings**

- 1. Products. Dairy India Year book Publications, New Delhi. 2002.
- 2. Gupta P. R., Dairy India, 5<sup>th</sup> Ed., New Delhi. 1997.
- 3. Robinson R. K., Modern dairy Technology, 2nd Ed., Chapman and Hall, New York. 1994.
- Subbulaksmi G and Shobha A. Udipi, Food processing and preservation, New age international, 2008.
- 5. <u>D.B. Puranik</u>, Dairy plant management, New India Publishing Agency. 2014
- De Sukumar, Outlines of dairy: Technology, 1st edition, Oxford, 2001.

## Bakery and Confectionery Technology

| Program Name                  | B Sc Food Technology                   | Semester             | 111     |
|-------------------------------|----------------------------------------|----------------------|---------|
| Course Title                  | Bakery and Confectionery<br>Technology |                      |         |
| Course Code: DSC              | 4.2                                    | No. of Credits       | 3       |
| Formative<br>Assessment Marks | 40                                     | Duration of ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                                     |                      |         |
| Contact hours                 | 45 hrs                                 |                      |         |

Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

## **Objectives:**

1. To familiarize the students about the bakery and confectionary industry.

2. To understand and examine the technologies used in different industries.

## Course outcomes:

After successful completion of the course, students will be able to:

CO 1. To understand and identify methods and products used in bakery industry.

CO 2. Apply the knowledge of the various technologies in bakery industries.

CO 3. Define and describe the manufacturing methods and general technical aspects of confectionary industry.

CO 4. Identify and explain about the extruded food product industry

| Theory content                                                                                                                                                                | 45 Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| UNITI                                                                                                                                                                         | 15       |
| <b>Baking Industry:</b> Global status of Baking industry, Introduction to baking, Bakery ingredients and their functions, traditional bakery products; Modern bakery product. |          |
| Baking methods: Various methods of production and effect of ingredients, formulations and process parameters on quality, machinery used in baking industry.                   | 2.       |
| Bakery Products: Bread, bread rolls, sweet yeast dough products, biscuits, wafer, cookies and crackers, Multi grain bread and gluten free products                            |          |
| UNIT-II                                                                                                                                                                       | 15       |

| <ul> <li>Bakery Product Quality: Rheological testing of dough- Farinograph, mixograph, extensograph, amylograph/ rapid visco analyser, Falling number;</li> <li>Microbiological aspects of different bakery products – prevention of bacterial rope and mold infection</li> <li>Bakery plants sanitation: Bakery hygiene and sanitation including control of rodents and pests. Bread faults – causes and remedies; Bread staling – theory, manifestation, retardation measures</li> <li>Cakes: Cake flour specifications; ingredients, manufacturing process and quality evaluation; Basic methods of cake preparations, variety cakes and doughnuts, rusks, crackers, buns, muffins, pizza; lcings, glazers, creams, fondants, frostings; Cake recipe balancing, faults and remedies; Preparation of basic custards, pudding; Mousse.</li> </ul> |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| UNIT-III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15 |
| <ul> <li>Confectionery industry: Global status of confectionery industry; Raw materials, quality parameters; production, types, applications.</li> <li>Confectionary manufacture: Raw materials and processing; cocoa, sugar, special fats, dried milk products, emulsifiers; chocolate processing- compound coatings, candy bars, tempering, enrobing technology, chocolate shells.</li> <li>Sugar confectionery: General technical aspects, manufacture of boiled sweets, lollipops, lozenges, gums and jellies, chewing gums, caramel, toffee, fudge.</li> <li>Indian Confectionery – Types, role of sugar in preparation, other ingredients and their role in preparation</li> </ul>                                                                                                                                                           |    |

| Format                    | ive Assessment     |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment                | 05                 |
| Seminar                   | 05                 |
| Project                   | 10                 |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

| Course Title | Bakery and Confectionery<br>Technology (Practical) | Practical credits | 2 |
|--------------|----------------------------------------------------|-------------------|---|
|              | Practical Content                                  |                   |   |

1

- 1. Introduction to bakery equipments
- 2. Determination of ash content of the given sample of white wheat flour
- 3. Estimation of water absorption power and gluten content of the given flour.
- 4. Determination of alcoholic acidity of the given sample of wheat flour.
- 5. Determination of sedimentation value of white wheat flour
- 6. Determination of yeast quality by its dough rising capacity
- 7. Preparation of plain biscuit in laboratory
- 8. Preparation of egg less cake.
- 9. Preparation of bread by straight dough method.
- 10. Microbial flora of aging bakery items.
- 11. Sensory characteristics of the baked products.
- 12. Objective characteristics of biscuits.

| Formative Assessment             |                    |  |
|----------------------------------|--------------------|--|
| Assessment Occasion/<br>type     | Weightage in Marks |  |
| Test 1                           | 05                 |  |
| Test 2                           | 05                 |  |
| Practical Record                 | 10                 |  |
| Participation and<br>Involvement | 05                 |  |
| Total                            | 25                 |  |

## **Recommended Readings**

- 1. Matz, Samuel A, Bakery Technology and Engineering, 3<sup>rd</sup> Ed, CBS Publishers, 2008.
- 2. Stanley Cauvain and Linda Young, Baked Products- Science, Technology and practice, Blackwell Publishing, 2006.
- 3. Amendola, Joseph and Nicole Rees, The Baker's Manual, 5th Ed, Wiley, 2003.
- 4. Hamed Faridi and Jon M. Faubion, Dough Rheology and Baked Product Texture, CBS Publishers, 1997.
- 5. Duncan, Manley. Biscuit, Cookie and Cracker Manufacturing Manuals. Vol.1-6. Woodhead Publishing Harper JM. Extrusion of Food, Vol 2, CRC Press1981.

- 6. Matz SA. Bakery Technology & Engineering. AVI Pub. 1960.
- 7. Fance WJ and Wrogg BH. Up to-date Bread Making; Maclasen & Sons Ltd. 1968,
- 8. Kent-Jones DW and Amos AJ, Modern Cereal Chemistry, Food Trade Press Ltd. 1967
- 9. NIIR Board of Consultants & Engineers, The Complete Technology Book on Bakery Products (Baking Science with Formulation & Production) 3rd Ed., 2014
- 10. Ashokkumar Y, Textbook of Bakery and Confectionery, PHI India Pvt. Ltd., 2012
- 11. Stanley Cauvain and Linda Young, Baked Products- Science, Technology and practice, Blackwell Publishing, 2006.
- 12. Amendola, Joseph and Nicole Rees, The Baker's Manual, 5th Edition, Wiley, 2003.
- 13. Hamed Faridi and Jon M. Faubion, Dough Rheology and Baked Product Texture, CBS Publishers, 1997.

## FOOD SAFETY AND FOOD LAWS

| Program Name                  | B Sc Food Technology      | Semester                | 111     |
|-------------------------------|---------------------------|-------------------------|---------|
| Course Title                  | FOOD SAFETY AND FOOD LAWS |                         | -       |
| Course Code: OE               | 3.2                       | No. of Credits          | 3       |
| Formative<br>Assessment Marks | 40                        | Duration of<br>ESA/Exam | 2 Hours |
| Summative<br>Assessment Marks | 60                        |                         |         |
| Contact hours                 | 45 hrs                    |                         |         |

# Course Pre-requisite(s): Certificate on completion of First Year BSc Food Technology.

#### **Objectives:**

- 1. To learn the principles and importance of food safety
- 2. To familiarize with the existing food laws and regulations

#### Course outcomes:

After successful completion of the course, students will be able to:

- CO 1. Understand the principles and importance of food safety.
- CO 2. Implement analytical techniques to assess food quality
- CO 3. Have the knowledge of and follow food laws and regulations at both national and ational lovals

| international levels |                | AE Hours  |
|----------------------|----------------|-----------|
|                      | Theory content | 45 110013 |
|                      |                | 15        |
|                      |                |           |

Principles of Food Safety: Food Sanitation and safety: Factors contributing to physical, chemical and biological contamination in food chain, prevention and control of food borne hazards, definition and regulation of food sanitation, sources of contamination, personal hygiene-food handlers, cleaning compounds, sanitation methods, waste disposal strategy (solid and liquid waste) and pest control. Food adulteration: common adulterants, simple tests for detection of adulteration. Food additives classification, functional role and safety issues.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| UNIT-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15 |
| Analytical Techniques for Food Quality Analytical method used for quality<br>determination: chemical and physical, microbiological, biochemical and sensory<br>analysis. Analytical methods of determination of basic food components:<br>protein, saccharides, lipids, vitamins, water, minerals and trace elements,<br>sensory active compounds, anti-nutritive and natural toxic compounds, food<br>additives and food contaminants. Basic principles of chromatography. Paper<br>Chromatography. Spectrophotometric techniques: Spectrophotometry<br>introduction and principles.                                                                                                                      |    |
| UNIT-III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15 |
| Food Laws and Regulations Food Safety Systems: Quality systems standards<br>including ISO; Auditing; Good Manufacturing Practice and HACCP. Food Laws &<br>Implementing Agencies-National: FSSAI. International Scenario in Food<br>Regulation USFDA, EFSA, UK, Canada, A & NZ, Japan, Malaysia, Singapore;<br>Consumer Movements; Intellectual Property Rights and Trade Marks:<br>Protection of investment and efforts in research and development by patenting;<br>Criteria of patentability; National and international patent; Terms of patents;<br>Copyright. International Agencies in Food Regulation: Food Codex Alimentarius:<br>Various aspects and relation with domestic laws; FAO, WHO, WTO. |    |

| Formative Assessment      |                    |  |
|---------------------------|--------------------|--|
| Assessment Occasion/ type | Weightage in Marks |  |
| Test 1                    | 10                 |  |
| Test 2                    | 10                 |  |
| Assignment                | 05                 |  |
| Seminar                   | 05                 |  |
| Project                   | 10                 |  |

Formative Assessment as per NEP guidelines are compulsory

Summative Assessment (60 marks) + Formative Assessment (40 marks) = Total 100 marks

<sup>22</sup> 

#### Recommended Readings

- 1. Sathe AV, A First Course in Food Analysis, New Age International Pvt. Ltd. 1999
- 2. Nielsen SS, Food Analysis, 3<sup>rd</sup> ed., Kluwer Academic Publishers, 2003
- 3. Wrolstad RE, Acree TE, Decker EA, Penner MH and Reid DS, Handbook of Food Analytical Chemistry, John Wiley & Sons, 2004
- 4. Ali I, Food Quality Assurance: Principles and Practices, CRC Press, 2003
- 5. Vasconcellos JA, Quality Assurance in Food Industry: a Practical Approach, CRC Press, 2003
- 6. Hubbard MR, Statistical Quality Control for the Food Industry, Kluwer Academic/ Plenum Publishers, 2003
- 7. Pearson AM and Dutson TR, Kluwer HACCP in Meat, Poultry and Fish Processing, Academic Press Publishers, 1995
- 8. D'Mello J P F, Food Safety Contaminants and Toxins, Oxford University Press, 2003
- 9. Shasidi F, Spanier AM, Chi-Tang Ho and Braggins T, Quality of Fresh and Processed Foods, Kluwer Academics/ Plenum Publishing, 2004
- 10. Jotbill I, Rapid and On-line Instrumentation for Food Quality Assurance, Woodhead Publishing, 2003
- 11. Nielsen SS, Food Analysis Laboratory Manual, Kluwer Academic Publishers, 2003

ಕಾರ್ಯಸೂಚೆ ಸಂಖ್ಯೆ:ಎಸಿಸಿ : ಶೈ. ಮೆ. ಸಾ. ಸೆ. 3: 5 (೩೦೩೩-೩3) ವಿಷಯ: ಸ್ನಾತಕೋತ್ತರ ಎಂಬಿಎ (ಹೆಲ್ತ್ ಸೇಫ್ಟಿ ಆಂಡ್ ಎನ್ವಿರಾನ್ಮೆಂಟ್ ) ಕಾರ್ಯಕ್ರಮದ ವಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

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ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಎಂಬಿಎ (ಹೆಲ್ತ್ ಸೇಫ್ಟಿ ಆಂಡ್ ಎನ್ವಿರಾನ್ ಮೆಂಟ್) ಕಾರ್ಯಕ್ರಮವನ್ನು ಪ್ರಾರಂಭಿಸಲು ಉದ್ದೇಶಿಕೊಂಡು ಪಠ್ಯಕ್ರಮ ಮತ್ತು ವಿದ್ಯಾರ್ಥಿ ಪ್ರವೇಶಾರ್ಹತೆಗೆ ಸಂಬಂಧಿಸಿ ವಿನಿಯಮಕ್ಕೆ ತಿದ್ದುಪಡಿಗಳನ್ನು ಅಳವಡಿಸಿಕೊಂಡು ದಿನಾಂಕ 27.09.2022ರಂದು ನಡೆದ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಗೆ ಮಂಡಿಸಲಾಗಿತ್ತು. ಸಭೆಯು ವಿನಿಯಮ ಮತ್ತು ಕಾರ್ಯಕ್ರಮದ ಪ್ರಥಮ ಮತ್ತು ದ್ವಿತೀಯ ಸಮಿಸ್ವರುಗಳ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಅನುಮೋದಿಸಿರುತ್ತದೆ.

ಮುಂದುವರಿದು, ಅಧ್ಯಕ್ಷರು, ಸ್ನಾತಕೋತ್ತರ ವ್ಯವಹಾರ ಆಡಳಿತ ಅಧ್ಯಯನ ಮಂಡಳಿ ಇವರು ಪ್ರಸ್ತಾವಿತ ಕಾರ್ಯಕ್ರಮದ ವಿದ್ಯಾರ್ಥಿ ಪ್ರವೇಶಾರ್ಹತೆಗೆ ಸಂಬಂಧಿಸಿ ಬದಲಾವಣೆಗಳನ್ನು ಸೂಚಿಸಿರುವ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ವ್ಯವಹಾರ ಆಡಳಿತ ಕಾರ್ಯಕ್ರಮಗಳನ್ನು ನಿಯಂತ್ರಿಸುವ ವಿನಿಯಮದಲ್ಲಿ ಸದರಿ ಕಾರ್ಯಕ್ರಮದ ವಿದ್ಯಾರ್ಥಿ ಪ್ರವೇಶಾರ್ಹತೆಯನ್ನು ಅಳವಡಿಸಿಕೊಂಡು ವಿನಿಯಮದ ಕಲಂ 3 ಮತ್ತು 4 ಕ್ಕೆ ತಿದ್ದುಪಡಿಗಳನ್ನು ಮಾಡಲಾಗಿರುತ್ತದೆ (ಪು.ತಿ.ನೋ).

ಕನಾರ್ಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31 (1)ರ ಪ್ರಕಾರ ಪ್ರಸ್ತಾವನೆಯನ್ನು ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಪರಿಗಣನೆಗೆ ಮತ್ತು ಅನುಮೋದನೆಗೆ ಮಂಡಿಸಲಾಗಿದೆ.

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## MANGALORE UNIVERSITY

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# REGULATIONS GOVERNING THE CHOICE BASED CREDIT SYSTEM (CBCS) FOR THE TWO YEARS (FOUR SEMESTERS) POST GRADUATE DEGREE PROGRAMMES UNDER MANAGEMENT DISCIPLINE.

| Existing                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. PROGRAMMES:<br>3.1 FACULTY OF COMMERCE                                                                                                                                                            | 3. PROGRAMMES:<br>3.1 FACULTY OF COMMERCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul> <li>i) Master of Business Administration (M.B.A.)</li> <li>ii) M.B. A. (Executive)</li> <li>iii) M.B.A. (Tourism and Travel Management)</li> <li>iv) M.B.A. (International Business)</li> </ul> | <ul> <li>i) Master of Business Administration (M.B.A.)</li> <li>ii) M.B.A. (Executive)</li> <li>iii) M.B.A. (Tourism and Travel Management)</li> <li>iv) M.B.A. (International Business)</li> <li>v) M.B.A. (Health, Safety and Environment)</li> </ul>                                                                                                                                                                                                                                                                                     |
| 4. ELIGIBILITY FOR ADMISSION:<br>4.1 FACULTY OF COMMERCE<br>4.1.5 Nil                                                                                                                                | 4. ELIGIBILITY FOR ADMISSION:<br>4.1 FACULTY OF COMMERCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                      | 4.1.5 M.B.A. (Health Safety and Environment) :<br>Candidates who have passed any Bachelor Degree<br>examination of Mangalore University or any other<br>University considered as equivalent thereto, are<br>eligible for the programme provided they have<br>secured a minimum of 45% (40% for<br>SC/ST/Category-I candidates) marks in aggregate<br>including language subjects. Selection of candidates<br>shall be on merit -cum-reservation on the basis of<br>50:50 weightage for marks in the entrance and<br>qualifying examination. |

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<u>कार्या राज. रेथू ० थि:</u> रु. आ. मा.म. 3:6 (२०२२ - २३)

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ವಿಷಯ: ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ (Molecular Biology) ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಜೀವರಸಾಯನಶಾಸ್ತ್ರ ಕಾರ್ಯಕ್ರಮ, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಇವರ ಪತ್ರ ದಿನಾಂಕ 22.01.2022 ಮತ್ತು 01.04.2022ರಲ್ಲಿ ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ಕಾರ್ಯಕ್ರಮವನ್ನು ಪ್ರಾರಂಭಿಸುವ ಸಲುವಾಗಿ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮಾಡುವಂತೆ ಕೋರಿರುತ್ತಾರೆ.

ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಷಯವು ರಾಷ್ಟ್ರದ ಪ್ರಸಿದ್ಧ ಕಂಪನಿಗಳಲ್ಲಿ ಉದ್ಯೋಗ ಪಡೆಯಲು ಬಹುಬೇಡಿಕೆಯ ವಿಷಯವಾಗಿದೆ. ಅಲ್ಲದೆ ಕೋವಿಡ್ನಂತಹ ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳಿಗೆ ಲಸಿಕೆ ತಯಾರಿಕೆಯಲ್ಲಿ ಬಳಸಲಾಗುತ್ತಿದೆ. ಬೆಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮಣಿಪಾಲ್ ಸ್ಕೂಲ್ ಆಫ್ ಲೈಫ್ ಸೈನ್ಸ್, ಕಣ್ಣೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳಲ್ಲಿ ಅಲ್ಲದೇ ಇನ್ನಿತರ ಕೆಲವು ವಿದ್ಯಾಸಂಸ್ಥೆಗಳಲ್ಲಿ ಈಗಾಗಲೇ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗವನ್ನು ಪ್ರಾರಂಭಿಸಲಾಗಿರುತ್ತದೆ. ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ಕಾರ್ಯಕ್ರಮದ ವೈಶಿಷ್ಟ್ರತೆ, ವಿದ್ಯಾರ್ಥಿಗಳ ಶೈಕ್ಷಣಿಕ ಹಿತದೃಷ್ಟಿ ಹಾಗೂ ಪ್ರಸ್ತುತ ಉದ್ಯೋಗ ಮಾರುಕಟ್ಟೆಯನ್ನು ಪರಿಗಣಿಸಿಕೊಂಡು ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ಕಾರ್ಯಕ್ರಮವನ್ನು ಪ್ರಾರಂಭಿಸಲು ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗದ ಸ್ಥಾಪನೆಯ ಅವಶ್ಯಕತೆಯಿರುತ್ತದೆ.

ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಹಾಗೂ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸರ್ಕಾರದ ಅನುಮೋದನೆ ಪಡೆಯಬೇಕಾಗಿರುವುದರಿಂದ, ಈ ಬಗ್ಗೆ ಸೂಕ್ತ ಪರಿನಿಯಮ ರಚಿಸಲು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಅನುಶಾಸನ ರಚನಾ ಸಮಿತಿಗೆ ಸೂಚಿಸಲಾಗಿದ್ದು, ಸಮಿತಿ ಕರಡು ಪರಿನಿಯಮವನ್ನು ರಚಿಸಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಸಲ್ಲಿಸಿರುತ್ತದೆ.

ಯುಜಿಸಿ ಮಾರ್ಗಸೂಚಿಗಳನ್ವಯ ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಈ ಕೆಳಗೆ ಕಾಣಿಸಿದ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತಾಪಿಸಲಾಗಿದೆ.

1. ಬೋಧಕ ಹುದ್ದೆಗಳು:

- a. ಪ್ರಾಧ್ಯಾಪಕರು 01
- b. ಸಹ ಪ್ರಾಧ್ಯಾಪಕರು 01
- c. ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು 02

## 2. ಬೋಧಕೇತರ ಹುದ್ದೆಗಳು:

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| a. | ದ್ವಿತೀಯ ದರ್ಜೆ ಸಹಾಯಕರು | - | 01 |
|----|-----------------------|---|----|
| b. | ಪ್ರಯೋಗಾಲಯ ಸಹಾಯಕರು     | - | 02 |
| c. | ಅನುಚರ                 | - | 01 |

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ಮೇಲಿನ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಹಾಗೂ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತುತ ಜಾರಿಯಲ್ಲಿರುವ ವೇತನ ಭತ್ಯೆಗಳ ಪ್ರಕಾರ ವಾರ್ಷಿಕ ವೆಚ್ಚ ರೂ. 84,39,936/- (ರೂಪಾಯಿ ಎಂಬತ್ತನಾಲ್ಕು ಲಕ್ಷದ ಮೂವತ್ತೊಂಬತ್ತು ಸಾವಿರದ ಒಂಬೈನೂರ ಮೂವತ್ತಾರು ಮಾತ್ರ) ತಗಲಬಹುದೆಂದು ಅಂದಾಜಿಸಲಾಗಿದ್ದು, ಸದರಿ ವೆಚ್ಚವನ್ನು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಅಂತರಿಕ ಸಂಪನ್ಮೂಲದಿಂದ ಭರಿಸಲಾಗುವುದು. ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಸಂಬಂಧಿಸಿ ರಚಿಸಿದ ಕರಡು ಪರಿನಿಯಮವು ದಿನಾಂಕ 08.11.2022ರಂದು ನಡೆದ ಸಿಂಡಿಕೇಟು ಸಭೆಯಲ್ಲಿ ಅನುಮೋದನೆಗೊಂಡಿರುತ್ತದೆ.

ಆದುದರಿಂದ ಸ್ನಾತಕೋತ್ತರ ಮೊಲಿಕ್ಯುಲರ್ ಬಯೋಲಜಿ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಸಂಬಂಧಿಸಿದ ಕರಡು ಪರಿನಿಯಮವನ್ನು ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಿದೆ.

## MANGALORE UNIVERSITY

## DRAFT STATUTE GOVERNING THE ESTABLISHMENT OF POSTGRADUATE DEPARTMENT OF MOLECULAR BIOLOGY IN MANGALORE UNIVERSITY, MANGALAGANGOTHRI, DAKSHINA KANNADA DISTRICT

(Framed under sections 40 (1) (f) and (j) of K.S.U. Act 2000)

### **Preamble:**

Mangalore University was established on 10<sup>th</sup> September 1980 to cater to the needs of higher education in the districts of undivided Dakshina Kannada and Kodagu. Presently 26 P.G. Departments are offering 34 P.G Courses under different faculties on the Mangalagangothri Campus. To cater to the needs of the students of Dakshina Kannada and Udupi Districts, the Master of Science course in Biochemistry was started at Mangalore University mangalagangothri campus from the academic year 2014-15. Since its inception, 07 batches of students have passed out till now. The graduates have cleared several competitive examinations such as CSIR-NET, GATE, KSET and are favourably placed in the industry/educational institutions/entrepreneurship or have continued for higher studies.

Molecular Biology is the emerging area of Modern Biology with vast potential for application in diverse areas including basic sciences, biomedical sciences and other allied applied areas. The Molecular Biology Course envisages empowering the blended students to acquire high-level knowledge and develop practical skills relevant to modern molecular biology research or industry practice. This course is also intended for young enthusiastic students with a high academic calibre from diverse fields and provides a greater opportunity to prepare themselves for competitive examinations (CSIR-NET, GATE, ICMR etc.) for those with an ambition of becoming teachers or entrepreneurs.

Molecular biology being the fundamental subject to explore the applications of biotechnology. The promotion of the biotechnology sector is high on the policy agenda of the Government of Karnataka. Biotechnology has also been recognized as one of the key priority sectors under 'Make in India', 'Skill India' and 'Start-up India' initiatives of the Government of India as well. It is one of the sectors expected to contribute to enterprise creation, innovation and economic growth. Rightly, Karnataka has been recognised as one of the five Life Sciences Clusters (as per DBT, Ministry of Science & Technology) within the country. While the government has built a strategic roadmap for global biotechnology innovation and manufacturing hub. It is very much important for Universities to focus on human resource development with proper skills in the area of molecular biology thereby nurturing tailor-made human capital for advanced scientific research and entrepreneurship within the country.

Over the years, the University has invested in developing a well-established academic facility, which now can be extended into a full-fledged independent department with more value-added courses in the area of Molecular Biology. The Mangalore University considers it necessary to launch this as an independent "Department of Postgraduate Studies and Research in Molecular Biology" and create the required number of teaching faculty and non-teaching posts. Hence this statute.

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## I. Title and Commencement:

- i) This Statute shall be called "Statute governing the establishment of Department of Postgraduate Studies and Research in Molecular Biology in Mangalore University, Mangalagangothri".
- ii) This Statute shall come into effect from the date of assent of the Chancellor.

## **II.** Establishment of the Department:

- i) There shall be an established Department of Postgraduate Studies and Research in Molecular Biology at Mangalore University, Mangalagangothri.
- ii) In addition to the Master's Degree program in Molecular Biology, Doctor of Philosophy in Molecular Biology, Certificate, Diploma, P.G Diploma and value-added / Skill-based programmes shall be offered in the Department.
- iii) The existing regulations of Mangalore University or any amendment to the regulations shall be the regulations for the respective programmes offered in the Department of Postgraduate Studies and Research in Molecular Biology, Mangalore University, Mangalagangothri.

## III. Creation of posts and mode of recruitment:

#### a) Teaching posts

| Sl. No.       | Name of the Post    | Scale of Pay (UGC Pay Scale) | No. of posts |
|---------------|---------------------|------------------------------|--------------|
| 0 <b>1</b> 00 | Professor           | 1,44,200 - 2,18,200          | 01           |
| 2             | Associate Professor | 1,31,400 - 2,17,100          | 01           |
| 3             | Assistant Professor | 57,700 - 1,82,400            | 02           |

The qualification and the mode of recruitment and pay scales for the above teaching posts shall be as prescribed in the Regulations issued by UGC from time to time and as per the Statutes framed by Mangalore University in this regard under Provisions of the KSU Act.

## b) Non-teaching posts

| Sl. No. | Name of the Post             | Scale of Pay                                                                                   | No. of |
|---------|------------------------------|------------------------------------------------------------------------------------------------|--------|
| 1       | Second Division<br>Assistant | 21400-500-22400-550-24600-600-27000-650-<br>29600-750-32600-850-36000-950-39800-1100-<br>42000 | 01     |
| 2       | Laboratory<br>Assistant      | 30350-750-32600-850-36000-950-39800-1100-<br>46400-1250-53900-1450-58250                       | 02     |
| 3       | Attender                     | 18600-450-20400-500-22400-550-24600-600-<br>27000-650-29600-750-32600/-                        | 01     |

The mode of recruitment for the Non-Teaching posts shall be as prescribed in the statute for similar posts existing in the University

## IV. Mode of recruitment of the staff:

The qualification and the mode of recruitment for the teaching posts shall be as prescribed in the Regulations issued by UGC from time to time and as per the Statute framed in this regard under provisions of the K.S.U. Act by Mangalore University.

## **IV** Financial Implications:

The annual expenditure towards creation of above teaching and non-teaching posts shall be met from the internal sources of the University.

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ಕಾರ್ಯಸೂಚಿ ಸಂಖ್ಯೆ: ಸಿಬ್ಬಂದಿ: ಕೈ ಮ ಶಾಸ. 3:7 (2022-23)

ವಿಷಯ: ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಸ್ನಾತಕೋತ್ತರ ಜೀವವಿಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗದಲ್ಲಿ 2006 ರ ಶೈಕ್ಷಣಿಕ ವರ್ಷದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಕೋರ್ಸನ್ನು ಪ್ರಾರಂಭಿಸಲಾಯಿತು. ಅಂದಿನಿಂದ ಈವರೆಗೆ 13 ಬ್ಯಾಚ್ ವಿದ್ಯಾರ್ಥಿಗಳು ತೇರ್ಗಡೆಯಾಗಿರುತ್ತಾರೆ. ಈ ಕೋರ್ಸಿನಲ್ಲಿ ಪದವಿ ಪಡೆದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಕೈಗಾರಿಕೆ/IT/BT ಕ್ಷೇತ್ರಗಳಲ್ಲಿ ವಿಪುಲ ಉದ್ಯೋಗ ಅವಕಾಶಗಳು ಲಭ್ಯವಿದೆ. ಆದುದರಿಂದ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಷನೆ ಹಾಗೂ ಸದರಿ ವಿಭಾಗಕ್ಕೆ ಹುದ್ದೆಗಳ ಸೃಜನೆಯ ಅವಶ್ಯಕತೆಯಿರುತ್ತದೆ. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಮತ್ತು ಯುಜಿಸಿ ಮಾರ್ಗಸೂಚಿಯನುಸಾರ ಸ್ನಾತಕೋತ್ತರರ ಜೀವ ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಈ ಕೆಳಗೆ ಕಾಣಿಸಿದ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತಾಪಿಸಲಾಗಿದೆ.

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1. ಬೋಧಕ ಹುದ್ದೆಗಳು:

| ಪ್ರಾಧ್ಯಾಪಕರು       | - | 01 |
|--------------------|---|----|
| ಸಹ ಪ್ರಾಧ್ಯಾಪಕರು    | - | 02 |
| ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು | - | 04 |

2. ಬೋಧಕೇತರ ಹುದ್ದೆಗಳು:

ದ್ವಿತೀಯ ದರ್ಜೆ ಸಹಾಯಕರು - 01 ಅನುಚರ - 01

ಮೇಲಿನ ವಿಭಾಗ ಸ್ಥಾಪನೆ/ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತುತ ಜಾರಿಯಲ್ಲಿರುವ ವೇತನ/ಭತ್ಯೆಗಳ ಪ್ರಕಾರ ವಾರ್ಷಿಕ ವೆಚ್ಚ ರೂ.1,15,17,324/- ತಗಲಬಹುದೆಂದು ಅಂದಾಜಿಸಲಾಗಿದ್ದು, ಸದರಿ ವೆಚ್ಚವನ್ನು ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಮಂಜೂರಾಗಿರುವ ಒಟ್ಟಾರೆ ಬ್ಲಾಕ್ ಗ್ರಾಂಟ್ನಿಂದ ಭರಿಸಲಾಗುವುದು. ಸದರಿ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸರ್ಕಾರದ ಅನುಮೋದನೆ ಪಡೆಯಬೇಕಾಗಿರುವುದರಿಂದ, ಈ ಬಗ್ಗೆ ಸೂಕ್ತ ಪರಿನಿಯಮ ರಚಿಸಲು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಪರಿನಿಯಮ ರಚನಾ ಸಮಿತಿಗೆ ಸೂಚಿಸಲಾಗಿದ್ದು, ಸಮಿತಿಯು ಕರಡು ಪರಿನಿಯಮ ರಚಿಸಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಸಲ್ಲಿಸಿರುತ್ತದೆ. ಸದ್ರಿ ಪರಿನಿಯಮವನ್ನು ದಿನಾಂಕ 09.04.2022 ರಂದು ನಡೆದ ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದ್ದು, ಸದರಿ ಸಭೆಯಲ್ಲಿ ಈ ಕೆಳಗಿನಂತೆ ನಿರ್ಣಯಿಸಲಾಗಿದೆ.

"ಕೋರ್ಸಿಗೆ ಕಳೆದ ಮೂರು ಶೈಕ್ಷಣಿಕ ವರ್ಷಗಳಲ್ಲಿ ನಿಗದಿಪಡಿಸಲಾದ ವಿದ್ಯಾರ್ಥಿಗಳ ಪರಿಮಿತಿ ಸಂಖ್ಯೆ, ವಿದ್ಯಾರ್ಥಿಗಳ ಪ್ರವೇಶಾತಿ ಸಂಖ್ಯೆ ಮತ್ತು ಅದಾಯದ ವಿವರಗಳನ್ನು ಸರ್ಕಾರಕ್ಕೆ ಬರೆಯುವ ಪತ್ರದಲ್ಲಿ ನಮೂದಿಸಲು ಹಾಗೂ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial implication ನಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚಗಳ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ ಸರ್ಕಾರದಿಂದ ಒದಗಿಸಬಹುದಾದ ಅನುದಾನದಿಂದ ಭರಿಸಬಹುದೇ ಎಂಬ ವಿಷಯವನ್ನು ಸ್ಪಷ್ಟವಾಗಿ ನಮೂದಿಸುವಂತೆ ಸೂಚಿಸಿ ಅನುಮೋದಿಸಲಾಯಿತು."

ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ನಿರ್ಣಯದಂತೆ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial Implications ಅಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚದ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ, ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವು ದಿನಾಂಕ 08.11.2022 ರಂದು ನಡೆದ ಸಿಂಡಿಕೇಟು ಸಭೆಯಲ್ಲಿ ಅನುಮೋದನೆಗೊಂಡಿರುತ್ತದೆ.

ಆದುದರಿಂದ ಸ್ನಾತಕೋತ್ತರ ಜೈವಿಕ ತಂತ್ರಜ್ಞಾನ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸಂಬಂಧಿಸಿ ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವನ್ನು ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಸಭೆಯ ಅನುಮೋದನೆಗೆ ಮಂಡಿಸಲಾಗಿದೆ.

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Draft Statute governing the Establishment of Department of Postgraduate Studies and Research in Biotechnology at Mangalore University, Mangalagangothri, Dakshina Kannada District and creation of posts therein

(Framed under Section 40(f) and (j) of KSU Act 2000)

## **Preamble:**

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Mangalore University was established on 10th September 1980 to cater to the needs of higher education in the districts of undivided Dakshina Kannada and Kodagu. The University's Department of Biosciences was established under the PG Centre of the University of Mysore in the year 1969 and started MSc in Biosciences. It became one of the first departments of the nascent Mangalore University. The Department of Biosciences began to offer MSc Biotechnology in the year 2006. MSc Biotechnology was started with a vision to develop skilled human resource for recruitment in companies under the pharma-biotech, agri-biotech, instrumentation, diagnostic and service sectors of Biotechnology in the State of Karnataka and beyond. PhD Program in Biotechnology was started in the year 2009 with several national-level reputed institutes such as CFTRI-Mysore, BMS College of Engineering-Bengaluru, GVP Institutions-Vizag, Aloysius College Mangalore (Autonomous) and Alva's College-Moodabidri being recognized as Research Centres leading to PhD in Biotechnology.

The Biotechnology sector has advanced by leaps and bounds in recent years in Karnataka, with the State of Karnataka being the IT/BT capital of the country. As such, there is increased demand for qualified, appropriately and adequately skilled workforce as evidenced through campus recruitment. Mangalore University offers students state-of-the-art laboratory and learning infrastructure in a green ambience to facilitate their overall development skills. The city of Mangaluru has also been identified, through its SEZ, to increase biotechnology-related industries, start-ups and companies.

In order to continue the sustained effort to produce skilled human resource and synthesize new knowledge in Biotechnology in an effective, focussed and outcomebased manner, the Mangalore University considers it necessary to establish an independent Department of Postgraduate Studies and Research in Biotechnology with required number of teaching and non-teaching posts for effective teaching, research and administration. Hence this statute.

#### I. Title and Commencement

- i) This Statute shall be called "Statute governing the Establishment of Department of Postgraduate Studies and Research in Biotechnology at Mangalore University, Mangalagangothri, Dakshina Kannada District".
- ii) This Statute shall come into effect from the date of assent of the Chancellor.

#### **II. Establishment of the Department**

- i) The Department of Postgraduate Studies and Research in Biotechnology shall be established at Mangalore University, Mangalagangothri, Dakshina Kannada District.
- ii) In addition to the Master's Degree Program in Biotechnology, Doctor of Philosophy in Biotechnology programmes, Certificate, Diploma, PG Diploma and Value-added/Skillbased courses shall be offered in the Department.
- iii) The existing regulations of Mangalore University or any amendment to the regulations shall be the regulations for the respective programmes offered in the Department of Postgraduate Studies and Research in Biotechnology, Mangalore University, Mangalagangothri.

#### III. Creation of posts and mode of recruitment:

| Sl.<br>No. | Name of the Post    | Scale of Pay<br>(UGC Pay Scale) | No of<br>Posts |
|------------|---------------------|---------------------------------|----------------|
| 1.         | Professor           | Rs.144200-218200                | 01             |
| 2.         | Associate Professor | Rs.131400-217100                | 02             |
| 3.         | Assistant Professor | Rs.57700-182400                 | 04             |

a) Teaching posts.
The qualification and the mode of recruitment for the above teaching posts shall be as prescribed in the Regulations issued by UGC from time to time and as per the Statute framed in this regard under Provisions of the K.S.U. Act by Mangalore University.

### b) Non-teaching posts:

| Sl.<br>No. | Name of the Post             | Scale of Pay                                                                                        | No of<br>Posts |
|------------|------------------------------|-----------------------------------------------------------------------------------------------------|----------------|
| 1.         | Second Division<br>Assistant | Rs.21400-500-22400-550-24600-600-27000-650-<br>29600-750-32600-850-36000-950-39800-1100-<br>42000/- | 01             |
| 2.         | Attender                     | Rs. 18600-450-20400-500-22400-550-24600-600-27000-650-29600-750-32600/-                             | 01             |

# 1. Minimum qualification for the post of Second Division Assistant:

- i) A pass in the Pre-University course examination or equivalent examination.
- ii) A pass in Certificate course "Testing Knowledge in Kannada" conducted by the University or Kannada as one of the languages at SSLC examination.
- iii) Knowledge and skill to use personal computer along with office automation tool such as MS office etc.

The mode of recruitment shall be as prescribed in the statute for similar posts existing in the University and as per the Government order issued from time to time.

2. The qualification and mode of recruitment for the posts of Lab Assistant and Attender shall be as prescribed in the statute for similar posts existing in the University and as per the Government order issued from time to time.

### **IV** Financial Implications:

The annual expenditure of Rs.1,15,17,324/- (approx.) towards creation of above teaching and non-teaching posts shall be met from the grant sanctioned by the Government to the University for this purpose.

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சாலாகால ಸಂಖ್ಯ: ಸಿಬ್ಬಂದಿ: ಕೈ. ಮ. ಸಾ.ಸ. 3:8 (2022-23)

ವಿಷಯ: ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಪ್ರಾಚೀನ ಇತಿಹಾಸ ಮತ್ತು ಪುರಾತತ್ವ ಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸ್ನುಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

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ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಘಟಕ ಕಾಲೇಜು ಆಗಿರುವ ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಕಾಲೇಜು, ಮಂಗಳೂರು ಇಲ್ಲಿ 2018-19ನೇ ಶೈಕ್ಷಣಿಕ ವರ್ಷದಿಂದ ಪ್ರಾರಂಭಿಸಿರುವ ಪ್ರಾಚೀನ ಇತಿಹಾಸ ಮತ್ತು ಪುರಾತತ್ವಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪ್ರತ್ಯೇಕ ವ್ಯಾಸಂಗ ವಿಭಾಗದ ಸ್ಥಾಪನೆ ಹಾಗೂ ಸದರಿ ವಿಭಾಗಕ್ಕೆ ಹುದ್ದೆಗಳ ಸೃಜನೆಯ ಅವಶ್ಯಕತೆಯಿರುತ್ತದೆ. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಯುಜಿಸಿ ಮಾರ್ಗಸೂಚಿಯನುಸಾರ ಪ್ರಾಚೀನ ಇತಿಹಾಸ ಮತ್ತು ಪುರಾತತ್ವ ಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಈ ಕೆಳಗೆ ಕಾಣಿಸಿದ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತಾಪಿಸಲಾಗಿದೆ.

1. ಬೋಧಕ ಹುದ್ದೆಗಳು:

| ಪ್ರಾಧ್ಯಾಪಕರು       | - | 01 |
|--------------------|---|----|
| ಸಹ ಪ್ರಾಧ್ಯಾಪಕರು    | - | 02 |
| ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು | - | 04 |

2. ಬೋಧಕೇತರ ಹುದ್ದೆಗಳು:

| ದ್ವಿತೀಯ ದರ್ಜೆ ಸಹಾಯಕರು | - | 01 |
|-----------------------|---|----|
| ಅನುಚರ                 | - | 01 |
| ಜವಾನ                  | - | 01 |

ಮೇಲಿನ ವಿಭಾಗ ಸ್ಥಾಪನೆ/ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತುತ ಜಾರಿಯಲ್ಲಿರುವ ವೇತನ/ಭತ್ಯೆಗಳ ಪ್ರಕಾರ ವಾರ್ಷಿಕ ವೆಚ್ಚ ರೂ.1,17,93,240/- ತಗಲಬಹುದೆಂದು ಅಂದಾಜಿಸಲಾಗಿದ್ದು, ಸದರಿ ವೆಚ್ಚವನ್ನು ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಮಂಜೂರಾಗಿರುವ ಒಟ್ಟಾರೆ ಬ್ಲಾಕ್ ಗ್ರಾಂಟ್ನಿಂದ ಭರಿಸಲಾಗುವುದು.

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ಸದರಿ ಪ್ರಾಚೀನ ಇತಿಹಾಸ ಮತ್ತು ಪುರಾತತ್ವಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸರ್ಕಾರದ ಅನುಮೋದನೆ ಪಡೆಯಬೇಕಾಗಿರುವುದರಿಂದ, ಈ ಬಗ್ಗೆ ಸೂಕ್ತ ಪರಿನಿಯಮ ರಚಿಸಲು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಪರಿನಿಯಮ ರಚನಾ ಸಮಿತಿಗೆ ಸೂಚಿಸಲಾಗಿದ್ದು, ಸಮಿತಿಯು ಕರಡು ಪರಿನಿಯಮ ರಚಿಸಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಸಲ್ಲಿಸಿರುತ್ತದೆ. ಸದ್ರಿ ಪರಿನಿಯಮವನ್ನು ದಿನಾಂಕ 09.04.2022 ರಂದು ನಡೆದ ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದ್ದು, ಸದರಿ ಸಭೆಯಲ್ಲಿ ಈ ಕೆಳಗಿನಂತೆ ನಿರ್ಣಯಿಸಲಾಗಿದೆ.

"ಕೋರ್ಸಿಗೆ ಕಳೆದ ಮೂರು ಶೈಕ್ಷಣಿಕ ವರ್ಷಗಳಲ್ಲಿ ನಿಗದಿಪಡಿಸಲಾದ ವಿದ್ಯಾರ್ಥಿಗಳ ಪರಿಮಿತಿ ಸಂಖ್ಯೆ, ವಿದ್ಯಾರ್ಥಿಗಳ ಪ್ರವೇಶಾತಿ ಸಂಖ್ಯೆ ಮತ್ತು ಆದಾಯದ ವಿವರಗಳನ್ನು ಸರ್ಕಾರಕ್ಕೆ ಬರೆಯುವ ಪತ್ರದಲ್ಲಿ ನಮೂದಿಸಲು ಹಾಗೂ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial implication ನಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚಗಳ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ ಸರ್ಕಾರದಿಂದ ಒದಗಿಸಬಹುದಾದ ಅನುದಾನದಿಂದ ಭರಿಸಬಹುದೇ ಎಂಬ ವಿಷಯವನ್ನು ಸೃಷ್ಟವಾಗಿ ನಮೂದಿಸುವಂತೆ ಸೂಚಿಸಿ ಅನುಮೋದಿಸಲಾಯಿತು."

ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ನಿರ್ಣಯದಂತೆ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial Implications ಅಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚದ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ, ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವು ದಿನಾಂಕ 08.11.2022 ರಂದು ನಡೆದ ಸಿಂಡಿಕೇಟು ಸಭೆಯಲ್ಲಿ ಅನುಮೋದನೆಗೊಂಡಿರುತ್ತದೆ.

ಆದುದರಿಂದ ಪ್ರಾಚೀನ ಇತಿಹಾಸ ಮತ್ತು ಪುರಾತತ್ವಶಾಸ್ತ್ರ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸಂಬಂಧಿಸಿ ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವನ್ನು ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಸಭೆಯ ಅನುಮೋದನೆಗೆ ಮಂಡಿಸಲಾಗಿದೆ.

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# MANGALORE UNIVERSITY

Draft Statute Governing the Establishment of Post Graduate Department of Studies in Ancient History and Archaeology, at Mangalore University and Creation of Posts therein.

(Framed under Section 40 (1) (f) and (j) of KSU Act 2000)

### **PREAMBLE**:

University College, Mangalore, the former Government College, Mangalore is a renowned institution located in the coastal region of Karnataka. The College was recently bestowed with the heritage status by the University Grant Commission (UGC) thus earning it a place of pride amongst 19 other colleges that have been similarly chosen across the country. The aim of the UGC is to conserve campuses that are over a century old. There are three heritage buildings in the college complex. The heritage buildings are constructed using laterite stone and wooden trusses. The buildings have pitched roofs with Mangalore tile cladding. The region has great potential to carry out archaeological related works and to emerge as a heritage tourist centre. There is also a felt need for opportunities to pursue higher studies in Ancient History and Archaeology.

In order to cater to the needs of the students of Dakshina Kannada and neighbouring districts, Master of Arts programme in History and Archaeology has been introduced in 2018-19. The introduction of the new course has necessitated the establishment of Post Graduate Department of Studies and Research in Ancient History and Archaeology and the creation of required number of teaching and nonteaching posts for effective teaching, research and administration. Hence, this Statute.

#### I. TITLE AND COMMENCEMENT:

- This Statute shall be called "Statute Governing the Establishment of Post Graduate Department of Studies in History and Archaeology at Mangalore University and creation of posts therein.
- ii) This Statute shall come into effect from the date of assent of the Chancellor.

### II. ESTABLISHMENT OF THE DEPARTMENT:

- The Department of Post-Graduate Studies in History and Archaeology shall be established at University College, Hampanakatte, Mangalore, Dakshina Kannada.
- ii) In addition to the Master degree programme in History and Archaeology and Doctor of Philosophy degree programmes shall be offered in the Department.
- iii) The existing regulations of Mangalore University or any amendment to the regulations shall be the regulations for the respective programmes offered in the Department of History and Archaeology at University College, Hampanakatte, Mangalore, Dakshina Kannada.

#### **III.** Creation of Posts and Mode of Recruitment:

a) Teaching posts.

| S1. | Name of the Post    | ne Post Scale of Pay |       |
|-----|---------------------|----------------------|-------|
| No. |                     | (UGC Pay Scale)      | Posts |
| 1.  | Professor           | Rs.144200-218200     | 01    |
| 2.  | Associate Professor | Rs.131400-217100     | 02    |
| 3.  | Assistant Professor | Rs.57700-182400      | 04    |

The qualification and the mode of recruitment for the above teaching posts shall be as prescribed in the Regulations issued by UGC from time to time and as per the Statute framed in this regard under Provisions of the K.S.U. Act by Mangalore University.

#### b) Non - Teaching posts.

Â.

| <b>S1.</b> | Name of the Post                                            | Scale of Pay                                | No of |
|------------|-------------------------------------------------------------|---------------------------------------------|-------|
| No.        |                                                             |                                             | Posts |
| 1.         | Second Division Rs.21400-500-22400-550-24600-600-27000-650- |                                             | 01    |
|            | Assistant                                                   | 29600-750-32600-850-36000-950-39800-1100-   |       |
|            | nooiotaitt                                                  | 42000/-                                     |       |
| 2.         | Attender                                                    | 18600-450-20400-500-22400-550-24600-600-    | 01    |
|            |                                                             | 27000-650-29600-750-32600/-                 |       |
| 3.         | Peons                                                       | Rs.17000-400-18600-450-20400-500-22400-550- | 01    |
|            |                                                             | 24600-600-27000-650-28950/-                 |       |

### 1. Minimum qualification for the post of Second Division Assistant:

- i) A pass in the Pre-University course examination or equivalent examination.
- ii) A pass in Certificate course "Testing Knowledge in Kannada" conducted by the University or Kannada as one of the languages at SSLC examination.
- iii) Knowledge and skill to use personal computer along with office automation tool such as MS office etc.

The mode of recruitment shall be as prescribed in the statute for similar posts existing in the University.

**2.** The qualification and mode of recruitment for the post of Peon shall be as prescribed in the statute for similar posts existing in the University.

### **IV Financial Implications:**

The annual expenditure of Rs.1,17,93,240/- (approx.) towards creation of above teaching and non-teaching posts shall be met from the grant sanctioned by the Government to the University for this purpose.

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சாலாகி ಸಂಖೈ: ಸಿಬ್ಬಂದಿ: 5 . ಮ கா. 2:9 (2022-23)

ವಿಷಯ: ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆ ಬಗ್ಗೆ ರಚಿಸಿದ ಪರಿನಿಯಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಸ್ನಾತಕೋತ್ತರ ಜೀವವಿಜ್ಞಾನ ವಿಭಾಗದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಕೋರ್ಸನ್ನು 2016-17ನೇ ಶೈಕ್ಷಣಿಕ ವರ್ಷದಿಂದ ಪ್ರಾಂರಭಿಸಲಾಗಿದೆ. ಆದುದರಿಂದ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗದ ಸ್ಥಾಪನೆ ಮತ್ತು ಸದರಿ ವಿಭಾಗಕ್ಕೆ ಹುದ್ದೆಗಳ ಸೃಜನೆಯ ಅವಶ್ಯಕತೆಯಿರುತ್ತದೆ. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಯುಜಿಸಿ ಮಾರ್ಗಸೂಚಿಯನುಸಾರ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆಗೆ ಈ ಕೆಳಗೆ ಕಾಣಿಸಿದ ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತಾಪಿಸಲಾಗಿದೆ.

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1. ಬೋಧಕ ಹುದ್ದೆಗಳು:

| ಪ್ರಾಧ್ಯಾಪಕರು       | • | 01 |
|--------------------|---|----|
| ಸಹ ಪ್ರಾಧ್ಯಾಪಕರು    | - | 02 |
| ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು | - | 04 |

2. ಬೋಧಕೇತರ ಹುದ್ದೆಗಳು:

| ದ್ವಿತೀಯ ದರ್ಜೆ ಸಹಾಯಕರು | - | 01 |
|-----------------------|---|----|
| ಪ್ರಯೋಗಾಲಯ ತಂತ್ರಜ್ಞ    | - | 01 |
| ಉಗ್ರಾಣ ಪಾಲಕ           | - | 01 |
| ಅನುಚರ                 | - | 01 |
| ಜವಾನ                  | - | 01 |

ಮೇಲಿನ ವಿಭಾಗ ಸ್ಥಾಪನೆ/ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಪ್ರಸ್ತುತ ಜಾರಿಯಲ್ಲಿರುವ ವೇತನ/ಭತ್ಯೆಗಳ ಪ್ರಕಾರ ವಾರ್ಷಿಕ ವೆಚ್ಚ ರೂ.1,25,38,872/- ತಗಲಬಹುದೆಂದು ಅಂದಾಜಿಸಲಾಗಿದ್ದು, ಸದರಿ ವೆಚ್ಚವನ್ನು ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಮಂಜೂರಾಗಿರುವ ಒಟ್ಟಾರೆ ಬ್ಲಾಕ್ ಗ್ರಾಂಟ್ನಿಂದ ಭರಿಸಲಾಗುವುದು. ಸದರಿ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸರ್ಕಾರದ ಅನುಮೋದನೆ ಪಡೆಯಬೇಕಾಗಿರುವುದರಿಂದ, ಈ ಬಗ್ಗೆ ಸೂಕ್ತ ಪರಿನಿಯಮ ರಚಿಸಲು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಪರಿನಿಯಮ ರಚನಾ ಸಮಿತಿಗೆ ಸೂಚಿಸಲಾಗಿದ್ದು, ಸಮಿತಿಯು ಕರಡು ಪರಿನಿಯಮ ರಚಿಸಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಕ್ಕೆ ಸಲ್ಲಿಸಿರುತ್ತದೆ. ಸದ್ರಿ ಪರಿನಿಯಮವನ್ನು ದಿನಾಂಕ 28.05.2022 ರಂದು ನಡೆದ ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದ್ದು, ಸದರಿ ಸಭೆಯಲ್ಲಿ ಈ ಕೆಳಗಿನಂತೆ ನಿರ್ಣಯಿಸಲಾಗಿದೆ.

"ಕೋರ್ಸಿಗೆ ಕಳೆದ ಮೂರು ಶೈಕ್ಷಣಿಕ ವರ್ಷಗಳಲ್ಲಿ ನಿಗದಿಪಡಿಸಲಾದ ವಿದ್ಯಾರ್ಥಿಗಳ ಪರಿಮಿತಿ ಸಂಖ್ಯೆ, ವಿದ್ಯಾರ್ಥಿಗಳ ಪ್ರವೇಶಾತಿ ಸಂಖ್ಯೆ ಮತ್ತು ಆದಾಯದ ವಿವರಗಳನ್ನು ಸರಕಾರಕ್ಕೆ ಬರೆಯುವ ಪತ್ರದಲ್ಲಿ ನಮೂದಿಸಲು ಹಾಗೂ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial Implications ಅಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ ಸರಕಾರದಿಂದ ಒದಗಿಸಬಹುದಾದ ಅನುದಾನದಿಂದ ಭರಿಸಬಹುದು ಎಂಬ ವಿಷಯವನ್ನು ಸ್ಪಷ್ಟವಾಗಿ ನಮೂದಿಸುವಂತೆ ಸೂಚಿಸಿ ಅನುಮೋದಿಸಲಾಯಿತು."

ಹಣಕಾಸು ಸಮಿತಿ ಸಭೆಯ ನಿರ್ಣಯದಂತೆ ಕರಡು ಪರಿನಿಯಮದ ನಾಲ್ಕನೇ ಕಂಡಿಕೆ Financial Implications ಅಡಿಯಲ್ಲಿ ವಾರ್ಷಿಕ ವೆಚ್ಚದ ಮೊತ್ತವನ್ನು ನಮೂದಿಸಿ, ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವು ದಿನಾಂಕ 08.11.2022 ರಂದು ನಡೆದ ಸಿಂಡಿಕೇಟು ಸಭೆಯಲ್ಲಿ ಅನುಮೋದನೆಗೊಂಡಿರುತ್ತದೆ.

ಆದುದರಿಂದ ಸ್ನಾತಕೋತ್ತರ ಪುಡ್ ಸಾಯನ್ಸ್ ಮತ್ತು ನ್ಯೂಟ್ರಿಷನ್ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ವಿಭಾಗ ಸ್ಥಾಪನೆ ಮತ್ತು ಹುದ್ದೆಗಳ ಸೃಜನೆಗೆ ಸಂಬಂಧಿಸಿ ತಿದ್ದುಪಡಿ ಮಾಡಿದ ಕರಡು ಪರಿನಿಯಮವನ್ನು ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಸಭೆಯ ಅನುಮೋದನೆಗೆ ಮಂಡಿಸಲಾಗಿದೆ.



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# MANGALORE UNIVERSITY

Draft Statute Governing the Establishment of Post Graduate Department of Studies and Research in Food Science and Nutrition at Mangalore University, Mangalagangothri Campus, Mangalore, Dakshina Kannada, and creation of posts therein.

(Framed under Section 40(f) and (j) of KSU Act 2000)

#### **PREAMBLE**:

Mangalore University was established on 10<sup>th</sup> September 1980 to cater to the needs of higher education in the districts of undivided Dakshina Kannada and Kodagu. The campus has 27 postgraduate departments offering 40 P.G. Programmes. In order to cater to the needs of the students of Dakshina Kannada District and neighbouring districts in addition to the above P.G. Programmes, Master of Science Programme in Food Science and Nutrition has been introduced at Mangalore University, Mangalagangothri Campus, Mangalore, Dakshina Kannada District, in the academic year 2016-17 in Department of Biosciences.

M.Sc. Food Science and Nutrition Programme is for those who wish to pursue a career in the food industry or in food related research. It is designed to meet the increasing demand for nutrition scientists and evaluation of physiological, biochemical and molecular effects of diet on human health. The Programme generates adequately trained candidates to work in food processing and nutraceutical industries, R & D of food products, food safety officers, Government sectors etc. They can also become entrepreneurs as there is growing demand for processed foods.

The introduction of the new Programme has necessitated the establishment of Post Graduate Department of Studies & Research in Food Science and Nutrition and creation of required number of teaching faculty and non-teaching posts for effective teaching, research and administration. Hence, this Statute.

# I. TITLE AND COMMENCEMENT:

- i) This Statute shall be called "Statute Governing the Establishment of Post Graduate Department of Studies & Research in Food Science and Nutrition at Mangalore University, Mangalagangothri Campus, Dakshina Kannada District and creation of posts therein".
  - ii) This Statute shall come into effect from the date of assent of the Chancellor.

# II. ESTABLISHMENT OF THE DEPARTMENT:

- i) The Department of Post-Graduate Studies and Research in Food Science and Nutrition shall be established at Mangalore University, Mangalagangothri Campus, Mangalore, Dakshina Kannada District.
- ii) In addition to the Master degree programme in Food Science and Nutrition Master of Philosophy and Doctor of Philosophy degree programmes shall be offered in the Department.
  - iii) The existing regulations of Mangalore University or any amendment to the regulations shall be the regulations for the respective programmes offered in the Department of Food Science and Nutrition at Mangalore University, Mangalagangothri Campus, Mangalore.

# III. Creation of Posts and Mode of Recruitment:

| Sl.<br>No. | Name of the Post    | e Post Scale of Pay []<br>(UGC Pay Scale) |    |
|------------|---------------------|-------------------------------------------|----|
| 1.         | Professor           | Rs.144200-218200                          | 01 |
| 2.         | Associate Professor | Rs.131400-217100                          | 02 |
| 3.         | Assistant Professor | Rs.57700-182400                           | 04 |

a) Teaching posts.

The qualification and the mode of recruitment for the above teaching posts shall be as prescribed in the Regulations issued by UGC from time to time and as per the Statute framed in this regard under Provisions of the K.S.U. Act by Mangalore University.

# b) Non-teaching posts:

| S1. | Name of the Post             | Scale of Pay                                                                                        |       |
|-----|------------------------------|-----------------------------------------------------------------------------------------------------|-------|
| No. |                              |                                                                                                     | Posts |
| 1.  | Second Division<br>Assistant | Rs.21400-500-22400-550-24600-600-27000-650-<br>29600-750-32600-850-36000-950-39800-1100-<br>42000/- | 01    |
| 2.  | Laboratory<br>Technician     | Rs.27650-650-29600-750-32600-850-36000-950-<br>39800-1100-46400-1250-52650/-                        | 01    |
| 3.  | Store Keeper                 | Rs.30350-750-32600-850-3600-950-39800-1100-<br>46400-1250-53900-1450-58250/-                        | 01    |
| 4.  | Attender                     | Rs. 19950-450-20400-500-22400-550-24600-600-<br>27000-650-29600-750-32600-850-36000-950-<br>37900   | 01    |
| 5.  | Peon                         | Rs.17000-400-18600-450-20400-500-22400-550-<br>24600-600-27000-650-28950/-                          | 01    |

# 1. Minimum qualification for the post of Second Division Assistant:

- i) A pass in the Pre-University course examination or equivalent examination.
- ii) A pass in Certificate course "Testing Knowledge in Kannada" conducted by the University or Kannada as one of the languages at SSLC examination.
- iii) Knowledge and skill to use personal computer along with office automation tool such as MS office etc.

The mode of recruitment shall be as prescribed in the statute for similar posts existing in the University.

2. The qualification and mode of recruitment for the posts of Laboratory Technician, Store Keeper, Attender and Peon shall be as prescribed in the statute for similar posts existing in the University.

### **IV** Financial Implications:

The annual expenditure of Rs.1,25,38,872/- (approx.) towards creation of above teaching and non-teaching posts shall be met from the grant sanctioned by the Government to the University for this purpose.

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ಕಾರ್ಯಸೂಚ ಸಂಖೈ: ಎಸಿಸಿ : ಕೈ. ಮ. ನಾ.ಸ. 3:10 (2022-23)

ವಿಷಯ: ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಅಧೀನದಲ್ಲಿರುವ ಸ್ವಾಯತ್ತ ಕಾಲೇಜುಗಳನ್ನು ನಿರ್ವಹಿಸುವ ಅನುಶಾಸನದ ತಿದ್ದುಪಡಿ ಬಗ್ಗೆ.

ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಸ್ವಾಯತ್ತ ಕಾಲೇಜುಗಳನ್ನು ನಿರ್ವಹಿಸುವ ಅನುಶಾಸನವು ಕುಲಾಧಿಪತಿಗಳಿಂದ ಅನುಮೋದನೆಗೊಂಡು ಚಾಲ್ತಿಯಲ್ಲಿರುತ್ತದೆ.

ಪ್ರಸ್ತುತ ಭಾರತ ಸರ್ಕಾರದ ಮಾನವ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ/ಯುಜಿಸಿ ಅಧಿಸೂಚಿಸಿರುವ ದಿನಾಂಕ: 12-02-20218ರ ಅಧಿಸೂಚನೆಯಂತೆ ಸ್ವಾಯತ್ತ ಕಾಲೇಜುಗಳ ಅನುಶಾಸನವನ್ನು ಅನುಬಂಧದಲ್ಲಿ ಲಗತ್ತಿಸಿರುವಂತೆ ತಿದ್ದುಪಡಿ ಮಾಡಲಾಗಿರುತ್ತದೆ. ದಿನಾಂಕ: 19-10-2022ರಂದು ನಡೆದ ಅನುಶಾಸನ ಸಮಿತಿ ಸಭೆಯು ಯುಜಿಸಿಯ ಪರಿಷ್ಕೃತ ನಿಯಮಾವಳಿಯಂತೆ ಕೆಲವೊಂದು ಮಹತ್ತರ ಬದಲಾವಣೆಗಳನ್ನು ಅನುಶಾಸನದಲ್ಲಿ ಅಳವಡಿಸಲು ಸೂಚಿಸಿರುತ್ತದೆ.

ಅದರಂತೆ ತಿದ್ದುಪಡಿ ಮಾಡಿರುವ ಅನುಶಾಸನವನ್ನು ಅನುಬಂಧದಲ್ಲಿ ಲಗತ್ತಿಸಿದ್ದು ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಪರಿಗಣನೆಗೆ ಮತ್ತು ನಿರ್ಣಯಕ್ಕಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ.

# MANGALORE UNIVERSITY

# AMENDMENTS TO THE STATUTE GOVERNING THE GRANT OF AUTONOMY TO COLLEGES, INSTITUTIONS AND UNITS AND FUNCTIONING OF AUTONOMOUS COLLEGES

(Framed under Section 40 (1) (p) read with Section 64 of the KSU Act 2000)

## **Preamble:**

The UGC has notified its revised Regulations regarding conferment of Autonomous Status Upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges vide Gazette of India Notification dated 12-02-2018 and has instructed that these Regulations shall apply to all Colleges/ Institutions which are affiliated to, or are constituent colleges of Universities in the country seeking the conferment of Autonomous College status.

Based on the UGC Regulation 2018 amendments have been made to the existing Statute. The Academic Council in its meeting held on 27-10-2021 and ------ has approved the said amendments in the Statute and the same has been approved by the Syndicate in its meeting held on 30-12-2021 and ------. Hence these amendments,

|                                      | EXISTING                                                                                                                                                                                     | AS AMENDED                                                                             |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|                                      | CHAPTER – I                                                                                                                                                                                  |                                                                                        |
| A REPERTINGNESS                      | TITLE, PRELIMINARY COMMENCEMENT AND APPLICABILITY:                                                                                                                                           |                                                                                        |
|                                      | 1.1 This Statute shall be called "The Statute governing the grant<br>of autonomy to Colleges, Institutions and Units of Mangalore<br>University and functioning of the Autonomous Colleges". | -No Change-                                                                            |
|                                      | 1.2 This Statute shall come into force from the date of assent by the Chancellor.                                                                                                            | -No Change-                                                                            |
|                                      | 1.3 This Statute shall apply to colleges/institutions/units affiliated to Mangalore University.                                                                                              | -No Change-                                                                            |
| nasteant colon a<br>has been approve | CHAPTER – II                                                                                                                                                                                 | ie state al an anna la vétate in an anna anna anna<br>Tha Syn State in in tha state ha |
|                                      | 2.1 In these STATUTES, unless the context otherwise requires,                                                                                                                                | 3.                                                                                     |
|                                      | a) "ACT" means the Karnataka State Universities Act, 2000.                                                                                                                                   | -No Change-                                                                            |
|                                      | b) "COLLEGE" means an institution maintained by the<br>University as a constituent college, includes affiliated<br>colleges.                                                                 | -No Change-                                                                            |

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| c) "INSTITUTION" means any educational institution<br>eligible to avail of the privileges extended by the<br>University as a college affiliated to the University or<br>otherwise.                                                                          | -No Change-                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| d) "PRINCIPAL", "TEACHERS" and other words not<br>defined in these STATUTES shall bear the same<br>meanings assigned to them under the Act.                                                                                                                 | -No Change-                                                                                                                                                                                                                               |
| e) "Governing Body", "Academic Council", "Board of<br>Studies", "Board of Examiners", "Finance Committee",<br>"Standing Committee", "Review Committee", mean,<br>unless the context requires otherwise, such bodies as<br>constituted under these Statutes. | e) "Governing Body" means the Governing<br>Body of the Autonomous College, which is<br>different from the Trust Board or the Board<br>of Management or the Executive Committee<br>or the Management Committee.                            |
|                                                                                                                                                                                                                                                             | "Academic Council", "Board of Studies",<br>"Board of Examiners", "Finance Committee",<br>"Standing Committee", "Review Committee",<br>mean, unless the context requires<br>otherwise, such bodies as constituted under<br>these Statutes. |
|                                                                                                                                                                                                                                                             | f) "Notification" means a notification issued by<br>the affiliating University declaring a college<br>as an autonomous one after the conferment<br>of autonomous status by the UGC.                                                       |

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|     |                                                                                                                                                    | g) | "Parent University" means the University to<br>which the college concerned is affiliated, or<br>of which the college concerned is a<br>constituent.                                                        |
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|     |                                                                                                                                                    | h) | "Statutory body" means a body constituted<br>under any law for the time being in force for<br>determining and maintaining prescribed<br>standards of quality in the relevant areas of<br>higher education. |
|     | CHAPTER – III                                                                                                                                      |    |                                                                                                                                                                                                            |
|     |                                                                                                                                                    |    | -No Change-                                                                                                                                                                                                |
| 3.  | ELIGIBILITY TARGET GROUPS                                                                                                                          |    |                                                                                                                                                                                                            |
|     | All Colleges under Section 2(f) and 12 (B) of the UGC Act are eligible.                                                                            |    |                                                                                                                                                                                                            |
| 21  | CRITERIA FOR IDENTIFICATION OF INSTITUTIONS FOR                                                                                                    |    |                                                                                                                                                                                                            |
| 3.1 | GRANT OF AUTONOMY                                                                                                                                  |    | -No Change-                                                                                                                                                                                                |
|     | The following factors are considered for granting autonomous status to a college:                                                                  |    |                                                                                                                                                                                                            |
| -   | a) Academic reputation and previous performance in<br>university examinations and its academic/<br>co-curricular/extension activities in the past. |    | -Deleted-                                                                                                                                                                                                  |
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| b) | Academic / extension achievements of the faculty.                                                        |    | -Deleted-                                                                                                                                                          |
|----|----------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| c) | Quality and merit in the selection of students and teachers, subject to statutory requirements in this   |    | -Deleted-                                                                                                                                                          |
| e  | regard.                                                                                                  |    |                                                                                                                                                                    |
| d) | Adequacy of infrastructure, for example library, equipment, accommodation for academic activities, etc.  |    | -Deleted-                                                                                                                                                          |
| e) | Quality of institutional management.                                                                     |    | -Deleted-                                                                                                                                                          |
| f) | Financial resources provided by the management / state government for the development of the institution |    | -Deleted-                                                                                                                                                          |
| g) | Responsiveness of administrative structure.                                                              |    | -Deleted-                                                                                                                                                          |
| h) | Motivation and involvement of faculty in the promotion of innovative reforms.                            |    | -Deleted-                                                                                                                                                          |
|    | •                                                                                                        | a) | Colleges (of any discipline) whether aided,<br>partially aided and unaided/ self financing<br>are eligible provided they are under Section<br>2(f) of the UGC Act. |
|    |                                                                                                          | b) | The college should have at least 10 years of existence.                                                                                                            |

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| c) The colleges must be accredited by either<br>NAAC with minimum 'A' Grade or by NBA for<br>at least three programme(s) with a<br>minimum score of 675 individually or a<br>corresponding accreditation Grade/score<br>from a UGC empanelled accreditation<br>agency. However, if the number of<br>programme(s) being run by the Institution is<br>less than three, then each of the programmes<br>should secure 675 or more marks.<br>Accreditation status must be valid at the<br>time of application. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Provided further, the existing autonomous<br>colleges will be required to comply with this<br>eligibility condition within a maximum<br>period of five years from the date of<br>notification of these Statutes.                                                                                                                                                                                                                                                                                          |
| The constituent colleges shall also undergo<br>separate accreditation by NAAC/NBA/UGC<br>empanelled accreditation agency to be<br>considered eligible.                                                                                                                                                                                                                                                                                                                                                    |
| d) i) Colleges accredited with a score of 3.0<br>and above, up to 3.25 on a 4 point scale<br>of NAAC/ corresponding NBA score/<br>corresponding accreditation score from                                                                                                                                                                                                                                                                                                                                  |

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| a UGC empanelled accreditation agency<br>at the time of application shall be<br>considered for grant of autonomous<br>status with an on-site visit of the duly<br>constituted Expert Committee.                                                                                                                                                                                                                               |
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| <ul> <li>ii) Colleges which have a NAAC score of<br/>3.26 and above, up to 3.50 or a<br/>corresponding NBA score or a<br/>corresponding accreditation Grade/<br/>score from a UGC empanelled<br/>accreditation agency for one complete<br/>cycle and also accredited accordingly in<br/>the second cycle, shall be considered<br/>for grant of autonomous status without<br/>onsite visit by the Expert Committee.</li> </ul> |
| iii) Colleges with 3.51 and above in a 4 point scale of NAAC or a minimum of three progammes have been accredited by NBA with a minimum score of 750 individually or a corresponding accreditation Grade/ score from a UGC empanelled accreditation agency at the time of application shall be considered for grant of autonomous status without onsite visit by the Expert Committee. However, the colleges are required to  |

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| adhere to University Grants<br>Commission's Regulations like (a)<br>curbing the menace of ragging in<br>Higher Education Institutions<br>Regulations 2012: b) UGC (Promotion<br>of Equity in Higher Educational<br>Institutions) Regulations 2012: c) UGC<br>(Grievance Redressal) Regulations<br>2012, etc. in letter and spirit.<br>The application of colleges covered<br>under (ii) and (iii) above shall be<br>considered as the report of the Expert<br>Committee for consideration of the<br>Commission and its approval thereof. |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| e) If an autonomous college has obtained the<br>score of 3.51 and above on a 4-Point scale<br>from NAAC or a minimum of three<br>programmes have been accredited by NBA<br>with a minimum score of 750 individually or<br>a corresponding accreditation Grade/ score<br>from a UGC empanelled accreditation<br>agency, the college shall be granted<br>extension of autonomous status for further<br>ten years without on-site visit.                                                                                                    |  |

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| b) The applicant college shall, along with the duly completed application, submit copies of relevant and                                                                                                                                                  | -No Change-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul> <li><b>3.2 APPLICATION FOR GRANT OF AUTONOMY</b> <ul> <li>a) The Eligible College/Institution shall submit an application in the prescribed form, in quadruplicate, to the Registrar, Mangalore University, Mangalagangothri.</li> </ul> </li> </ul> | <ul> <li>3.2 APPLICATION FOR GRANT OF AUTONOMY</li> <li>a) A college intending to become autonomous shall make an application in the format specified by the UGC, submit in quadruplicate to the Registrar, Mangalore University, Mangalagangothri any time during the year.</li> </ul>                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                           | (Colleges which apply for reaccreditation<br>within the stipulated six months before the<br>end of the cycle of accreditation period as<br>mentioned in the Accreditation Certificate<br>issued by National Assessment and<br>Accreditation Council/NBA/UGC empanelled<br>accreditation agency, the gap period<br>between two consecutive accreditations<br>shall be condoned. In case of other<br>institutions which have not applied as per<br>the guidelines mentioned above, the<br>maximum period for condonation would be<br>one year between the two accreditation<br>cycle). |

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| authenticated sup<br>the prescribed ap<br>c) The applicant (<br>remittance towa<br>crossed Demand<br>Registrar/Financ<br>Mangalagangothr | portive documents and shall also pay<br>plication fee, if any.<br>College/Institution shall also make<br>rds the processing fee through a<br>d Draft drawn in favour of the<br>e Officer, Mangalore University,<br>i. | c) | The applicant College/Institution shall also<br>make remittance towards Grant of<br>Autonomy fee, as decided by the Syndicate<br>from time to time, through a crossed<br>Demand Draft drawn in favcur of the<br>Registrar/Finance Officer, Mangalore |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| d) The processing fe                                                                                                                     | ee once remitted shall not be refunded.                                                                                                                                                                               |    | University, Mangalagangothri.<br>-No Change-                                                                                                                                                                                                         |
| e) All completed an<br>be submitted to<br>notified by the U                                                                              | oplications for grant of Autonomy shal<br>the Registrar on or before the dat<br>niversity.                                                                                                                            | e) | The college shall forward an advance copy of<br>the proposal to University Grants<br>Commission and the State Government,<br>indicating the date of receipt of the proposal<br>by the parent university for the record of the<br>UGC.                |

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| PROG | CHAPTER – IV<br>CEDURE FOR GRANT OF AUTONOMY:                                                                                                                                              | CHAPTER – IV<br>PROCEDURE FOR GRANT OF AUTONOMY/<br>EXTENSION OF AUTONOMY:      |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 4.1  | The Syndicate shall constitute a Standing Committee which shall consist of:                                                                                                                | 4.1 The Syndicate shall constitute a Standing Committee which shall consist of: |
|      | a) The Vice-Chancellor or his nominee who shall act as Chairman of the Standing Committee                                                                                                  | -Deleted-                                                                       |
|      | b) The Deans of the Faculties concerned.                                                                                                                                                   | -Deleted-                                                                       |
|      | c) A Nominee each of the Syndicate and the Academic Council.                                                                                                                               | -Deleted-                                                                       |
|      | d) A Nominee of the University Grants Commission.                                                                                                                                          | -Deleted-                                                                       |
|      | e) A Nominee of the Director of Collegiate Education.                                                                                                                                      | -Deleted-                                                                       |
|      | f) A Nominee of the All India Council for Technical<br>Education in the case of school of Management<br>Studies/Institution offering courses that come under the<br>jurisdiction of AICTE. | -Deleted-                                                                       |
|      | g) The Director, College Development Council.                                                                                                                                              | -Deleted-                                                                       |

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| h) | A Nominee of the Bar Council of India in the case of Law<br>College or School of Legal Studies. | -Deleted-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i) | A Subject Expert not below the rank of a Professor nominated by the Vice-Chancellor.            | -Deleted-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| j) | The Registrar shall act as Member-Secretary of the Standing Committee.                          | -Deleted-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|    |                                                                                                 | a) The University shall place the proposal<br>before the Syndicate. If approved in the<br>Syndicate, the University shall forward the<br>application of the college seeking<br>autonomous status to the UGC along with a<br>nominee on the Expert Committee and<br>various Statutory body within 30 days from<br>the date of receiving the application. In case<br>the proposal is rejected by the Syndicate, the<br>University shall communicate the decision to<br>the college concerned and the UGC through a<br>'speaking order'. |
|    |                                                                                                 | b) The State Government shall provide a<br>nominee on the Expert Committee/ Various<br>Statutory bodies within 30 days from the date                                                                                                                                                                                                                                                                                                                                                                                                  |

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|    | of receipt of the advance copy of the application received from the concerned college to send the same to UGC.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| c) | If the University and State Govt. fail to<br>provide the nominees for the UGC Expert<br>Committee, the UGC may proceed with the on-<br>spot visit and take decision on the proposal of<br>the college.                                                                                                                                                                                                                                                                                                                                                          |
| d) | If the college is found eligible as per the<br>guidelines, the Commission shall examine the<br>proposal for conferment/extension of<br>autonomous status with an onsite visit by an<br>Expert Committee constituted by the<br>Chairman of the Commission with three<br>expert members (preferably at the level of<br>Professor/Principal of an autonomous<br>college) out of which one shall be the<br>Chairperson, nominees from the<br>Parent/Affiliating University and the State<br>Government. A UGC official may be<br>nominated to coordinate the visit. |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| e) | The decision for conferment/extension of<br>autonomous status shall be taken by the<br>Standing Committee (comprising of three<br>Commission members) on autonomous<br>colleges after due consideration of the<br>recommendation of the Expert Committee.<br>The approval letters may be issued on the<br>basis of the decisions which may be ratified<br>by the Commission subsequently. |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ſ) | If proposal of a College for the conferment of<br>autonomous status is rejected for any reason<br>whatsoever, the college shall be eligible to<br>reapply, but not before one year from the<br>date of rejection of its earlier proposal.                                                                                                                                                 |
| g) | The autonomous college shall apply in the<br>prescribed format to University Grants<br>Commission for extension of autonomous<br>status six months prior to expiry of the<br>autonomy cycle.                                                                                                                                                                                              |
| h) | In case of expiry of accreditation cycle, the<br>College seeking extension of autonomous                                                                                                                                                                                                                                                                                                  |

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|     |                                                                                                                                      |    | status must submit a proof of having applied<br>for accreditation by NAAC/NBA to be eligible<br>for extension.                                                                                                                                                                                                                                                  |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                                      | i) | Till extension of autonomous status is<br>awarded by the UGC, the college shall<br>continue to avail the autonomous status. The<br>UGC shall also consider the interim period<br>while granting extension of autonomous<br>status to the College.                                                                                                               |
|     |                                                                                                                                      | ĵ) | If an Autonomous College wishes to<br>surrender the autonomous status, it shall<br>follow due process of forwarding the<br>resolution by the Governing Body through<br>the University concerned to UGC for<br>consideration. However, such withdrawal<br>shall take effect only after the last batch of<br>students then enrolled under autonomy<br>passes out. |
| 4.2 | Applications for autonomy which fulfil the conditions laid<br>down shall be forwarded by the Registrar to the Standing<br>Committee. |    | -Deleted-                                                                                                                                                                                                                                                                                                                                                       |

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| ej | Academic reports of the Institution seeking autonomy.                                                                                                                                                                                                                                                 | -Deleted- |
| f) | The standing of the teaching staff in Academic Circles<br>and their noteworthy contributions in the field of their<br>specializations.                                                                                                                                                                | -Deleted- |
| g) | Degree of academic freedom enjoyed by the faculty<br>members to develop scholarship, to engage in research,<br>experimentation and for educational innovations and<br>reforms.                                                                                                                        | -Deleted- |
| h) | Mode of selection of students for admission and<br>appointment of teachers with particular reference to<br>whether adequate opportunities are provided to<br>persons belonging to SC, ST and Category I groups in the<br>light of reservation norms laid down by the government<br>from time to time. | -Deleted- |
| i) | Whether the College seeking autonomy has at any time<br>engaged in discriminatory conduct falling within the<br>constitutional provisions.                                                                                                                                                            | -Deleted- |
| j) | Whether the College has undertaken adequate<br>measures, like, staff preparation, educational<br>preparations, institutional preparations to prepare                                                                                                                                                  | -Deleted- |

|     | students and the staff for a switch over to an<br>autonomous-setting to ensure that the responsibilities<br>accompanying autonomy is properly discharged.                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                          |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.5 | The Standing Committee shall, within the time prescribed, present its report to the Syndicate.                                                                                                                                                                                                                                       | -Deleted-                                                                                                                                                                                                                                                                                                                |
| 4.6 | The Syndicate shall refer the report to the Academic Council<br>and then, in the light of the recommendation of the<br>Academic Council, resolve whether the applicant's request<br>for autonomy be granted or rejected.                                                                                                             | -Deleted-                                                                                                                                                                                                                                                                                                                |
| 4.7 | Consequent to the recommendations of the Academic<br>Council that the applicant college be granted autonomy, the<br>Syndicate shall transmit all the relevant records to the State<br>Government and the University Grants Commission for<br>obtaining their concurrence.                                                            | -Deleted-                                                                                                                                                                                                                                                                                                                |
| 4.8 | The Registrar shall, only after the State Government and the<br>University Grants Commission concur, intimate the<br>applicant College/Institution about the Grant of Autonomy,<br>the period for which the applicant shall enjoy autonomous<br>status and the conditions, if any, subject to which such<br>status shall be granted. | <ul> <li>4.2 The Registrar shall, only after the concurrence of the University Grants Commission intimate the applicant college/Institution about the grant of autonomy.</li> <li>The Registrar shall issue notification within 30 days for a college to function as an autonomous entity once the autonomous</li> </ul> |

|      |                                                                                                                                                                                                                                                              |     | status is conferred on the College by the UGC.                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.9  | The applicant College/Institution shall, on receipt of information about the grant of autonomy, pay within fifteen days, such fee or fees as may be prescribed by the University from time to time through statutes.                                         | 4.3 | The applicant College/Institution shall, on<br>receipt of information about the grant of<br>autonomy, pay within fifteen days, such fee<br>or fees as may be prescribed by the<br>University from time to time through<br>statutes.                             |
| 4.10 | Autonomous status shall be granted initially for a period of<br>six years subject to the condition that thirty days before<br>commencement of each academic year the<br>College/Institution/Unit shall remit to the University the<br>prescribed Annual fee. | 4.4 | Autonomous status shall be granted initially<br>for a period of Ten years subject to the<br>condition that thirty days before<br>commencement of each academic year the<br>College/Institution/Unit shall remit to the<br>University the prescribed Annual fee. |
|      | The University reserves the right to revoke the autonomous<br>Status when the annual fee prescribed is not paid within the<br>time specified above. It shall be within its rights to charge<br>penal fee for late payment.                                   |     | The University reserves the right to revoke<br>the autonomous Status when the annual fee<br>prescribed is not paid within the time<br>specified above. It shall be within its rights<br>to charge penal fee for late payment.                                   |
|      |                                                                                                                                                                                                                                                              |     |                                                                                                                                                                                                                                                                 |

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| CHAPTER – V<br>COMPOSITION, POWERS AND FUNCTIONS OF THE GOVERNING<br>BODY, ACADEMIC COUNCIL, BOARD OF STUDIES AND BOARD OF<br>EXAMINERS: |                     |                                                                                                                                           |             |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------|--|--|
|                                                                                                                                          | Eve<br>follo<br>the | ry autonomous College/Institution shall constitute the<br>owing bodies in the manner prescribed and assign them<br>following functions:   | -No Change- |  |  |
| 5.1                                                                                                                                      | GOV                 | /ERNING BODY:                                                                                                                             |             |  |  |
| 5.1.1                                                                                                                                    | Con                 | nposition                                                                                                                                 |             |  |  |
|                                                                                                                                          | A)                  | Private Management Autonomous College :                                                                                                   |             |  |  |
|                                                                                                                                          | a)                  | Five members from the Management/Trust as per the Constitution or Byelaws with the Chairperson or President/ Director as the Chairperson. | -No Change- |  |  |
|                                                                                                                                          | b)                  | Two teachers of the College/ Institution nominated by the Principal on seniority for two years.                                           | -No Change- |  |  |
|                                                                                                                                          | c)                  | An Educationist or Industrialist nominated by the Management.                                                                             | -No Change- |  |  |

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| d)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A nominee of the University Grants Commission                                                                                                                                                                                 | -No Change- |
| e)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A nominee of the State Government (an academician not<br>below the rank of a Professor or a State Government<br>official of the Directorate of Collegiate Education/Higher<br>Education / State Council of Higher Education). | -No Change- |
| f)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A nominee of the University.                                                                                                                                                                                                  | -No Change- |
| g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | The Principal of the College/Institution shall be the Exofficio Member.                                                                                                                                                       | -No Change- |
| B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Government Autonomous College:                                                                                                                                                                                                |             |
| a)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Three Members (persons of proven academic interest<br>with at least PG level qualification) nominated by the<br>State Government, one of them shall be the Chairperson.                                                       | -No Change- |
| b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Two teachers of the College/Institution nominated by the Principal based on seniority for two years.                                                                                                                          | -No Change- |
| c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A nominee of the University Grants Commission.                                                                                                                                                                                | -No Change- |
| d)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A nominee of the State Government.                                                                                                                                                                                            | -No Change- |

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|     | e) | A nominee of the University.                                                                                                                                      |    | -No Change-                                                                             |
|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------|
|     | f) | The Principal of the College/Institution shall be the Ex-<br>officio Member.                                                                                      |    | -No Change-                                                                             |
|     |    |                                                                                                                                                                   | g) | One member (Educationist or industrialist)<br>nominated by the Principal for two years. |
|     | C) | University Constituent Autonomous College:                                                                                                                        |    |                                                                                         |
|     | a) | Three Members (persons of proven academic interest<br>with at least PG level qualification) nominated by the<br>University, one of them shall be the Chairperson. |    | -No Change-                                                                             |
|     | b) | Two teachers of the College/Institution nominated by the Principal based on seniority for two years.                                                              |    | -No Change-                                                                             |
| 1   | c) | A nominee of the University Grants Commission                                                                                                                     |    | -No Change-                                                                             |
|     | d) | A nominee of the State Government.                                                                                                                                |    | -No Change-                                                                             |
|     | e) | A nominee of the University                                                                                                                                       |    | -No Change-                                                                             |
|     | f) | The Principal of the College/Institution shall be the Ex-<br>officio Member.                                                                                      |    | -No Change-                                                                             |
| - 1 |    |                                                                                                                                                                   |    |                                                                                         |

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| 5.1.2 | Tenu                                | ure of Membership:                                                                                                                                                                                                                  | 5.1.2 | Tenure of Membership:                                                                                                      |
|-------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------|
|       | The for the                         | tenure of a nominated member shall be two years except<br>he UGC nominee whose term will be full six years.                                                                                                                         |       | The tenure of a nominated member shall<br>be three years except for the UGC nominee<br>whose term will be full five years. |
| 5.1.3 | <b>Mee</b><br>The                   | <b>ting:</b><br>Governing Body shall meet at least twice a year.                                                                                                                                                                    |       | -No Change-                                                                                                                |
| 5.1.4 | Pow<br>Subj<br>auto<br>gove<br>shal | vers and Functions:<br>ject to the existing provision in the byelaws of<br>onomous college and rules laid down by the state<br>ernment, the governing body of the Autonomous colleges<br>I have the following powers and functions: |       | -No Change-                                                                                                                |
|       | a)                                  | To lay down conditions of service of teaching and non-<br>teaching staff including their emoluments and<br>allowances.                                                                                                              |       | -No Change-                                                                                                                |
|       | b)                                  | To provide for procedure for selection of teaching and<br>non-teaching staff and to make their appointments.                                                                                                                        |       | -No Change-                                                                                                                |
|       | c)                                  | To be a disciplinary authority for the teaching and non-<br>teaching staff in accordance with rules and procedure to<br>be laid down by it.                                                                                         |       | -No Change-                                                                                                                |

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| d) | All financial matters including investment of college money and raising resources for the College/Institution                                | -No Change-                                                                                                                            |
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| e) | Fixing the fee and other charges payable by the students<br>of the College/Institution on the recommendation of the<br>finance committee     | e) Fixing the fee and other charges payable by the students at the College/Institution on the recommendation of the finance committee. |
| f) | To delegate administrative and financial powers to the<br>Principal and other teaching and non-teaching staff of<br>the College/Institution. | -No Change-                                                                                                                            |
| g) | To institute Scholarships, Fellowships, Studentships,<br>Medals, Prizes and Certificates on the recommendation<br>of the Academic Council.   | -No Change-                                                                                                                            |
| h) | To accept donations, endowments to the College.                                                                                              | -No Change-                                                                                                                            |
| i) | To approve of new programmes of study leading to Degrees and Diplomas.                                                                       | -No Change-                                                                                                                            |
| j) | To constitute Committees for special academic purposes.                                                                                      | -No Change-                                                                                                                            |

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|       | кј                             | committees, as may be necessary and deemed fit for the<br>proper development, and fulfil the objectives for which<br>the college has been declared as autonomous.                                                                                                                    |             |
|       | No<br>(k)<br>exe<br>reg<br>Gov | t with standing anything contained in chapter 5.1.4 (a) to<br>, the powers and functions of the governing body shall be<br>ercised in accordance with the guidelines, rules,<br>rulations that may be issued by the UGC, the State<br>vernment and the University from time to time. | -No Change- |
| 5.2   | AC                             | ADEMIC COUNCIL:                                                                                                                                                                                                                                                                      |             |
| 5.2.1 | <b>Cor</b><br>The              | nposition<br>Academic Council of the College shall consist of:                                                                                                                                                                                                                       | -No Change- |
|       | a)                             | The Principal who shall be the Chairperson.                                                                                                                                                                                                                                          |             |
|       | b)                             | All the Heads of the Departments of the College                                                                                                                                                                                                                                      | -No Change- |
|       | c)                             | Four teachers of the College representing different faculties by rotation on the basis of seniority of service in the College                                                                                                                                                        | -No Change- |
|       | d)                             | Not less than four outside experts representing such<br>areas as Industry, Commerce, Law, Education and<br>Management, nominated by the Governing Body.                                                                                                                              | -No Change- |
|       |                                |                                                                                                                                                                                                                                                                                      |             |

|       | e) Three nominees of the University                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | -No Change-                                                                            |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------|
|       | f) A faculty member nominated by the Principal shall be the Member Secretary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       | -No Change-                                                                            |
| 5.2.2 | <b>Tenure of the Members:</b><br>The tenure of the nominated member shall be two years                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5.2.2 | Tenure of the Members:<br>The tenure of the nominated member shall<br>be three years.  |
| 5.2.3 | <b>Meeting:</b><br>Meeting of the Academic Council shall be held at least once in<br>a year                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5.2.3 | Meeting:<br>Meeting of the Academic Council shall be<br>held at least twice in a year. |
| 5.2.4 | <b>Functions:</b><br>Without prejudice to the generality of functions mentioned,<br>the Academic Council will have the following powers:                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                                                        |
|       | a) To scrutinize and approve the proposals with or without<br>modification of the Boards of Studies with regard to<br>courses of study, academic regulations, curricula, syllabi<br>and modifications thereof, instructional and evaluation<br>arrangements, methods, procedures relevant thereto<br>etc., provided that where the Academic Council differs on<br>any proposal, it will have the right to return the matter<br>for reconsideration on any proposal, Board of Studies<br>concerned or reject it, after giving reasons to do so. |       | -No Change-                                                                            |

| b) | Make regulations regarding admission of students to<br>different programmes of studies in the<br>College/Institution.                                                                                                                                       | -No Change- |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| c) | Make regulations for sports, extra-curricular activities,<br>proper maintenance and functioning of the playgrounds<br>and hostels.                                                                                                                          | -No Change- |
| d) | Recommend candidates for conferment of Degrees or<br>Diplomas by the University.                                                                                                                                                                            | -No Change- |
| e) | Make recommendation to the Governing Body for the institution of scholarships, studentships, fellowships, prize and medals and to frame regulations for the award of the same.                                                                              | -No Change- |
| f) | Make recommendation to the Governing Body proposals for institution of new programmes of study.                                                                                                                                                             | -No Change- |
| g) | Advise and assist the Government Body on Academic<br>matters as it may be called upon and perform such other<br>functions as may be assigned to it by the Governing<br>Body, so that the aims and objectives of granting<br>Autonomous Status are achieved. | -No Change- |
|    |                                                                                                                                                                                                                                                             |             |

| 5.3   | <b>BOARD OF STUDIES:</b><br>The Board of Studies is the basic constituent of the academic<br>system of an autonomous college. Every department shall<br>have a Board of Studies in the College. | -No Change- |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 5.3.1 | <ul><li>a) Head of the Department concerned shall be the Chairperson of the Board.</li></ul>                                                                                                    | -No Change- |
|       | b) All the teachers of the Department.                                                                                                                                                          | -No Change- |
|       | <ul> <li>c) Two experts in the subject from outside the College/Institution nominated by the Academic Council.</li> </ul>                                                                       | -No Change- |
|       | <ul> <li>d) One expert to be nominated by the Vice-chancellor from<br/>a panel recommended by the College Principal or on his<br/>own</li> </ul>                                                | -No Change- |
|       | e) One representative from industry/corporate sector/allied area relating to placement                                                                                                          | -No Change- |
|       | f) One post-graduate meritorious alumnus nominated by the Principal                                                                                                                             | -No Change- |
|       | The chairman, Board of Studies, may with the approval of the principal of the college, co-opt.                                                                                                  |             |
|       | a) Experts from outside the college whenever special courses of studies are to be formulated.                                                                                                   | -No Change- |
|       | b) Other members of staff of the same faculty.                                                                                                                                                  | -No Change- |

| 5.3.2 | Ten                       | nure of Membership:                                                                                                                                                                                         | 5.3.2 | Tenure of Membership:                                                                                                                                                                                          |
|-------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | The                       | tenure of all the nominated members shall be two years.                                                                                                                                                     |       | The tenure of all the nominated members shall be three years.                                                                                                                                                  |
| 5.3.3 | Mee                       | eting:                                                                                                                                                                                                      | 5.3.3 | Meeting:                                                                                                                                                                                                       |
|       | The<br>mee<br>The<br>leas | principal of the college shall draw the schedule for<br>eting of the Board of Studies for different departments.<br>meeting may be scheduled as and when necessary, but at<br>t once a year.                |       | The principal of the college shall draw the<br>schedule for meeting of the Board of<br>Studies for different departments. The<br>meeting may be scheduled as and when<br>necessary, but at least twice a year. |
| 5.3.4 | Pov                       | vers and Functions:                                                                                                                                                                                         |       |                                                                                                                                                                                                                |
|       | a)                        | To prepare syllabi for various courses keeping in view<br>the objectives of the College interest of the stakeholders<br>and national requirement for consideration and<br>approval by the Academic Council. |       | -No Change-                                                                                                                                                                                                    |
|       | b)                        | To suggest methodologies for innovative teaching and evaluation techniques.                                                                                                                                 |       | -No Change-                                                                                                                                                                                                    |
|       | c)                        | To suggest panel of examiners                                                                                                                                                                               |       | -No Change-                                                                                                                                                                                                    |
|       | d)                        | To Coordinate research, teaching, extension and other academic activities in the department/college                                                                                                         |       | -No Change-                                                                                                                                                                                                    |

|                                   | A STATE OF A STAT |             |
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| 5.4 TH<br>OF<br>BC                | IE COMPOSITION, TERM OF APPOINTMENT, SCHEDULE<br>MEETING AND FUNCTIONS AND POWERS OF THE<br>DARD OF EXAMINERS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |
| In<br>of<br>int<br>ev<br>ma<br>co | order to avoid victimization by either teachers or students<br>any group, there should be various alternatives to the<br>ternal examination system. Students' performance may be<br>aluated both internally and externally. Question banks<br>ay be prepared by internal examiners and examinations<br>nducted by external examiners or by internal examiners, or<br>whoth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |
| a)                                | The Principal shall be responsible for the conduct of<br>examinations in the College. He/She shall with the help<br>of Board of Examiners (BOE) in each subject, co-<br>ordinate the matters relating to the proper conduct of<br>the examinations. He/She shall notify the calendar of<br>events of the examinations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -No Change- |
| b                                 | ) There shall be a Board of Appointment of Examiners<br>(BOAE) for the appointment of examiners for the<br>examination of each course/subject. The Principal shall<br>be the Chairman of the BOAE. Besides the Principal, the<br>Chairman of Board of Studies concerned and the Senior<br>most Teacher from the Department concerned shall be<br>the members of the BOAE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -No Change- |

| c)       | The BOAE shall constitute the BOEs and prepare the list<br>of examiners for each subject/course, from out of the<br>panel of examiners prepared by the concerned Board of<br>Studies and submit it for approval of the Governing<br>Body. | -No Change-                                      |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| d)       | The Governing Body shall not make any change in either<br>the BOE or the list of examiners prepared by the BOAE<br>except by passing a resolution clearly stating the<br>reasons for making the change in the list.                       | -No Change-                                      |
| e)       | The Board of Examiners shall perform functions relating<br>to the conduct of examinations and shall perform such<br>other functions as may be assigned to it by the Academic<br>Council.                                                  | -No Change-                                      |
| 5.5 FIN  | NANCE COMMITTEE:                                                                                                                                                                                                                          |                                                  |
| 5.5.1 Co | mposition:                                                                                                                                                                                                                                |                                                  |
| a)       | The Principal shall be the Chairperson.                                                                                                                                                                                                   | -No Change-                                      |
| b)       | One person nominated by the Governing Body of the College for a period of two years.                                                                                                                                                      | -No Change-                                      |
| c)       | One senior-most teacher of the College nominated in rotation by the Principal for two years.                                                                                                                                              | -No Change-                                      |
|          |                                                                                                                                                                                                                                           | d) Finance Officer of the Affiliating University |

| 5.5.2 | Functions:<br>The Finance Committee will be an advisory body to the<br>Governing Body and will meet at least twice a year to<br>consider:                                |       | -No Change-                                                                                   |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------|
|       | a) Budget estimates relating to the grant received/receivable from UGC, and income from fees, etc. collected for the activities to undertake the scheme of autonomy, and |       | -No Change-                                                                                   |
|       | b) Audited accounts.                                                                                                                                                     |       | -No Change-                                                                                   |
|       |                                                                                                                                                                          | 5.5.3 | Tenure of Membership:<br>The tenure of all the nominated members<br>shall be three years.     |
|       |                                                                                                                                                                          | 5.5.4 | Meeting:<br>The meeting may be scheduled as and when<br>necessary, but at least twice a year. |

| 5.6                                                                             | <b>5.6</b> The College, in addition, can have other Committees such as Planning and Evaluation Committee, Grievances/Appeals Committee, Admission Committee, Library Committee and the Student Welfare Extra-Curricular Activities Committee and Academic Audit Committee. The constitution, powers and functions of these committees will be prescribed by the Governing Body or Academic Council as the case may be. |                                                                                                                                 |    | -No Change-                                                                                                                                                   |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                        | CHAPTER – VI                                                                                                                    |    |                                                                                                                                                               |
| RIGHTS AND PRIVELEGES OF COLLEGE/INSTITUTION WHICH<br>HAS BEEN GRANTED AUTONOMY |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                 |    |                                                                                                                                                               |
| 6.1                                                                             | The<br>auto<br>mat                                                                                                                                                                                                                                                                                                                                                                                                     | affiliated College/Institution which has been granted<br>pnomy shall have autonomy in respect of the following<br>ters, namely: |    | -No Change-                                                                                                                                                   |
|                                                                                 | a)                                                                                                                                                                                                                                                                                                                                                                                                                     | Prescribing syllabus for courses of study, providing new courses and subjects of study.                                         | a) | Review existing course/programmes and,<br>restructure, redesign and prescribe its own<br>courses/programmes of study and syllabi.                             |
|                                                                                 | b)                                                                                                                                                                                                                                                                                                                                                                                                                     | Arranging for instruction to students.                                                                                          | b) | To formulate new courses/programmes<br>within the nomenclature specified by UGC as<br>per the specification of Degrees 2014 and<br>amended from time to time. |

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|         | AND DESCRIPTION OF TAXABLE PARTY. |                                                                                                                                                                                                                                                                                                                                                |    |                                                                                      |
|---------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------|
|         | c)                                | Devising methods of evaluation, examination and tests leading to award of Degrees by the University.                                                                                                                                                                                                                                           | c) | Evolve methods of assessment of students<br>performance, conduct of examinations and |
|         |                                   | <b>Explanation:</b> The Degree shall be awarded by the university and the name of the College/Institution shall be mentioned in the Degree Certificates.                                                                                                                                                                                       |    | nouncations of results.                                                              |
| ч.<br>• | d)<br>i)                          | Admission of students to courses of study in which<br>autonomy is conferred; provided that no student who<br>does not have minimum standard of eligibility prescribed<br>for that course shall be admitted to the College/<br>Institution.                                                                                                     |    |                                                                                      |
|         |                                   | Provided further, that the intake of students shall not<br>exceed the number fixed by the University and, in the<br>event of any violation, the University apart from<br>initiating measures to revoke the autonomy granted, may<br>also initiate such action against the erring College /<br>Institution, which the laws in force may permit. |    | -No Change-                                                                          |
|         | ii)                               | The autonomous College/ Institution shall be entitled to<br>frame its rules, by-laws and regulations which shall not<br>be inconsistent with the Act, the Statutes, Regulations<br>and Ordinances of the University, as well as the orders of<br>the Government issued from time to time.                                                      |    | -No Change-                                                                          |

| <ul> <li>iii) An autonomous College/ Institution, if it so desires,<br/>start Diploma (undergraduate and post graduate)<br/>Certificate Courses. The Diplomas and Certificates<br/>however be issued under the seal of the Col<br/>Institutions.</li> </ul> | may<br>and<br>shall, -No Change-<br>ege/                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                             | e) The announce results, issue mark sheets,<br>migration and other certificate; however, the<br>degree shall be awarded by the University<br>with the name of the college on the degree<br>certificate.                                                                             |
|                                                                                                                                                                                                                                                             | <ul> <li>f) Autonomous colleges need not pay affiliation<br/>fee to the parent university every year.<br/>Onetime fee can be paid at the time of<br/>conferment of autonomous status. Such fees<br/>can be decided by the Governing bodies of the<br/>parent university.</li> </ul> |
|                                                                                                                                                                                                                                                             | g) Prescribe rule for admission in consonance<br>with the reservation policy of the state<br>government/national policy.                                                                                                                                                            |
|                                                                                                                                                                                                                                                             | h) May fix fees of the programmes at their own level.                                                                                                                                                                                                                               |

| T  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i) | Constitute their own Governing Body,<br>Academic Council, Board of Studies and<br>Finance Committee.                                                                                                                                                                                                                                                                                                                                                                         |
| j) | They shall have complete administrative<br>autonomy and have the privilege of<br>appointing their own Administrative Staff and<br>teaching faculty including Principal. However,<br>the staff will be appointed as per the UGC<br>(Minimum Qualifications for Appointment of<br>teachers and other Academic Staff in<br>universities and colleges and measures for<br>the Maintenance of Standards in Higher<br>Education) Regulations 2010 as amended<br>from time to time. |
| k) | The autonomous colleges shall continue to receive funds as being done before the grant of autonomous status, if any.                                                                                                                                                                                                                                                                                                                                                         |
| 1) | Autonomy granted to the college is at the<br>institutional level and is not partial, shall<br>cover the programmes at all level such as<br>U.G., P.G. and Ph.D offered by the college.                                                                                                                                                                                                                                                                                       |
| m) | The student already enrolled at the time of granting autonomy to the college shall not be covered under autonomy.                                                                                                                                                                                                                                                                                                                                                            |

| n) | Autonomous status shall be granted initially<br>for a period of ten years; further extension<br>shall be for five years at a time except those<br>covered under clause 3.1 (e)of this Statute.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0) | An autonomous college is free to start a new<br>degree or postgraduate programme/ Ph.D.<br>with the prior approval of the University,<br>with the approval of the Academic Council of<br>the college and concerned Statutory<br>Council(s), wherever required, provided the<br>nomenclature of the degree is in consonance<br>with UGC Notification on Specification of<br>Degrees, 2014 as amended from time to time.<br>Such programmes shall fulfill the minimum<br>standards prescribed by the university/ UGC<br>in terms of number of hours, curricular<br>content and standards, and the university<br>shall be duly informed of such programmes. |
| p) | An autonomous college may rename an<br>existing programme as per the UGC<br>Notification on Specification of Degrees, 2014<br>as amended from time to time after<br>restructuring/ redesigning it with the<br>approval of the college Academic Council as<br>per UGC norms. The university should be duly<br>informed of such proceedings.                                                                                                                                                                                                                                                                                                               |

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|     |                                                                                                                                                                                                                                                                                                                            | q) | Autonomous College shall have an<br>Examination Cell headed by Controller of<br>Examinations. The Principal of the college<br>shall be the Chief Controller, Examinations. |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                                                                                                                                                                                                                            | r) | The Controller of Examinations shall be<br>assisted by the Deputy Controller of<br>Examinations along with other office support.                                           |
| 6.2 | AWARD OF DEGREES THROUGH PARENT UNIVERSITIES                                                                                                                                                                                                                                                                               |    |                                                                                                                                                                            |
|     | The parent university alone reserves the right to award the<br>Degrees to students evaluated and recommended by<br>autonomous college/institutions. The University shall devise<br>the format for the Degree Certificate. However, the name of the<br>College/Institution shall be mentioned in the Degree<br>Certificate. |    | -No Change-                                                                                                                                                                |

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| REV<br>7.1 | CHAPTER – VII<br>TEW AND EVALUATION:<br>Each autonomous College/ Institution, shall constitute<br>appropriate bodies to evaluate its academic performance,<br>improvements in standard and to assess how best it has used<br>the autonomous status. Such evaluation shall be done and<br>submitted to the University every year by 31 <sup>st</sup> of July.                                                                                                                                         | REV<br>7.1 | CHAPTER – VII<br>TEW AND EVALUATION:<br>IQAC cell shall be established in the college<br>for regular monitoring of the college under<br>intimation to UGC. The cell shall have an<br>external Peer Team comprising of<br>academicians of repute with a nominee of the<br>University and will send report to UGC<br>regarding the performance of the college. The<br>report shall also be put on public domain on |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.2        | The Syndicate by resolution, may constitute a Review and<br>Evaluation Committee to monitor the performance of the<br>Autonomous College/Institution. Such Committee shall consist<br>of the Vice-chancellor or his nominee as the Chairman and<br>such other members, who are experts in the field of education,<br>as may be nominated by the Syndicate. The Committee shall<br>review the performance of the autonomous College/Institution<br>every year and submit its report to the Syndicate. | 7.2        | On receipt of adverse report by the external peer<br>peerteam of IQAC or in case of complaint, UGC<br>has power to constitute its own Expert<br>Committee for careful scrutiny of the report<br>and may revoke the autonomous status of the<br>college after giving due opportunity to the<br>management by way of notification and by<br>passing a speaking order.                                              |

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| 7.3 | A Joint Expert Committee consisting of two representatives<br>each from the affiliating university and the concerned State<br>Government and three representatives from the UGC out of<br>which, one shall be the Convenor of the Committee to examine<br>the proposal of the colleges for extension of autonomous status<br>after completion of first and subsequent tenures of autonomy. | 7.3 | The autonomous college shall, without fail,<br>upload on its website information regarding<br>the programmes, the details of the faculty<br>along with qualification and unique ID, the<br>admission procedure, the details of relevant<br>infrastructures, research activities of the<br>college along with details of Ph.D. students<br>enrolled, if any, with the date of enrolment,<br>topics and supervisor. |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.4 | An autonomous college shall get it accredited by the NAAC within a period of two years from the date of the conferment/ extension of autonomous status.                                                                                                                                                                                                                                    | 7.4 | The college shall also put on its website the<br>creation of various Committees/Cells as<br>mandate in various UGC regulations notified<br>from time to time. The college shall conduct<br>the meeting of the statutory bodies regularly<br>and upload the minutes of the meeting on the<br>college website.                                                                                                      |
|     |                                                                                                                                                                                                                                                                                                                                                                                            | 7.5 | The college shall upload on its website all the<br>information about the college in the<br>prescribed format and the same shall be sent<br>to UGC while applying for fresh/extension of<br>autonomous status. The college shall also<br>submit progress report and utilization<br>certificate annually as per the prescribed<br>formats.                                                                          |
|     |                                                                                                                                                                                                                                                                                                                                                                                            | 7.6 | All the regulations notified by the UGC shall                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                                                                            |     | be followed in letter and spirit by all the<br>Autonomous Colleges and undertaking to this<br>effect shall be uploaded on the College<br>website.          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                            | 7.7 | The number of contractual faculty in an autonomous college should not be more than 10% of the total number of sanctioned faculty positions in the college. |
| CHAPTER – VIII                                                                                                                                                                                                                                                                                                                                                                             |     |                                                                                                                                                            |
| 8. WITHDRAWAL OF AUTONOMY:                                                                                                                                                                                                                                                                                                                                                                 |     |                                                                                                                                                            |
| Syndicate by a resolution, with prior concurrence of the State<br>Government may revoke autonomy conferred on the<br>College/Institution, after considering the report of the Review<br>Committee, after giving due notice to the management of the                                                                                                                                        |     | -No Change-                                                                                                                                                |
| Autonomous College/Institution of its intention to revoke<br>autonomy and after taking into consideration representation if<br>any, made by the College/Institution which has failed to<br>achieve the objectives underlying the grant of autonomy. If<br>affiliation granted to the College/Institution by the University<br>under section 59 of the Act is withdrawn under section 62 of |     | -No Change-                                                                                                                                                |
| the Act, then the autonomy granted to College/Institution shall<br>stand withdrawn and revoked automatically. In such cases, the<br>students already admitted under the autonomous scheme<br>would be allowed to complete the course under autonomous<br>status.                                                                                                                           |     |                                                                                                                                                            |

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|     |                             | CHAPTER – IX                                                                                                                                                                                                                   |             |
|-----|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 9.1 | The<br>stat<br>acad<br>pres | College/Institution which has been granted autonomous<br>us shall submit to the University, at the end of each<br>demic year, the following in such format as may be<br>scribed by general or special order of the University. | -No Change- |
|     | a)                          | Number of students enrolled and marks secured by the students in the qualifying examination.                                                                                                                                   |             |
|     | b)                          | Number of students belonging to SC, ST and Category – I<br>and other backward classes that have been granted<br>admission.                                                                                                     | -No Change- |
|     | c)                          | Full particulars regarding the members of the Governing<br>Body, Academic Council, Board of Studies and Board of<br>Examiners.                                                                                                 | -No Change- |
|     | d)                          | Full particulars about the Teaching Staff, their qualification, research experience/ publications, emoluments and nature of work assigned to them.                                                                             | -No Change- |
|     | e)                          | Full particulars of curricular, extra-curricular and co-<br>curricular activities undertaken during the academic<br>year.                                                                                                      | -No Change- |
|     | f)                          | Such other reports as may be prescribed or required by the University from time to time.                                                                                                                                       | -No Change- |

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|      | CHAPTER – X                                                                                                                                                                                                                                                                                                                   |             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| MISC | ELLANEOUS:                                                                                                                                                                                                                                                                                                                    |             |
| 10.1 | Notwithstanding the conferring of autonomous status, the<br>autonomous College shall be governed by the provisions of<br>the Act, Statutes, Ordinance and Regulations framed by the<br>University from time to time.                                                                                                          | -No Change- |
| 10.2 | Notwithstanding any of the provisions in these Statutes, the<br>University shall continue to exercise its general powers of<br>supervision over the autonomous College/Institution and<br>may issue such general or special instructions as are<br>necessary which shall be binding on the autonomous<br>College/Institution. | -No Change- |
| 10.3 | The University can at any time substitute, alter, amend, add,<br>and omit any of the provisions in the Statutes and can review<br>the Annexure to the Statutes from time to time for promoting<br>the objectives underlying the Statutes as per the provisions of<br>the Act.                                                 | -No Change- |

ものかられる: これれ: ちょ. ふしま ろ:11 (2022-23)

ವಿಷಯ: ಪರಿಸರ ಅಧ್ಯಯನ, Ability Enhancement Compulsory Course ನ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

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ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ 2020 ರನ್ವಯ ಪದವಿ ಮಟ್ಟದ ಕಾರ್ಯಕ್ರಮಗಳ ಪ್ರಥಮ ಅಥವಾ ದ್ವಿತೀಯ ಸಮಿಸ್ಟರ್ ಗಳಲ್ಲಿ Ability Enhancement Compulsory ಕೋರ್ಸ್ ರಡಿಯಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿರುವ 'ಪರಿಸರ ಅಧ್ಯಯನ' ಕೋರ್ಸನ್ನು 2 ಕ್ರೆಡಿಟ್ ಗಳ (50 ಅಂಕಗಳು) ಬದಲು 3 ಕ್ರೆಡಿಟ್ ಗಳಿಗೆ (100 ಅಂಕಗಳು) ಬೋಧಿಸಲು ಸರ್ಕಾರವು ಇಮೇಲ್ ದಿನಾಂಕ: 19/11/2022 ರಲ್ಲಿ ನಿರ್ದೇಶಿಸಿರುತ್ತದೆ. ಈ ಹಿನ್ನೆ ಲೆಯಲ್ಲಿ ದಿನಾಂಕ 23/11/2022 ರಂಧು ನಡೆದ ಪದವಿ ಮಟ್ಟದ ಪರಿಸರ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯಲ್ಲಿ ಪರಿಶೀಲಿಸಿ, ಅನುಮೋದನೆಗೊಂಡಿರುವ 3 ಕ್ರೆಡಿಟ್ ಗಳ ಪರಿಸರ ಅಧ್ಯಯನ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮವನ್ನು ಸಂಬಂಧಪಟ್ಟ ಅಧ್ಯಯನ ಮಂಡಳಿ ಅಧ್ಯಕ್ಷರಾದ ಪ್ರೊ. ಜಯರಾಜ್ ಅಮೀನ್ ರವರು ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ನಡವಳಿಯೊಂದಿಗೆ ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ.

ಪರಿಸರ ಅಧ್ಯಯನ ಪಠ್ಯಕ್ರಮವನ್ನು ಶೈ.ವರ್ಷ 2022-23ನೇ ಸಾಲಿನಲ್ಲಿ ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳ Ability Enhancement Compulsory Course ರಡಿಯಲ್ಲಿ ಪ್ರಥಮ/ ದ್ವಿತೀಯ ಸಮಿಸ್ಟರ್ಗಳಿಗೆ ಅಳವಡಿಸಬೇಕಾಗಿದ್ದುದರಿಂದ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ನಿರ್ಣಯವನ್ನು ಕಾಯ್ದಿರಿಸಿ ಆಧಿಸೂಚಿಸಲಾಗಿರುತ್ತದೆ.

ಸದರಿ ಪಠ್ಯಕ್ರಮವನ್ನು ಕಲಾ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಘಟನೋತ್ತರ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ. ಸ್ಟೆ ಸ್





## UNIVERSITY ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

### DEPARTMENT OF POLITICAL SCIENCE ರಾಜ್ಯಶಾಸ್ತ್ರ ವಿಭಾಗ

Prof Jayaraj Amin Chairman

No: MU/PSD/ 283/2022-23

Office: (0824) 2287364 Email: politicalsciencemu2018@gmail.com Mangalore University Mangalagangothri-574199 Mangalore, Karnataka

Date: 24-11-2022

ರಿಗೆ,

ಮಾನ್ಯ ಕುಲಸಚಿವರು ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಮಂಗಳಗಂಗೋತ್ರಿ- 574199 ಮಾನ್ಯರೇ,

> ವಿಷಯ: ಪದವಿ ಮಟ್ಟದ ಪರಿಸರ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯ ನಡಾವಳಿ ಕಳುಹಿಸುವ ಬಗ್ಗೆ. ಉಲ್ಲೇಖ: ಎಂಯು/ಎಸಿಸಿ/ಸಿಆರ್19/2022-23ಎ8 ದಿನಾಂಕ: 17-11-2022

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ಮೇಲಿನ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಮಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ರಾಜ್ಯಶಾಸ್ತ್ರ ವಿಭಾಗದಲ್ಲಿ ಪದವಿ ಮಟ್ಟದ ಭಾರತ ಪರಿಸರ ಅಧ್ಯಯನ ಮಂಡಳಿಯ ಸಭೆಯನ್ನು ದಿನಾಂಕ 23-11-2022 ರಂದು ಪೂರ್ವಾಹ್ನ 10.30ಕ್ಕೆ ನಡೆಸಲಾಗಿದೆ. ಆದಕ್ಕೆ ಸಂಬಂಧಪಟ್ಟ ನಡಾವಳಿಯನ್ನು ಹಾಗೂ ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮವನ್ನು ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ ತಮಗೆ ಕಳುಹಿಸುತ್ತಿದ್ದೇನೆ.

ವಂದನೆಗಳೊಂದಿಗೆ,

ತಮ (ಪ್ರೊ. ಜಯಘಾಜ್ ಅಮೀನ್)

CHAIRMAN upartment of Political Science Mangalere University Mangalagangothri, Mangalore Kamataka - 574 199

ಅಡಕ: ನಡಾವಳಿ ಮತ್ತು ಪರಿಷ್ಕೃತ ಪಠ್ಯಕ್ರಮ

### MANGALORE UNIVERSITY DEPARTMENT OF POLITICAL SCIENCE

### ENVIRONMENTAL STUDIES BOARD OF STUDIES (UG) MEETING

Members Present:

1. Prof. Jayaraj Amin

2. Sri Manohara Acharya

3. Dr. Vinayaka K S

4. Smt. Ramya Rai P D

(Chairman) (Member) (Member) (Member)

Members Absent: Nil

### **PROCEEDINGS**

The Environmental Studies Board of Studies (UG) met on 23-11-2022 at 10.30 am in the Department of Political Science and discussed items on the agenda. The Board after deliberations resolved the following.

### RESOLUTION

1.

2.

To approve the revised syllabus and question paper pattern and to forward it to university for further action

To fix the minimum qualifications (eligibility ) to teach on Environmental Studies as follows-

Masters' degree in Environmental Science/Botany/Zoology/Bio-Science/Life sciences/ Micro-biology/ Biotechnology/ Geography/Marine Geology/ Geology/Chemistry with a minimum of 55% marks/ equivalent grade or any Post graduate degree with minimum of 55% marks along with Post Graduate Diploma (1 Year) in Environmental Studies

(Dr. Vinayaka K S

(Sri Manohara Acharya)

(Prof. Jayaraj Amin) Prof. JAYARAJ AMIN Department of Political Science Mangalore University Mangalagangothri, Mangalore Karnataka, PIN: 574 199

### **ENVIRONMENTAL STUDIES**

### Ability Enhancement Compulsory Course (AECC) under NEP-2020

| Total Contact Hours: 45        | Course Credits: 3                 |
|--------------------------------|-----------------------------------|
| No. of Teaching Hours/week: 3  | Duration of ESA/Exam: 2 Hours     |
| Formative assessment Marks: 40 | Semester end assessment Marks: 60 |

### **Course Objectives:**

- 1. To make students realize the importance and their role in the protection and maintenance of a healthy environment for sustainable development.
- 2. To enable students to grasp the significance and issues related to ecosystems, biodiversity and natural resources, and ways of managing/ protecting them.
- 3. To enable students to have a nuanced understanding of environmental pollution, solid waste management and climate change and to act with concern on environmental issues.
- 4. To make students aware of the environmental policies and movements for educating and inspiring the young minds.

#### **Learning Outcomes:**

At the end of the course, students will -

- 1. Understand the importance and dimension of a healthy environment, become environmentally conscious, skilled and responsible in all their actions with a concern for sustainable development.
- 2. Comprehend the significance and issues related to ecosystems, natural resources and biodiversity and become aware of the need and ways to protect/ preserve them.
- 3. Grasp the issues related to environmental pollution, solid waste management and climate change, and become conscious and proactive in the discharge of their responsibilities towards the environment.
- 4. Become aware and appreciate the values and concerns of environmental movements and policies; and act responsibly on environment-related issues.

### ENVIRONMENTAL STUDIES

| an a | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 45<br>Hours |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Unit 1                                   | <ul> <li>Chapter 1: Introduction to Environmental Studies:</li> <li>Scope and importance; Concept of sustainability and sustainable development.</li> <li>Multidisciplinary nature of environmental studies.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                   | 2           |
|                                          | <ul> <li>Chapter 2: Ecosystems</li> <li>What is an ecosystem? Structure and function of ecosystem</li> <li>Food chains, food webs; Energy flow in an ecosystem.</li> <li>Ecological succession.</li> <li>Case studies of the following ecosystems: <ul> <li>a) Forest ecosystem</li> <li>b) Grassland ecosystem</li> <li>c) Desert ecosystems – (ponds, oceans, estuaries)</li> </ul> </li> </ul>                                                                                                                                                                                                                                         | 6           |
|                                          | <ul> <li>Chapter 3: Natural Resources: Renewable and Non-<br/>Renewable Resources</li> <li>Land resources and land usage change; Land<br/>degradation, soil erosion and desertification.</li> <li>Forest resources: Types (Evergreen, Semi ever green,<br/>deciduous, scrub forest), Non-Timber forest products,<br/>Afforestation</li> <li>Water: Use and over-exploitation of surface and ground<br/>water, floods, droughts, conflicts over water (Inter-state,<br/>river diversion).</li> <li>Energy resources: Renewable and non-renewable energy<br/>sources, growing energy needs, use of alternate energy<br/>sources.</li> </ul> | 7           |

| Unit 2            | <ul> <li>Chapter 4: Biodiversity and Conservation</li> <li>Levels of biological diversity: Genetic, Species and<br/>Ecosystem diversity</li> </ul>                             | 8 |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                   | <ul> <li>Biogeographic zones of India.</li> </ul>                                                                                                                              |   |
| l Hibbild<br>Tari | <ul> <li>Global biodiversity hotspots; India as a mega-<br/>biodiversity nation.</li> </ul>                                                                                    |   |
|                   | Endangered and Endemic species of India.                                                                                                                                       |   |
|                   | <ul> <li>Threats to biodiversity: Deforestation, Habitat loss,<br/>poaching of wildlife, biological invasions, mining and dam<br/>construction.</li> </ul>                     |   |
|                   | <ul> <li>Conservation of biodiversity: In-situ and Ex-situ<br/>conservation of biodiversity; Conservation of coastal and<br/>Mangrove ecosystem.</li> </ul>                    |   |
|                   | <ul> <li>Rain water harvesting, Soil conservation and management.</li> <li>Ecosystem and biodiversity values - Ecological, economic, social, ethical and aesthetic.</li> </ul> |   |

|        | <ul> <li>Chapter 5: Environmental Pollution</li> <li>Environmental Pollution: Air, water, soil and noise pollution- causes, effects and controls.</li> <li>Plastic and human health risks.</li> <li>Solid waste management, Control measures of urban and industrial waste.</li> <li>Pollution case studies – Yamuna and Tunga River.</li> </ul>                                                                                                                                                                                                                                       | 7 |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Unit 3 | <ul> <li>Chapter 6: Environmental Policies and Practices</li> <li>Climate change, global warming, ozone layer depletion, acid rain - impacts on human communities and vegetation.</li> <li>Environment Laws: Environment Protection Act; Bio-diversity Act-2002; Wildlife (Protection) Act; Forest Conservation Act.</li> <li>International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).</li> <li>Tribal populations and rights, and human wildlife conflicts in Indian context.</li> </ul>                                                  | 7 |
|        | <ul> <li>Chapter 7: Human Communities and the Environment</li> <li>Human population growth: Impacts on environment,<br/>human health and welfare.</li> <li>Resettlement and rehabilitation of project affected<br/>persons - Meaning</li> <li>Disaster management: Floods, Earthquake, Cyclones and<br/>Landslides.</li> <li>Environmental movements: Chipko, Appiko, Silent valley,<br/>Bishnois of Rajasthan.</li> <li>Environmental ethics: Role of religions and cultures in<br/>environmental conservation.</li> <li>Environmental communication and public awareness.</li> </ul> | 6 |
|        | <ul> <li>Chapter 8: Field work (Minimum 1)</li> <li>Visit to an area to document environmental assets:<br/>river/forest/flora/fauna, etc.</li> <li>Visit to a local polluted site- Urban/Rural/Industrial/<br/>Agricultural.</li> <li>Study of common plants and animals in nearby areas.</li> <li>Study of simple ecosystems – pond, river, etc.</li> <li>Green audit of the college campus.</li> <li>Documentation of environmentalists of your area.</li> </ul>                                                                                                                     | 2 |

**Pedagogy**: Lectures/Tutorials/Interactive Sessions/Open Educational Resources (as reference materials), Practical exercises/Assignments/ Seminars/Group discussions/Field wok and Counselling.

### **Exercise:**

- ✓ Organize debate/quiz/seminar on Environment related topics.
- ✓ Invite experts to deliver special lectures on Environmental issues, Bio-diversity, Green Audit etc.
- ✓ Celebrate different Environmental days.
- ✓ Students can undertake project work on environmental impact assessment of local area.

### Assessment:

### I. Summative Marks distribution

| Formative Assessment                               |                    |  |
|----------------------------------------------------|--------------------|--|
| Assessment Occasion/Type                           | Weightage in Marks |  |
| Assessment Test – 1                                | 10                 |  |
| Seminar/ Group discussion                          | 10                 |  |
| Assessment Test – 2                                | 10                 |  |
| Assignment//Documentation/project or field<br>work | 10                 |  |
| Total                                              | 40                 |  |

II. <u>Term End Examination</u>: Semester end will examination will be for 60 marks. The minimum mark to pass the examination is 35% (21 marks).

Formative Assessment (I A) = 40 End Semester Examination = <u>60</u> Total = <u>100 marks</u>

### Reference

- 1. Acharya, Manohara., Rai, Ramya PP., K.S., Vinayaka and Naik, Ramachandra (2022), Environmental Studies, United Publishers, Mangalore.
- 2. Bhandari. M., Jayakara (2022), *Environmental Studies*, Edwise Publication, Mangalore (English and Kannada version)
- 3. Bharucha, E. (2015). Textbook of Environmental Studies.
- 4. Carson, R. (2002). Silent Spring. Houghton Mifflin Harcourt.
- 5. Climate Change: Science and Politics (2021). *Centre for Science and Environment,* New Delhi.
- 6. Gadgil, M., & Guha, R. (1993). This Fissured Land: An Ecological History of India. Univ. of California Press.
- 7. Gleeson, B. and Low, N. (eds.) (1999). *Global Ethics and Environment*, London, Routledge.
- 8. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. (2006). Principles of Conservation Biology. Sunderland: Sinauer Associates.
- 9. McCully, P. (1996). *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
- 10. McNeill, John R. (2000). Something New Under the Sun: An Environmental History of the Twentieth Century.
- 11. Nandini, N., Sunitha N., & Sucharita Tandon. (2019). A text book on Environmental Studies (AECC). Sapna Book House, Bengaluru.
- 12. Odum, E.P., Odum, H.T. & Andrews, J. (1971). Fundamentals of Ecology. Philadelphia: Saunders.
- 13. Pepper, I.L, Gerba, C.P. & Brusseau, M.L. (2011). Environmental and Pollution Science. Academic Press.
- 14. Rajit Sengupta and Kiran Pandey. (2021). *State of India's Environment 2021: In Figures.* Centre Science and Environment.
- 15. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012). *Environment*. 8<sup>th</sup> Edition. John Wiley & Sons.
- 16. Rosencranz, A., Divan, S., & Noble, M. L. (2001). Environmental law and policy in India.
- 17. Sengupta, R. (2003). Ecology and economics: An approach to sustainable development. OUP.
- 18. Sharma, P.D. (2021) Ecology and Environment, Rastugi Publication, Meerut
- 19. Singh, J.S., Singh, S.P. and Gupta, S.R. (2014). *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
- 20. Sodhi, N.S., Gibson, L. & Raven, P.H. (Eds). (2013). Conservation Biology: Voices from the Tropics. John Wiley & Sons.
- 21. Varma, P.S. and Agarwal (2019) *Environmental Biology (Principles of Ecology)*, S. Chand Publication, New Delhi
- 22. Wilson, E. O. (2006). The Creation: An appeal to save life on Earth. New York: Norton.
- 23. World Commission on Environment and Development. (1987). Our Common Future. Oxford University Press.

### **Question Paper Pattern**

(Model)

|                                         | Section - A | $(10 \times 2 = 20)$ |
|-----------------------------------------|-------------|----------------------|
| Answer any <b>TEN</b> of the following: |             | (=0.1.2.20)          |
| (Four questions from each unit)         |             |                      |
| 1.                                      |             |                      |
| 2.                                      |             |                      |
| 3.                                      |             |                      |
| 4.                                      |             |                      |
| 5.                                      |             |                      |
| 6.                                      |             |                      |
| 7.                                      |             |                      |
| 8.                                      |             |                      |
| 9.                                      |             |                      |
| 10.                                     |             |                      |
| 11.                                     |             |                      |
| 12.                                     |             |                      |
|                                         |             |                      |

### Section - B

### (8 x5 = 40)

Answer any **Eight** of the following: (Four questions from each unit)

13.

- 14.
- 15. 16.
- 17.
- 18.
- 19.

20.

21.

22.

23.

24.

சாலாகு: வலல் : தீ. வ. கு. கீ. 3: 12 (2022-23)

ವಿಷಯ: 'ಪರಿಸರ ಅಧ್ಯಯನ' Ability Enhancement Compulsory Course ನ್ನು ಬೋಧಿಸಲು ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆ ನಿಗದಿ ಪಡಿಸುವ ಬಗ್ಗೆ.

ದಿನಾಂಕ 23.11.2022 ರಂದು ನಡೆದ ಪದವಿ ಮಟ್ಟದ ಪರಿಸರ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯಲ್ಲಿ 'ಪರಿಸರ ಅಧ್ಯಯನ', Ability Enhancement Compulsory Course ನ್ನು ಬೋಧಿಸಲು ಉಪನ್ಯಾಸಕರ ವಿದ್ಯಾರ್ಹತೆಯನ್ನು ಈ ಕೆಳಗಿನಂತೆ ನಿಗದಿಪಡಿಸಲು ಶಿಫಾರಸ್ಸು ಮಾಡಿರುತ್ತದೆ.

Master's degree in Environmental Science/ Botany/ Zoology/Bio-Science/ Life Sciences/ Microbiology/ Biotechnology/ Geography/ Marine Geology/ Geology/ Chemistry with a minimum of 55% marks/ Equivalent Grade or any Post graduate degree with minimum of 55% Marks along with Post Graduate Diploma (1 Year) in Environmental Studies

ಈ ವಿಷಯವನ್ನು ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ನಿರ್ಣಯಕ್ಕಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ.

4 m 30/11/2022

சாலாகால: வல்ல் : தீ. ல . கு. க. 3: 13 (2022-23)

ವಿಷಯ: ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ 2020 ರ ಮಾದರಿ ಪ್ರಕಾರ ತಯಾರಿಸಿರುವ ಬಿ.ಎಸ್ಸಿ (ಫುಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಆಂಡ್ ಡೈಟೆಟಿಕ್ಸ್) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ I-IV ಸೆಮಿಸ್ಟರ್ ಗಳ (I- II ಸೆ. ಪರಿಷ್ಕೃತ) ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

- 18 -

ಪ್ರೊ.ಮೋನಿಕ ಸದಾನಂದ, ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ಇವರು ದಿ:7.9.2022ರಂದು ನಡೆದ ಪದವಿ ಮಟ್ಟದ ಫುಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಆಂಡ್ ಡೈಟೆಟಿಕ್ಸ್ ಮತ್ತು ಸ್ನಾತಕೋತ್ತರ ಫುಡ್ ಸಾಯನ್ಸ್ ಆಂಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಸಂಯುಕ್ತ ಅಧ್ಯಯನ ಮಂಡಳಿ ಸಭೆಯಲ್ಲಿ ಬಿ.ಎಸ್ಸಿ. (ಫುಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಆಂಡ್ ಡೈಟೆಟಿಕ್ಸ್) ಕಾರ್ಯಕ್ರಮದ ಪಠ್ಯಕ್ರಮವು ಸರಕಾರದಿಂದ ನಿಗದಿತ ಸಮಯಕ್ಕೆ ಸ್ವೀಕೃತವಾಗದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಸದರಿ ಪಠ್ಯಕ್ರಮಕ್ಕೆ ಅಧ್ಯಯನ ಮಂಡಳಿಯ ಅನುಮೋದನೆಯನ್ನು By Circulation ಮುಖಾಂತರ ಅನುಮೋದಿಸುವುದಾಗಿ ನಿರ್ಣಯಿಸಿರುತ್ತದೆ.

ಪ್ರಸ್ತುತ, ಕರ್ನಾಟಕ ರಾಜ್ಯ ಉನ್ನತ ಶಿಕ್ಷಣ ಪರಿಷತ್ ರಚಿಸಿರುವ ತಜ್ಞರ ಸಮಿತಿಯು ತಯಾರಿಸಿರುವ ಬಿ.ಎಸ್ಸಿ (ಫುಡ್ ನ್ಯೂಟ್ರಿಷನ್ ಆಂಡ್ ಡೈಟೆಟಿಕ್ಸ್) ಪದವಿ ಕಾರ್ಯಕ್ರಮದ I-IV ಸಮಿಸ್ಚರ್ ಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು (I- II ಸೆ. ಪರಿಷ್ಕೃತ) ಅಧ್ಯಯನ ಮಂಡಳಿಯ ನಿರ್ಣಯದ ಮೇರೆಗೆ ಸಂಬಂಧಪಟ್ಟ ಅಧ್ಯಯನ ಮಂಡಳಿಯ ಅಧ್ಯಕ್ಷರು ಸಲ್ಲಿಸಿದ್ದು, ಶೈಕ್ಷಣಿಕ ವರ್ಷ 2022-23ನೇ ಸಾಲಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಜಾರಿಗೆ ತರಲು ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಘಟನೋತ್ತರ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ (ಪಠ್ಯಕ್ರಮವನ್ನು ಅಧ್ಯಯನ ಮಂಡಳಿಯ ನಡವಳಿಯೊಂದಿಗೆ ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ).

6/12/2022

#### JCEEDINGS OF THE MEETING OF THE COMBINED BOARD OF STUDIES FOOD NUTRITION AND DIETETICS & PG FOOD SCIENCE AND UG THE DEPARTMENT OF 2022 IN SEPTEMBER, AUTRITION 7th ON BIOSCIENCES, MANGALORE UNIVERSITY

- Member

- Member

- Member

- Member

- Chairperson

Ref: Your letter No. MU/K S/SND (S4)/58/2021-13044 dated 20.08.2022

#### Members Present:

- I. Dr. Archana Prabhat
- 2. Mrs. Sanjana M Shenoy
- 3. Mrs. Indira Badya
- 4. Dr. Krishna Prasad Nooralbettu
- 5. Prof. Usha Ravindra .
- 6. Prof. Monika Sadananda

### Members Absent:

- 7. Dr. Lakshmana K
- 8. Dr. J Rajeshwari

- Member - Member (External)

- Member (External)

### Agenda discussed:

- 1. Preparation of panel of Examiners (UG FND Gradation list and PG Food Science and Nutrition).
- 2. Assessment of previous years question papers and results
- 3. NEP Syllabus UG FND B.Sc. (Hons) 3rd and 4th Semester
- 4. Revision of Syllabus M.Sc. Food Science and Nutrition

St. 7 Sec. S. Sec. St. St.

5. Any other matter referred by the University.

#### Decision:

- 1. The panel of examiners for MSc Food Science and Nutrition (FSN) have been updated based on the suggestions of the members and was approved. The Gradation list and UG panel of examiners for BSc Food Nutrition and Dietetics (FND) were also updated.
- 2. Question papers of PG II and IV Semester examinations held during 2021-22 were scrutinized and found to be in order. PG results of II and IV Semester were also scrutinized and found to be good.
- 3. NEP Syllabus Program structure and syllabus has been drafted by Govt. of Karnataka as per NEP 2020 for due implementation in all colleges. The syllabus provided for 3rd and 4th semesters has been adopted for BSc FND. The Board authorized the Chairperson to submit the same to the University, with minor modifications, including changes to 1st and 2<sup>nd</sup> semester syllabi after obtaining approval through circulation. The question paper pattern was modified based on request from colleges and recommendation of Board Members.
- 4. The MSc FSN syllabus was revised based on the suggestions of Internal and External Members.

| Existing                     | Modified                                            | Justification .                                                                                                                                                          |
|------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FNS 405<br>Food microbiology | FNS 405<br>Analytical Techniques<br>in Food Science | Analytical Techniques in Food Science<br>shifted to 1 <sup>st</sup> semester to enable students<br>to get basic skil based training required<br>for subsequent semesters |

| FNP 410            | FNP 410 Analytical | Lab component                                |
|--------------------|--------------------|----------------------------------------------|
| Food Microbiology  | Techniques in Food |                                              |
| Lab                | Science Lab        |                                              |
| FNS 454 Analytical | FNS 454 Food       | Food microbiology shifted to 2 <sup>nd</sup> |
| Techniques in Food | Microbiology       | Semester                                     |
| Science            |                    |                                              |
| FNP 460 Analytical | FNP 460 Food       | Lab component                                |
| Techniques in Food | Microbiology       |                                              |
| Science            |                    |                                              |
| FNH 501 and 551    | MNT                | Replaced by Dietary management               |
|                    |                    |                                              |

b. With regard to eligibility, it was decided to extend the Eligibility Criteria also to Genetics as optional as follows:

| EXISTING                                       | MODIFIED                                       |
|------------------------------------------------|------------------------------------------------|
| Candidates who have passed three years BSc     | Candidates who have passed three years BSc     |
| Degree examinations of Mangalore University or | Degree examinations of Mangalore University or |
| any other University considered as equivalent  | any other University considered as equivalent  |
| thereto with a minimum of 45% (40% in the case | thereto with a minimum of 45% (40% in the case |
| of SC/ST/Cat-I candidates) marks in aggregate  | of SC/ST/Cat-I candidates) marks in aggregate  |
| excluding languages and Group III subjects are | excluding languages and Group III subjects are |
| eligible for the programme provided they have  | eligible for the programme provided they have  |
| studied Chemistry/Biochemistry and any two of  | studied Chemistry/Biochemistry and any two of  |
| the following optional/major/special subjects: | the following optional/major/special subjects: |
| Botany, Biotechnology, Environmental Science,  | Botany, Biotechnology, Environmental Science,  |
| Forestry, Food Science, Home Science,          | Forestry, Food Science, Home Science,          |
| Horticulture, Microbiology, Pharmacognosy and  | Horticulture, Microbiology, Pharmacognosy,     |
| Zoology                                        | Zoology and Genetics                           |

5. No other matter was referred by the University.

Meeting was adjourned with the Chairperson thanking the members.

### Signature of BOS Members

1. Prof. Usha Raveendra

Present outine

Servin Sampt

2. Dr. Krishna Prasad Nooralbettu Klin Duropresed ~)

3. Dr. Archana Prabhat

4. Mrs. Sanjana M. Shenoy

5. Mrs. Indira Badya

D. Inala

Prof. Monika Sadananda Chairperson, Combined BOS in UG FND & PG F DEFARTMENT OF BIO-SCIENCES Mangalagangotri-57-1199 Mangalagangotri-57-1199 Karnataka State (Ingia)

11.02.

30.09.

14.07



Government of Karnataka

# Structure of B.Sc. (Hons.) with Food Nutrition and Dietetics as a Subject (Model C4)

#### Model Curriculum

Name of the Degree Program: B.Sc.(Basic / Hons) Discipline Core: Food Nutrition and Dietetics Total Credits for the Program: Starting year of implementation:

#### **Program Outcomes (POs)**

After successful completion of this program, graduates of Food Nutrition and Dietetics will have the following attributes:

- 1. <u>Scientific Knowledge</u>: Apply the knowledge of food science, chemistry, nutrition, physiology and dietetics in a competent manner to innovate in the field of nutrition and dietetics.
- 2. <u>Design and Development of Solutions</u>: Design nutrition and dietetics strategies as per the specified requirements of regulatory bodies related to food, health, environment, hospitals, families and communities.
- 3. <u>Problem Analysis</u>: Identify, formulate, rationalise, and analyse nutrition-related problems in the community and hospitals so as to reach substantiated diet-based conclusions using the principles of food nutrition and dietetics.
- 4. <u>Modern Tool usage</u>: Create, select, and apply modern nutrition and dietetics tools, techniques, and resources of relevance in nutrition and dietetics.
- 5. <u>Environment and Sustainability</u>: Evolve nutrition and dietetics approaches in the context of food security and environmentally sustainable development goals.
- 6. <u>Teamwork</u>: Function objectively as an individual and as a member in diverse teams.
- 7. <u>Communication</u>: Effectively document and communicate nutrition and dietetics approaches and plans with individuals, patients and communities.
- 8. <u>Lifelong learning</u>: Independently engage in continuous learning to adapt to newer concepts in nutrition and dietetics.

#### **Program Specific Outcomes (PSOs):**

After successful completion of this program, graduates of Food Nutrition and Dietetics will have the following specific attributes:

- Utilize the knowledge from the physical and biological sciences as a basis for understanding the role of food and nutrients in health and disease processes
- Evaluate the food product and the application of necessary preservation techniques to increase the shelf life of the product and also be a part in the auditing industry
- Work in Research laboratories on the fortification and enrichment of existing product as well as the development of new product
- Apply the nutrition and dietetics-based knowledge and skills in the planning and assessment of suitable diets for individuals of every age, patients and the community in a sustainable manner.
- Provide nutrition counselling and education to individuals, groups, and communities throughout the lifespan using a variety of communication strategies

- Apply technical skills, knowledge of health behaviour, clinical judgment, and decision-making skills when assessing and evaluating the nutritional status of individuals and communities and their response to nutrition intervention.
- Implement strategies for food access, procurement, preparation, and security for individuals, families, and communities.
- Apply food science knowledge to describe functional properties of food ingredients.
- Apply the knowledge of principles and techniques of nutrition and dietetics for research-based approaches.

• Apply skills gained in nutrition and dietetics for research, development, and entrepreneurship. Assessment:

Weightage for assessments (in percentage)

| Type of Course                              | Weightage in Marks | Summative Assessment |  |  |
|---------------------------------------------|--------------------|----------------------|--|--|
| Theory                                      | 40                 | 60                   |  |  |
| Practical                                   | 25                 | 25                   |  |  |
| Projects                                    | 40                 | 60                   |  |  |
| Experiential Learning<br>(Internships etc.) | 40                 | 60                   |  |  |

### Content of Courses for B.Sc. Degree/Honours in Food Nutrition and Dietetics Model C4

|                                                                                                       | 3      |           | Theory/    | Credits | Course/Paper Titles                | Marks |    |
|-------------------------------------------------------------------------------------------------------|--------|-----------|------------|---------|------------------------------------|-------|----|
| Semest                                                                                                | Course | Category  | Practicals |         |                                    | IA    | SA |
| er                                                                                                    | Code   | of Course |            |         |                                    |       |    |
| 1 .                                                                                                   |        | DSC- C1   | Theory     | 3       | Human Nutrition I                  | 40    | 60 |
|                                                                                                       |        | DSC-C2    | Practical  | 2       |                                    | 25    | 25 |
|                                                                                                       |        | DSC-C3    | Theory     | 3       | Human Physiology - I               | 40    | 60 |
|                                                                                                       |        | DSC-C4    | Practical  | 2       |                                    | 25    | 25 |
|                                                                                                       |        | DSC-C5    | Theory     | 3       | Food Science I                     | 40    | 60 |
|                                                                                                       |        | OE-1      | Theory     | 3       | Fundamentals of Food and<br>Health | 40    | 60 |
| II                                                                                                    |        | DSC-C6    | Theory     | 3       | Food Science II                    | 40    | 60 |
|                                                                                                       | 5×)    | DSC-C7    | Practical  | 2       |                                    | 25    | 25 |
|                                                                                                       |        | DSC-C8    | Theory     | 3       | Dietetics - I                      | 40    | 60 |
|                                                                                                       |        | DSC-C9    | Practical  | 2       |                                    | 25    | 25 |
|                                                                                                       |        | DSC-C10   | Theory     | 3       | Human Physiology - II              | 40    | 60 |
|                                                                                                       | ~      | OE-2      | Theory     | 3       | Food safety and hygiene            | 40    | 60 |
| Full antion with Undergraduate Cartificate in Food Nutrition and Diotatics with completion of courses |        |           |            |         |                                    |       |    |

Exit option with Undergraduate Certificate in Food Nutrition and Dietetics with completion of courses equivalent to a minimum of 48 credits, followed by 10-12 credit bridge course(s) for two months, including at-least 6-credit job-specific internship/apprenticeship to acquire job-ready competencies
|               |                      | require        | d to enter                  | the job                                                            |        |          |
|---------------|----------------------|----------------|-----------------------------|--------------------------------------------------------------------|--------|----------|
| 111           | DSC-C11              | Theory         | 3                           | Lifespan Nutrition – I                                             | 40     | 60       |
|               | DSC-C12              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C13              | Theory         | 3                           | Nutritional Biochemistry I                                         | 40     | 60       |
|               | DSC-C14              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C15              | Theory         | 3                           | Human Nutrition - II                                               | 40     | 60       |
|               | OE-3                 | Theory         | 3                           | Nutritional Assessment /<br>Traditional foods and health           | 40     | 60       |
| IV            | DSC-C16              | Theory         | 3                           | Dietetics – II                                                     | 40     | 60       |
|               | DSC-C17              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C18              | Theory         | 3                           | Lifespan Nutrition II                                              | 40     | 60       |
|               | DSC-C19              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C20              | Theory         | 3                           | Quality Control I                                                  | 40     | 60       |
|               | OE-4                 | Theory         | 3                           | Nutrition in weight<br>management / Diet in life style<br>disorder | 40     | 60       |
| at-least 6-cr | edit job-specific in | ternship/appre | enticeship t<br>enter a jol | o acquire job-ready competencie                                    | s requ | lired to |
| V             | DSC-C21              | Theory         | 3                           | Quality Control - II                                               | 40     | 60       |
|               | DSC-C22              | Practical      | 2                           |                                                                    | 25     | 25       |
| -             | DSC-C23              | Theory         | 3                           | Therapeutic Nutrition - I                                          | 40     | 60       |
|               | DSC-C24              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C25              | Theory         | 3                           | Food Microbiology - I                                              | 40     | 60       |
| 9 C           | DSC-C26              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | VOC-1                | Theory         | 3                           | Community Nutrition / Diet<br>Counselling                          | 40     | 60       |
|               | VOC-2                | Theory         | 3                           | Food product development and<br>sensory analysis                   | 40     | 60       |
| VI            | DSC-C27              | Theory         | 3                           | Nutritional Biochemistry II                                        | 40     | 60       |
|               | DSC-C28              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C29              | Theory         | 3                           | Therapeutic Nutrition II                                           | 40     | 60       |
|               | DSC-C30              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | DSC-C31              | Theory         | 3                           | Food Preservation I                                                | 40     | 60       |
|               | DSC-C32              | Practical      | 2                           |                                                                    | 25     | 25       |
|               | VOC-3                | Theory         | 3                           | Functional Foods and<br>Nutraceuticals                             | 40     | 60       |

|                   |                |                                 | Theory                             |                             | Res. Methodology                                                         |                  |                     |
|-------------------|----------------|---------------------------------|------------------------------------|-----------------------------|--------------------------------------------------------------------------|------------------|---------------------|
| Exit op<br>course | otion with Ba  | achelor of Sci<br>132-140 credi | ence Degree, E<br>its), followed b | 3.Sc. in a Fo<br>y 10-12 cr | ood Nutrition and Dietetics (with o<br>edit bridge course(s) for two mon | compl<br>ths, in | etion of<br>cluding |
| at-lea            | st 6-credit jo | ob-specific in                  | ternship/appre                     | enticeship<br>enter a jo    | to acquire job-ready competencie<br>b                                    | s requ           | lired to            |
|                   |                | DSE-E1                          | Theory                             | 3                           | Food Microbiology II                                                     | 40               | 60                  |
| VII               |                | DSE-E2                          | Theory                             | 2                           | Food Service Management                                                  | 40               | 60                  |
|                   |                | DSE-E3                          | Theory                             | 3                           | Food Preservation II                                                     | 40               | 60                  |
|                   |                | DSE-E4                          | Theory                             | 2                           | Foods in Indian Tradition                                                | 40               | 60                  |
|                   | 8              | VOC-4                           | Theory                             | -                           | Diet Counselling                                                         | 40               | 60                  |
|                   | 8              | -                               |                                    |                             | Research Methodology                                                     |                  |                     |
|                   | -<br>          |                                 | Theory                             |                             | Research Proposal*                                                       |                  |                     |
| VIII              |                | DSE-E5                          | Theory                             | 3                           | Public Health Nutrition                                                  | 40               | 60                  |
|                   |                | DSE-E6                          | Theory                             | 3                           | Food packaging                                                           | 40               | 60                  |
|                   | 5              | DSE-E7                          | Theory                             | 3                           | Food Additives and Adulterants                                           | 40               | 60                  |
|                   |                | DSE-E8                          | Theory                             | 3                           | Therapeutic Food Product<br>Development                                  | 40               | 60                  |
|                   |                |                                 |                                    |                             | Research Internship                                                      |                  |                     |
|                   |                |                                 |                                    |                             | Research Project*                                                        |                  |                     |
| Award             | l of Bachelo   | r of Science D<br>com           | begree with Ho<br>apletion of cou  | nours, B.S<br>rses equal    | c. (Hons.) in Food Nutrition and Di<br>to 176-180 credits)               | ietetic          | s (with             |

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\*In lieu of the Research Proposal and Project, three additional elective papers/ Internship/Apprenticeship may be offered.

| Program Name                  | B Sc Food Nutrition and Dietetics      |      | s                       | Semester                     | First Semester |
|-------------------------------|----------------------------------------|------|-------------------------|------------------------------|----------------|
| Course Title                  | Human Nutrition I (Theory + Practical) |      |                         |                              |                |
| Course Code:                  | DSC                                    |      | No. d                   | of Theory +Practical Credits | 3+2            |
| Contact hours                 | 45 hrs                                 |      |                         | Duration of ESA/Exam         | 2 Hours        |
| Formative Assessment Marks 40 |                                        | Sumi | mative Assessment Marks | 60                           |                |

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

- CO 1. Comprehend nutritional classification of food and methods of assessing nutritional status and energy requirements
- CO 2. Understand the functions and sources of nutrients
- CO 3. Apply the knowledge of human nutrition in maintenance of good health for the individual and the community

#### CO 4. Assess the factors affecting availability and requirements of nutrients

|        | Content of Theory | 45 Hrs |
|--------|-------------------|--------|
| Unit–1 |                   | 15     |

Nutritional Status: The relation of good nutrition to normal physical development and sound health. Definitions of the terms – Nutrition, Health, Nutrients, Nutritional status, Malnutrition, RDA. Methods of assessing nutritional status – Population sampling, collection of data on the nutritional adequacy of diet consumes, anthropometric measurements, clinical examination, biochemical assessment. Diet surveys – methods. Energy - Definition of health and nutrition, Definition of calorie and joule, Measurement of calorific values of foods. BasalMetabolic Rate (BMR) - Factors affecting. Specific Dynamic Action (SDA) of foods.

Unit -2

Energy needs of the body. Measurement of energy balance of the body. Direct and indirect calorimetry Calculation of energy requirements. The ideal proportion of calories from protein, carbohydrates and fats Carbohydrates: Classification, Basic structure, chemistry, digestion, absorption, Transport, brief overview of metabolism, functions, sources and requirements

Unit -3

15

15

Proteins: Classification, Structure, chemistry, digestion, absorption, brief overview of metabolism functions, sources and requirements. Essential amino acids, evaluation of proteinquality, Factors affecting bio-availability, supplementation and deficiency state.

Lipids / Fats: Classification, chemistry, digestion, absorption, brief overview of metabolism, functions sources and requirements. Saturated and unsaturated fatty acids and effects of deficiency. Nutritiona significance of SFA, MUFA, PUFA, Omega-3

Pedagogy

| ative Assessment:         |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |

| o" -                 | •        |
|----------------------|----------|
| Assignment / Seminar | 5+5      |
| Project              | 10       |
| Total                | 40 Marks |
|                      |          |

| C   | ourse Title    | Human Nutrition I (Practical)                | Practical Credits | 2          |
|-----|----------------|----------------------------------------------|-------------------|------------|
| 2.4 |                | Content of Practical                         |                   |            |
| 1.  | 0              |                                              | Wei               | ghts and   |
|     | measures –H    | ousehold measures                            |                   |            |
| 2.  |                |                                              | Wei               | ghts and   |
|     | standard me    | asures used in food science laboratory.      |                   |            |
| 3.  |                |                                              | Calc              | ulation of |
|     | mean nutriti   | ve value of food                             |                   |            |
| 4.  |                |                                              | Met               | hods of    |
|     | cooking        |                                              |                   |            |
|     | a.             |                                              | Wat               | er –       |
|     | boilin         | g, steaming, pressure cooking                |                   |            |
|     | b.             |                                              | Oil-              | Shallow    |
|     | frying         | , deep frying                                |                   |            |
| 5.  |                |                                              | Qua               | litative   |
|     | tests for prot | eins                                         |                   |            |
| 6.  | Qua            | ntitative estimation of glucose              |                   | 2<br>.'    |
| 7.  | Esti           | mation of total lipid in egg yolk            |                   |            |
| 8.  | Rec            | ommended Dietary Allowances/Nutritive values |                   |            |

#### Pedagogy

| native Assessment             |                    |
|-------------------------------|--------------------|
| Assessment Occasion/ type     | Weightage in Marks |
| Test 1                        | 05                 |
| Test 2                        | 05                 |
| Practical Record              | 10                 |
| Participation and Involvement | 05                 |
| Total                         | 25 Marks           |

#### References

• WTO Technical Reports Series for Different Nutrients.

Roday S. (2018), Food Science and Nutrition, Oxford University Press

• Srilakshmi B (2015) Nutrition science - 4<sup>th</sup> Ed., New age international Publ., New Delhi

Agarwal A, Udipi SA (2014) Text book of human nutrition, Jaypee Bros. Medical Publ., New Delhi

Raheena Begum., (2009), A Text book of Food, Nutrition & Dietetics, Sterling Publications, New Delhi.

Srilakshmi. B., (2009), Human Nutrition, New Age International Publishers

- Mudambi S R and Rajagopal M V., (2008), Fundamentals of Food, Nutrition and Diet Therapy by New Age International Publishers, New Delhi
- Shills ME, Shike M, Ross AC, Caballero B, Cousins RJ (2005) Modern Nutrition in health and disease 10<sup>th</sup> Ed., Lippincott Williams and Wilkins
- Bamji M, Rao NP, Reddy V (1996) Text book of Human Nutrition, Oxford and IBH Publ. Co. Pvt Ltd, New Delhi
- Gopalan C (1991) Nutrition value of Indian foods, ICMR
- Guthrie AH (1986) Introductory Nutrition, 6<sup>th</sup> Ed., The CV Mosby Company
- Robinson CH, Lawler MR, Chenoweth WL, Garwick AE (1986) Normal and therapeutic nutrition, 17<sup>th</sup> Ed., Macmillan Publ. Co.
- Swaminathan M (1985) Essentials of food and nutrition, Vol I and II, Ganesh and Co, Madras

| Program Name                 | <b>B Sc Food Nutrition and Dietetics</b>  |    | Semester | First Semester               |         |
|------------------------------|-------------------------------------------|----|----------|------------------------------|---------|
| Course Title                 | Human Physiology - I (Theory + Practical) |    |          |                              |         |
| Course Code:                 | DSC                                       |    | No.      | of Theory +Practical Credits | 3+2     |
| Contact hours                | 45 hrs                                    |    |          | Duration of ESA/Exam         | 2 Hours |
| Formative Assessment Marks 4 |                                           | 40 | Sum      | mative Assessment Marks      | 60      |

**Course Outcomes (COs)**: After the successful completion of the course, the student will be able to: CO 1. Understand the homoeostatic status of the human body

CO 2. Comprehend the physiological processes and functions of various vital organs as applicable to human nutrition

CO 3. Apply the knowledge of physiological states to therapeutic diets

CO 4. Assess malfunctioning of vital organs or systems

| Content of Theory |  | - | 45 Hrs |    |
|-------------------|--|---|--------|----|
| Unit-1            |  |   |        | 15 |

Introduction: Cell – structure and function of organelles, nucleus, chromosomes, genes, homoeostasis and body fluids. Blood: Red blood cells – Erythropoiesis, stages of differentiation, function, counts, physiological variation. Hemoglobin – structure, function, concentration, physiological variation. White blood cells – production, function, life span, counts, differential counts. Platelets – origin, normal count, morphology, functions. Plasma proteins – production, concentration, types, albumin, globulin, fibrinogen. Haemostasis and blood coagulation. Haemostasis – definition, normal haemostasis, clotting factors, mechanism of clotting, disorders of clotting factors. Blood Bank - Blood groups – ABO system, Blood grouping and typing, cross matching. Rh system – Rh factor, Rh incompatibility. Blood transfusion – Indication, universal donor and recipient concept. Complications of blood transfusion and cross matching. Selection criteria of a blood donor, transfusion reactions. Anticoagulants – examples and uses. Anaemia – classification – morphological and etiological effects of anaemia on body. Blood indices – colour index, MCH, MCV, MCHC. Erythrocyte sedimentation rate (ESR) and packed cell volume. Blood volume – normal value, determination of blood volume and regulation of blood volume. Lymph – composition and function.

| Unit -2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Cardiovascular system: Heart – physiological anatomy, nerve supply, properties of cardiac cardiac cycle – systole, diastole, conduction system. Cardiac output. Heart sounds: Norma sounds, areas of auscultation. Blood pressure – Definition, normal value, clinical measurem blood pressure. Physiological variations, regulation of heart rate, cardiac shock, hypoth hypertension. Electrocardiogram (ECG) – significance, coronary, cerebral circulation and corcirculation.<br>Respiratory System: Function of respiratory system - physiological anatomy of respiratory respiratory tract, respiratory muscles, respiratory organs – lungs, alveoli, respiratory membrane of respiration. Mechanism of normal and rigorous respiration, intra pulmonary pleural presurace tension. Transportation of respiratory gases: Transportation of O2: direction, p gradient, forms of transportation, oxygenation of haemoglobin, quantity of O2 transported | muscle,<br>al heart<br>nent of<br>ension,<br>apillary<br>system,<br>stages<br>ressure,<br>ressure<br>d. Lung |
| regulation, respiratory centre. Hypoxia, cyanosis, asphyxia, dyspnoea, dysbarism, artificial resp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | nemical<br>iration                                                                                           |
| apnoea                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | nution,                                                                                                      |
| Unit -3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15                                                                                                           |
| Digestive System: Physiological anatomy of gastro-intestinal tract, functions of digestive s<br>Salivary glands – structure and functions, deglutition, mastication – stages and regulation of<br>functions of saliva. Stomach – structure and functions. Gastric secretion – composition, fu<br>regulation of gastric juice secretion. Pancreas – structure, function, composition and regula                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | system.<br>saliva,<br>inction,<br>ition of                                                                   |

pancreatic juice. Liver – functions of liver. Bile secretion - composition, function, regulation of bile secretion, bilirubin metabolism, types of bilirubin, jaundice – types, significance. Gall bladder – functions. Intestine – small intestine and large intestine. Small intestine - functions, digestion, absorption, movements. Large intestine – functions, digestion and absorption of carbohydrates, proteins, fats, lipids. Defecation

#### Pedagogy

| Formative Assessment:     |                    |   |
|---------------------------|--------------------|---|
| Assessment Occasion/ type | Weightage in Marks | E |
| Test 1                    | 10                 |   |
| Test 2                    | 10                 |   |
| Assignment / Seminar      | 5+5                |   |
| Project                   | 10                 |   |
| Total                     | 40 Marks           |   |

| Course Title       | Human Physiology I (Practical)               | Practical Credits              | 2        |
|--------------------|----------------------------------------------|--------------------------------|----------|
|                    | Content of Practical                         |                                |          |
| 1. Record of of BP | blood pressure – Sphygmomanometer, palpatory | method, auscultatory method, v | ariation |
| 2. Haemoglo        | bin estimation by Sahli's method             |                                |          |
| 3. Blood grou      | uping by agglutination method                |                                |          |

9

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- 4. Histology of Cartilage, bone, adipose tissue, skin, muscle
- 5. Microscope and its uses
- 6. Histology of epithelial, connective, muscular and nervous tissues.
- 7. Enumeration of RBC and WBC count by hemocytometry/Neubauer's counting chamber
- 8. Determination of Bleeding Time (BT) by Duke's method
- 9. Determination of Coagulation Time (CT) by Wright's method
- 10. Urine Analysis Albumin
- 11. Urine Analysis Glucose Test
- 12. Instruments used in haematology

#### Pedagogy

| Assessment Occasion/ type     | Weightage in Marks |
|-------------------------------|--------------------|
| Test 1                        | 05                 |
| Test 2                        | 05                 |
| Practical Record              | 10                 |
| Participation and Involvement | 05                 |
| Total                         | 25 Marks           |

# References Jain NA (2022) CC Chatterjee's Human Physiology, 24<sup>th</sup> Ed., CBS Publishers, New Delhi Stuart IF, Rompolski K. (2018) Human Physiology, 15<sup>th</sup> Ed., McGraw Hill Marieb E, Hoehn K. (2018) Human Anatomy and Physiology, Pearson

- Chatterjee CC (2016), Human Physiology Volume I, Medical Allied Agency, Kolkata
- Jain A K (2012) Text Book of Physiology volume 1 and Vol.2, APC publications New Delhi
- Sembulingam K, Sembulingam P (2012) Essentials of medical physiology, Jaypee Bros. Medical Publ., New Delhi
- Chatterjee CC (1988) Human Physiology, Calcutta, WB
- Guyton AC, Hall JE (1996): Textbook of Medical Physiology, 9th Ed., Prism Books Pvt Ltd., Bangalore
- Wilson (1989) Anatomy and Physiology in Health and Illness, Edinburgh Churchill Livingstone

| Program Name                  | B Sc Food Nu            | Food Nutrition and Dietetics |                              | Semester       | First Semester |
|-------------------------------|-------------------------|------------------------------|------------------------------|----------------|----------------|
| Course Title                  | Food Science I (Theory) |                              |                              |                |                |
| Course Code:                  | DSC                     |                              |                              | No. of Credits | 3              |
| Contact hours                 | 45 hrs                  |                              | Duration of ESA/Exam 2 Hours |                | 2 Hours        |
| Formative Assessment Marks 40 |                         | Sum                          | mative Assessment Marks      | 60             |                |

#### Course Outcomes:

After the successful completion of the course, the student will be able to:

- CO 1. Understand factors to be considered during selection of basic commodities, raw andprocessed and various aspects of their products and distribution
- CO 2. Comprehend the principles underlying changes in overall quality of food characteristics during cooking.
- CO 3. Evaluate food products based on their quality characteristics
- CO 4. Assess methods and media of cooking, nutritive value and processing, storage, preservation of both plant and animal-based food

|        | Content of Theory | 45 Hrs |
|--------|-------------------|--------|
| Unit-1 |                   | 15     |
|        |                   |        |

Introduction to food science. Definition of food science. Food as a source of nutrients. Food groups: ICMF Five Food Group System. Eleven Food Group System. Nutritional Classification of foods. Cooking advantages of cooking. Methods of cooking: Moist heat methods – Water/steam as a media of cooking Boiling, simmering, poaching, stewing, steaming and pressure cooking – definition, advantages and disadvantages of each method. Dry heat method. Air as a media of cooking - grilling, roasting and baking Fat as media of cooking – stir frying, sautéing, shallow and deep fat frying. Definition, advantages and disadvantages of each method. Combination of cooking methods – braising. Microwave cooking – mechanism of microwave cooking, construction of a microwave oven, advantages and disadvantages

#### Unit -2

15

Cereals: Structure of a cereal grain. Composition and nutritive value of cereal grain. Specific cereals – nutritive value, composition and milling of rice and wheat. Parboiling – processes for parboiling, its advantages and disadvantages. Cereal protein gluten – process of gluten formation, factors that affect gluten formation. Characteristics of cereal starch – Amylose and Amylopectin. Effect of moist heat Gelatinization of starch – process of gelatinisation, gelatinisation temperature, factors affecting gelatinisation. Changes in cooked starches – gel formation, retrogradation, syneresis. Modified starch Pulses, nuts, oilseeds and oils: Nutritive value and composition of pulses, nuts, oil seeds, fats and oils Processing of pulses – effects of decortication, soaking, germination, fermentation, parching and puffing extrusion. Toxic constituents of pulses. Pulse cookery – effect of cooking, factors that affect cooking quality

#### Unit -3

15

. Processing of nuts and oil seeds. Specific nuts and oilseeds – groundnuts, coconut. Types of fats and oils Vegetable oil – coconut, groundnut, sunflower and soybean. Animal fats – lard, margarine and butter Processing of fats and oils – rendering, pressing, solvent extraction, hydrogenation and refining. Changes during cooking – effect of heating, changes in fat on heating. Storage, spoilage, rancidity. Role of fats and oils in cookery

Fruits: Classification of fruits and nutritive value. Post harvest changes and storage. Pectin substances Ripening of fruits. Enzymatic and non-enzymatic browning, prevention of enzymatic browning. Vegetables Classification, nutritive value and composition. Pigments – water insoluble and soluble. Organic acids enzymes, flavour compounds, bitter compounds. Vegetable cookery: Preliminary preparation – washing peeling and blanching. Changes during cooking – oxidation, chemical composition, water content and cellulose. Role of nutrients – mechanical losses, solvent action of water, oxidation and chemica composition. Enzymes and non-enzymatic browning, its prevention. Flavor compounds

| edagogy                   |                    |
|---------------------------|--------------------|
| Formative Assessment:     |                    |
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment / Seminar      | 5+5                |
| Project                   | 10                 |
| Total                     | 40 Marks           |
|                           |                    |

| Re | eferences                                                                                                                                                                                                                                                                                           |                         |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|    |                                                                                                                                                                                                                                                                                                     | Apenten R,              |
|    | Vieira E. (2022) Elementary food science, Springer.                                                                                                                                                                                                                                                 | Srilakshmi B.           |
|    | (2020) Food Science, New Age International Publishers.                                                                                                                                                                                                                                              | Sharma A.               |
|    | (2017) Food Science and Technology, CBS Publishers and Distributors                                                                                                                                                                                                                                 | Ward DJ.                |
|    | (2013) Principles of food science, Goodheart-Wilcox.                                                                                                                                                                                                                                                | Manay NS,               |
| •  | Shadaksharaswamy M (2010) Foods - Facts and principles, New Age International Publ.,<br>Roseville LJ, Viera ER (1992) Elementary food science, 3 <sup>rd</sup> Ed., Chapman and Hall, New Y<br>Potter NN, Hotchkiss JH (1988) Food Science, 5 <sup>th</sup> Ed, CBS Publisher and Distributors, Del | New Delhi<br>ork<br>hi  |
| •  | Food commodities, Heinemann Ltd., London<br>Charley H (1982) Food Science, 2 <sup>nd</sup> Ed., John Wiley and Sons.                                                                                                                                                                                | Levies (1988)           |
| •  | Bailey A (1980) The Book of ingredients, Dorling Kindersley Ltd., London                                                                                                                                                                                                                            | Dowell P,<br>Hughes and |
|    | Bennijon M (1970) Introductory Foods, Macmillan and Co, New York                                                                                                                                                                                                                                    |                         |

| Program Name    | B Sc Food Nutrition and Dieteti      |    | cs Semester                | Second Semester |
|-----------------|--------------------------------------|----|----------------------------|-----------------|
| Course Title    | Food Science II (Theory + Practical) |    |                            |                 |
| Course Code:    | DSC                                  |    | No. of Credits 3+2         |                 |
| Contact hours   | 45 hrs                               |    | Duration of ESA/Exam       | 2 Hours         |
| Formative Asses | sment Marks                          | 40 | Summative Assessment Marks | 60              |

#### Course Outcomes:

After the successful completion of the course, the student will be able to:

- CO 1. Understand methods used in processing of milk and milk products
- CO 2. Assess the nutritional qualities of egg and changes in characteristics during cooking.
- CO 3. Evaluate composition of meat, processing and storage
- CO 4. Enumerate the nutritive value of eggs, fish and the use of major spices in processing

|        | Content of Theory | 45 | 5 Hrs |
|--------|-------------------|----|-------|
| Unit–1 |                   |    | 15    |

Milk and milk products: Composition and nutritive value. Physical properties of milk. Effect of heat on mill constituents – nutrients, colour, flavour, digestibility, microorganisms, scum formation, scorching of milk Processing of milk – clarification, pasteurization and homogenization. Preparation of cheese, butter, curd and ice cream. Problems encountered in cooking milk. Milk products – Vitamin D milk, skim milk concentrated milk and cream

15

15

Unit -2

Egg: Structure and nutritive value. Composition – egg white and egg yolk proteins. Pigments in egg shell white and yolk. Vegetarian egg. Egg quality – evaluation of egg quality, egg grading and deterioration of egg quality. Egg beating and factors affecting foaming. Egg cookery – Effects of heat and coagulation of egg proteins, microorganisms, effect of ingredients on egg protein. Egg prepared in the shell – boiled eggs – hard and soft. Egg prepared out of the shell – poached egg, fried egg, scrambled egg and omelette Products based on egg as thickening agent – Custard. Products based on egg as emulsifying agent – Meringues. Preservation – freezing, cold storage, drying. Storage of egg

| U | n | It | -3 |  |
|---|---|----|----|--|
|   |   |    |    |  |

Meat: Structure, composition and nutritive value of meat. Classes of meat. Gelatin. Cuts and grades o meat and their selection. Post mortem changes, storage and changes during cooking. Ageing of meat and curing of meat. Factors affecting tenderness of meat. Meat cookery and changes during cooking, methods of cooking – dry heat and moist heat.

Poultry, fish and spices: Classification and nutritive value. Processing and preservation. Selection and storage. Methods of cooking poultry and fish cookery. Spoilage of fish.

Spices and condiments – Composition, flavouring extracts, adulteration and medicinal values. Processing and uses of major spices – Pepper (white and green), cardamom, ginger and turmeric

Pedagogy

Formative Assessment:

| Assessment Occasion/ type | Weightage in Marks |
|---------------------------|--------------------|
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment / Seminar      | 5+5                |
| Project                   | 10                 |
| Total                     | 40 Marks           |

| С  | ourse Title | Food Science II (Practical)                                |               | Practical Credits     | 2      |
|----|-------------|------------------------------------------------------------|---------------|-----------------------|--------|
|    |             | Content of Practical                                       |               |                       |        |
| 1  | Food gro    | ups - Methods of measuring ingredients                     |               |                       |        |
| 2. | Determin    | nation of the percentage of edible portion                 |               |                       |        |
| 3. | Cereal co   | ookery: Methods of cooking fine and coarse cereals, Pre    | eparation o   | f selected Indian ce  | ereal  |
|    | recipes.    |                                                            |               |                       |        |
| 4. | Pulses co   | pokery: Cooking of soaked and raw pulses - Effects of a    | dding salt, a | acid and alkali on co | ooking |
|    | Preparat    | ion of selected common recipes.                            |               |                       |        |
| 5. | Vegetabl    | les and fruits: Browning reaction, Effect of acid and alka | ali, Prepara  | tion of selected co   | mmon   |
|    | recipe      |                                                            |               |                       |        |
| 6. |             | Fats and oils - Smoking point, Preparation of common       | recipes       |                       |        |
| 7. |             | Milk cookery - Experimental cookery on milk, Common        | n preparatio  | ons with milk, chee   | seand  |
|    | curds       |                                                            |               |                       |        |
| 8. |             | Egg cookery - Evaluation of fresh egg.                     |               |                       |        |
| 9. |             | Experimental cookery – boiled egg, poached egg,omel        | ette and cu   | istard. Preparation   | of     |

selected common recipes with milk

#### Pedagogy

| Weightage in Marks |                                                        |
|--------------------|--------------------------------------------------------|
| 05                 |                                                        |
| 05                 |                                                        |
| 10                 | 1943 19                                                |
| 05                 |                                                        |
| 25 Marks           |                                                        |
|                    | Weightage in Marks<br>05<br>05<br>10<br>05<br>25 Marks |

#### References

Manay NS,

Shadaksharaswamy M (2010) Foods - Facts and principles, New Age International Publ., New Delhi Roseville LJ,

|   | Viera ER (1992) Elementary food science, 3 <sup>rd</sup> Ed., Chapman and Hall, New York     |               |
|---|----------------------------------------------------------------------------------------------|---------------|
| • | Hotchkiss JH (1988) Food Science, 5 <sup>th</sup> Ed., CBS Publisher and Distributors, Delhi | Potter NN,    |
| • | (1982) Food Science, 2 <sup>nd</sup> Ed., John Wiley and Sons.                               | Charley H.    |
|   | Food commodities, Heinemann Ltd., London                                                     | Levies (1988) |
|   | Benniion M (1970) Introductory Foods, Macmillan and Co, New York                             | Hughes and    |
|   |                                                                                              | Dowell P,     |
|   | Bailey A (1980) The Book of ingredients, Dorling Kindersley Ltd., London                     |               |

| Program Name                  | B Sc Food Nutrition and Dietetics |     | CS                      | Semester                     | Second Semester |
|-------------------------------|-----------------------------------|-----|-------------------------|------------------------------|-----------------|
| Course Title                  | Dietetics - I (1                  |     |                         |                              |                 |
| Course Code:                  | DSC                               |     | No.                     | of Theory +Practical Credits | 3+2             |
| Contact hours                 | 45 hrs                            | -   |                         | Duration of ESA/Exam         | 2 Hours         |
| Formative Assessment Marks 40 |                                   | Sum | mative Assessment Marks | 60                           |                 |

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

CO 1. Know the principles of diet therapy

CO 2. Understand the modifications of normal diet for therapeutic purposes

- CO 3. Learn the role of a registered dietician
- CO 4. Identify the roles of others who collaborate in delivery of food and nutrition services

|        | 45 Hrs |    |
|--------|--------|----|
| Unit–1 |        | 15 |
| C      |        |    |

Definition of dietetics, clinical dietetics, objectives of dietetics, Growth and scope of dietetics, Characteristics and role of dietician in health care, classification of dietitian, characteristics of a dietitian, objectives of diet therapy. Hospital Dietary services- role and functions. Routine hospital diets: Liquid diet, semi-solid, regular and bland diet. Modification of normaldiets. Types of feeding - oral feeding and tube feeding - enteral and parental

Unit -2

Diets in obesity and underweight: Obesity - Etiology, assessment, types. Regional distribution of fat in the body. Metabolic changes in obesity. Modification, dietary treatment. Nutritional requirements. Diet management – objectives, macronutrients, micronutrients, general considerations, foods allowed/not allowed. Under weight - Aetiology, Symptoms and complications, Dietary management - objectives macronutrients, micronutrients, general considerations, foods allowed Unit -3

15

Diet in infections and febrile conditions: Fever: Development, types and metabolic changes. Acute and chronic fevers. Causes and dietary management of typhoid, influenza, malaria, tuberculosis. Dietary management of all fevers - objectives, macronutrients, micronutrients, general considerations, foods allowed/ not allowed. Chronic infection- HIV (Human Immunodeficiency Virus) infection and AIDS (Acquired Immune Deficiency Syndrome). Stages of HIV infection. Aetiology, diagnosis. Malnutrition and

AIDS: Dietary management -objectives, macronutrients, micronutrients, general considerations

#### Pedagogy

| Assessment Occasion/ type | Weightage in Marks |
|---------------------------|--------------------|
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment / Seminar      | 5+5                |
| Project                   | 10                 |
| Total                     | 40 Marks           |

| Course Title |        | tle      | Dietetics - I (Practical) |                |              | Practical Cre   | dits | 2 |  |
|--------------|--------|----------|---------------------------|----------------|--------------|-----------------|------|---|--|
| -            |        |          |                           | Сог            | ntent of Pra | ctical          |      |   |  |
| Pla          | anning | preparir | g and calculati           | ng the followi | ng diets (Tw | o case studies) |      |   |  |
| 1            |        | Fluid    | diets                     | 0              | 0            |                 |      |   |  |
| 1            | a.     | Clear    | fluid                     |                |              |                 |      |   |  |
|              | b.     | Fuli f   | luid                      |                |              |                 |      |   |  |
|              | с.     | Tube     | feeding                   |                |              |                 |      |   |  |
| 2.           |        | Obes     | ity                       |                |              |                 |      |   |  |
|              | a.     | Child    | hood obesity/c            | verweight      |              |                 |      |   |  |
|              | b.     | Adul     | thood obesity/o           | overweight     |              |                 |      |   |  |
| 3.           |        | Unde     | erweight.                 |                |              |                 |      |   |  |
|              | a.     | Child    | hood                      |                |              |                 |      |   |  |
|              | b.     | Adul     | thood                     |                |              |                 |      |   |  |
| 4.           |        | Febr     | ile conditions            |                |              |                 |      |   |  |
|              | a.     | Gene     | eral fevers               |                |              |                 |      |   |  |
|              | b.     | Typh     | oid                       |                |              |                 |      |   |  |
|              | с.     | Tube     | rculosis                  |                |              |                 |      |   |  |
|              |        |          |                           |                |              |                 |      |   |  |

| Formative Assessment      |                    |      |
|---------------------------|--------------------|------|
| Formative Assessment      |                    | 1211 |
| Assessment Occasion/ type | Weightage in Marks |      |
| Test 1                    | 05                 |      |
| Test 2                    | 05                 |      |

| · t <sub>o</sub>              | 5. 5 ° ° ° ° ° |
|-------------------------------|----------------|
| Practical Record              | 10             |
| Participation and Involvement | 05             |
| Total                         | 25 Marks       |

#### References

- Srilakshmi B (2011) Dietetics, 6<sup>th</sup> Ed., New Age International Publ., New Delhi
- Joshi SA, (1992) Nutrition and dietetics, Tata McGraw Hill Publications, New Delhi
- Raheen Begum (1989) A textbook of foods, nutrition and dietetics, Sterling Publ., Delhi
- Anderson L, Dibble MV, Turkki PR, Mitchall HS, Rynbergin HJ (1982) Nutrition in health and disease, 17<sup>th</sup> Ed., JB Lippincott and Co., Philadelphia
- Antia FP (1973) Clinical dietetics and nutrition, 2<sup>nd</sup> Ed, Oxford Univ. Press, Delhi Williams SR (1989) Nutrition and diet therapy, 6<sup>th</sup> Ed, Time, Mirror, Mosby College Publ.

| Program Name                  | B Sc Food Nutrition and Dietetie |    | cs Semester                  | Second Semester |
|-------------------------------|----------------------------------|----|------------------------------|-----------------|
| Course Title                  | Human Physiology - II            |    |                              |                 |
| Course Code:                  | DSC                              |    | No. of Credits               | 3               |
| Contact hours                 | 45 hrs                           |    | Duration of ESA/Exam 2 Hours |                 |
| Formative Assessment Marks 40 |                                  | 40 | Summative Assessment Marks   | 60              |

#### Course Pre-requisite(s): Certificate with minimum 45%

#### Course Outcomes:

After the successful completion of the course, the student will be able to:

- CO 1. Understand the role played by hormones in metabolism and associated disorders.
- CO 2. Comprehend the structure and function of neuromuscular systems and disorders
- CO 3. Understand excretory physiology and its importance in nutrient retention
- CO 4. Differentiate between male and female reproductive physiology and changes due to pregnancy and lactation

|        | Content of Theory | 45 Hrs |
|--------|-------------------|--------|
| Unit–1 |                   | 15     |

Endocrine System: Definition, classification of endocrine glands and their hormones, properties of hormones. Thyroid gland hormones – regulation of secretion. Disorders – hypo and hypersecretion of hormone. Adrenal gland - physiological anatomy. Adrenal cortex, cortical hormones – functions and regulation. Adrenal medulla – hormones, regulation and secretion. Functions of adrenaline and nor-adrenalin. Pituitary hormones – anterior and posterior pituitary hormones, secretion, function. Pancreas – hormones of pancreas. Insulin – secretion, regulation, function and action. Diabetes mellitus – regulation of blood glucose level. Parathyroid gland – function, action, regulation of secretion of parathyroid hormone. Calcitonin – function, action, Ca metabolism and hormone regulating Ca metabolism.

Reproductive system and puberty. Male reproductive system - functions of testis, spermatogenesis, spermiogenesis - stages, factors influencing semen, endocrine functions of testis. Androgens - Testosterone - structure and functions. Female reproductive system - ovulation, menstrual cycle, physiological changes during pregnancy, pregnancy test. Lactation: Composition of milk factors

### controlling lactation. Contraception

#### Unit -2

Neuro-muscular system: Vision – function of different parts of eye, light reflex, refractive errors, colour blindness, night blindness, accommodation. Hearing –function of ear, deafness, vestibular apparatus. Taste buds – functions, smell physiology, receptors. Nervous system: Functions of nervous system, neuron structure, classification and properties, neuroglia. Nerve fibre, classification, conduction of impulses, factors affecting conduction. Synapse - structure, types, properties. Receptors - definition, classification, properties. Reflex action - reflex arc, properties of reflex action. Spinal cord nerve tracts - function. Functions of medulla, pons, hypothalamus. Cerebral cortex, lobes and functions, sensory cortex, motor cortex. Cerebellum - functions. Basal ganglia - functions, EEG, Parkinson's disease. Cerebro Spinal Fluid (CSF) - formation, circulation, properties, composition and functions, lumbar puncture, sleep, types of sleep. Muscle nerve physiology: Classification of muscle, structure of skeletal muscle, sarcomere, contractile proteins. Neuromuscular junction, transmission across neuromuscular junction, excitation contraction coupling. Mechanism of muscle contraction muscle tone, fatigue. Rigor mortis, isometric and isotonic concentration. Autonomic nervous system: Sympathetic and parasympathetic distribution and functions.

#### Unit -3

Excretory system: Excertory organs - Kidney: function, structural and functional unit - nephrons, vasarecta, cortical and juxtamedullary nephrons - comparison, juxtaglomerular apparatus - structure and function. Renal circulation peculiarities. Mechanism of urine formation – ultrafiltration, criteria for filtration, GFR, plasma fraction, determination of GFR. Selective reabsorption - sites of reabsorption, substance reabsorbed, mechanisms of reabsorption. Tubular secretion, properties and composition of normal urine output. Abnormal constituents of urine. Counter-current mechanisms: micturition, innervations of bladder, cystourethrogram. Diuretics: water, diuretics, osmotic diuretics, artificial

kidney, renal function tests Skin - function. Body temperature measurement, physiological variation, regulation of body temperature by physical, chemical and nervous mechanisms. Hypothermia and fever.

#### Pedagogy

| rmative Assessment:       |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment / Seminar      | 5+5                |
| Project                   | 10                 |
| Total                     | 40 Marks           |

#### References

Jain NA (2022) CC Chatterjee's Human Physiology, 24<sup>th</sup> Ed., CBS Publishers, New Delhi Chatterjee CC (2016), Human Physiology Volume I, Medical Allied Agency, Kolkata 15

#### 15

| • | Jain A K (2012) Text Book of Physiology volume 1 and Vol.2, APC publications New Delhi |               |
|---|----------------------------------------------------------------------------------------|---------------|
| • | K, Sembulingam P (2012) Essentials of medical physiology, Jaypee Publ                  | Sembulingam   |
| • |                                                                                        | Guyton AC,    |
|   | Hall JE (1996) Textbook of Medical Physiology, 9th Ed., Prism Books Pvt Ltd.,Bangalore |               |
| • | Anatomy and Physiology in Health and Illness, Edinburgh Churchill Livingstone          | Wilson (1989) |
| , | (1988) Human Physiology, Calcutta, WB                                                  | Chatterjee CC |
|   |                                                                                        | 54 D          |

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| Program Name B Sc Food Nutrition and Dietetics |                                            | Semester | Third Semester |                              |         |
|------------------------------------------------|--------------------------------------------|----------|----------------|------------------------------|---------|
| Course Title                                   | Life Span Nutrition I (Theory + Practical) |          |                | 1)                           |         |
| Course Code:                                   | DSC                                        |          | No.            | of Theory +Practical Credits | 3+2     |
| Contact hours                                  | s 45 hrs                                   |          |                | Duration of ESA/Exam         | 2 Hours |
| Formative Assessment Marks                     |                                            | 40       | Sum            | mative Assessment Marks      | 60      |

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

- CO 1. Comprehend the concept of a balanced diet
- CO 2. Understand the role of nutrition in growth and development processes from birth till adolescence
- CO 3. Formulate nutritional needs of people at different stages of growth
- CO 4. Formulate diets for various nutrition-related health conditions

| Content of Theory | 45 Hrs |
|-------------------|--------|
| Unit–1            | 15     |

Basic principles of meal planning: Explanation of terms: Health, RDA, Adequate intake, Balanced diet. Food exchange list, food guide pyramid. Vegetarian diets - classification of vegetarianism. Quality of various nutrients - proteins, fats, minerals, vitamins, fibres and antioxidants. Principles of planning meals. Factors affecting meal planning

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| U | n | it | -2 |
|---|---|----|----|
| 9 |   |    |    |

Nutrition during infancy: Growth and development. Use of growth chart to monitor development Advantages of breast feeding. Nutrition factors of human milk. Difference between human and anima milk. Artificial feeding. Factors to be considered in bottle feeding. Feeding problems. Nutritiona requirements. Weaning: Need and use. Points to be considered in introducing weaning foods. Problems ir weaning. Types of supplementary foods

Unit -3

Nutritional needs for children: Pre School - Factors to be considered in planning meals for preschoo children. Factors affecting nutritional status. Pica. Dietary guidelines. Nutritional requirements. Diet planning

School children - Meal planning for school children. Feeding problems. School lunch programmes. Factors affecting feeding programmes. Nutritional requirements.

Nutritional needs for adolescents: Special needs for girls during menarche - Food habits. Dietary guidelines Nutritional problems- obesity, eating disorder, osteoporosis, anaemia, under nutrition, premenstrua syndrome, PCOD. Nutritional requirements.

#### Pedagogy

| Formative Assessment:     |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |

|                      | · 5°     |
|----------------------|----------|
| Test 1               | 10       |
| Test 2               | 10       |
| Assignment / Seminar | 5+5      |
| Project              | 10       |
| Total                | 40 Marks |

| Course Title     | Life Span Nutrition I (Practical)                  | Practical Credits 2        |  |
|------------------|----------------------------------------------------|----------------------------|--|
|                  | Content of Practical                               |                            |  |
| Planning, prepa  | ring and calculating the major nutrients of the fo | llowing (Two planned diets |  |
| with different a | ge groups)                                         |                            |  |
| 1. Nutritive Re  | cipes for weaning                                  |                            |  |
| 2. Diet plannir  | ng for Infancy- 6-8 months and 9-12 months         |                            |  |
| 3. Use and inte  | erpretation of Growth Charts- WHO Growth Char      | ts                         |  |
| 4. Diet plannir  | ng for Toddlers- (1-3 years)                       |                            |  |
| 5. Diet plannir  | ng for Preschool Child- (4-6 years)                |                            |  |
| 6. Diet plannir  | g for School going Child-(7-9 years and 10-12 yea  | ars)                       |  |
| 7. Nutritive Re  | cipes for snacks and packed lunches                |                            |  |
| 8 Die            | et planning for Adolescents (13-15 years and 16-1  | 18 years)                  |  |

#### Pedagogy

| Formative Assessment          |                    |
|-------------------------------|--------------------|
| Assessment Occasion/ type     | Weightage in Marks |
| Test 1                        | 05                 |
| Test 2                        | 05                 |
| Practical Record              | 10                 |
| Participation and Involvement | 05                 |
| Total                         | 25 Marks           |

| Ref | erences |  |
|-----|---------|--|
|-----|---------|--|

- Elizabeth, K. E. (2022). Nutrition and child development,6<sup>th</sup> Ed., Paras Medical Publisher, Hyderabad.
- Joshi AS. (2021). Nutrition and Dietetics, 5<sup>th</sup> Ed. McGraw Hill, Noida
- Srilashmi B. (2019). Dietetics, 8<sup>th</sup> Ed., New Age International Publishers., New Delhi
- Mudambi SR, Rajgopal MV. (2020). Fundamentals Of Foods, Nutrition And Diet Therapy, 6<sup>th</sup> Ed.,New Age International Publishers., New Delhi
- Agarwal A, Udipi SA. (2013). Textbook Of Human Nutrition., 1st Ed., Jaypee Brothers Medical Publishers, New Delhi
- Mahan K L, Escott-Stump S (2012) Krause's Food and the Nutrition Care Process, 13<sup>th</sup> Ed., Elsevier,

|   | Missouri                                                                                 | Mclaren DS,  |
|---|------------------------------------------------------------------------------------------|--------------|
| - | Meguid MM (1998) Nutrition and its disorders, Churchill Livingstone                      | Gopalan C    |
| • | (1993) Recent trends in nutrition, 9 <sup>th</sup> Ed., Oxford Univ. Press               | Ghosh (1992) |
| • | The feeding and care of infants and young children, VHAI, 6 <sup>th</sup> Ed., New Delhi | Guaminathan  |
| • | M (1985) Essentials of food and nutrition, Vol I and II, Ganesh and Co, Madras           | Swaminathan  |
| • |                                                                                          | WHO (1978) A |

growth chart for international use in maternal and child health care, Geneva

| Program Name   | B Sc Food Nutrition and Dietetics |            | Semester        | Third Semester               |         |
|----------------|-----------------------------------|------------|-----------------|------------------------------|---------|
| Course Title   | Nutritional B                     | iochemistr | y I (Theory + P | ractical)                    |         |
| Course Code:   | DSC                               |            | No.             | of Theory +Practical Credits | 3+2     |
| Contact hours  | 45 hrs                            |            |                 | Duration of ESA/Exam         | 2 Hours |
| Formative Asse | ssment Marks                      | 40         | Sum             | mative Assessment Marks      | 60      |

#### Course Pre-requisite(s): Certificate with minimum 45%

**Course Outcomes (COs)**: After the successful completion of the course, the student will be able to: CO 1. Understand the principles of biochemistry (as applicable to human nutrition).

CO 2. Obtain an insight into the chemistry of major nutrients and physiologically important compounds.

- CO 3. Comprehend the biological processes and systems as applicable to human nutrition.
- CO 4. Apply the knowledge acquired to human nutrition and dietetics

|        |   | Content of Theory | 45 Hrs |
|--------|---|-------------------|--------|
| Unit-1 | 2 |                   | 15     |

Carbohydrates: Nomenclature, Classification of carbohydrates – monosaccharides, oligosaccharides polysaccharides – examples and structure. Metabolism – Glycolysis, TCA cycle, HMP Shunt, Glycogenesis Glycogenolysis. Carbohydrate digestion and absorption. Importance of carbohydrates. Biological oxidatior and enzymes: Compounds of ETC, mechanism, oxidative phosphorylation, high energy phosphate – ATP ADP cycle and energy conservation.

15

15

#### Unit -2

Lipids: Nomenclature, Classification of simple lipids – fats, oils, waxes. Complex lipids – phospholipids glycolipids. Derived lipids – steroids, terpenes, carotenoids with examples, structure and function Digestion and absorption. Fatty acids – classification – essential and non-essential fatty acids, examples properties, functions. Metabolism –  $\beta$ -oxidation of saturated fatty acids. Biosynthesis and catabolism of cholesterol

Unit -3

Enzymes: Definition, nomenclature, types and classification of enzymes. Active site. Definition, types or coenzymes, specificity of enzymes. Isoenzymes, enzyme kinetics, factors affecting velocity of enzymes catalysed reactions. Regulation of enzyme activity, enzyme inhibition

| Pedagogy                  |                    |  |
|---------------------------|--------------------|--|
| Formative Assessment:     |                    |  |
| Assessment Occasion/ type | Weightage in Marks |  |
| Test 1                    | 10                 |  |
| Test 2                    | 10                 |  |
| Assignment / Seminar      | 5+5                |  |
| Project                   | 10                 |  |
| Total                     | 40 Marks           |  |

| Course Title | Nutritional Biochemistry - I (Practical)                       | Practical Credits | 2 |
|--------------|----------------------------------------------------------------|-------------------|---|
|              | Content of Practical                                           |                   |   |
| . Qua        | alitative analysis for carbohydrates - Glucose, Fructose,      | Maltose, Lactose, |   |
| Sucrose,Star | ch and Galactose                                               |                   |   |
| 2. Qua       | antitative analysis in blood and serum - Blood glucose         |                   |   |
| 3. Qua       | antitative analysis in blood and serum - Cholesterol           |                   |   |
| 1. Qui       | antitative analysis in blood and serum - Urea                  |                   |   |
| 5. Enz       | ymes – effect of pH on human salivary $\alpha$ -amylase activi | ty                |   |
| ó. Qu        | alitative test for minerals                                    |                   |   |
| 7. Qu        | antitative estimation of Ascorbic acid using any two diff      | erent samples     |   |
| 3. Pre       | paration of ash solution                                       |                   |   |
| ). Qu        | antitative estimation of Calcium using any two different       | samples           |   |
| 10. Qu       | antitative estimation of Phosphorus using any two diffe        | rent samples      |   |
| 11. Qu       | antitative estimation of Iron using any two different san      | nples             |   |
| 12. Est      | mation of Calcium from types of milk                           |                   |   |

Pedagogy

| Formative Assessment      |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 05                 |
| Test 2                    | 05                 |
| Practical Record          | 10                 |

| Participation and Involvement | 05       |
|-------------------------------|----------|
| Total                         | 25 Marks |

| References                                                                                           |                 |
|------------------------------------------------------------------------------------------------------|-----------------|
|                                                                                                      | Sathyanaraya    |
| na U, Chakrapani U. (2021) Biochemistry, Elsevier, Gurgaon                                           | Jain JL (2012), |
| Fundamentals of Biochemistry, S. Chand and Company Ltd.                                              | Das, D (2005)   |
| Biochemistry, 12 <sup>th</sup> Ed., Academic Publishers, Kolkata                                     | Strver L (1995) |
| Biochemistry, Freeman WH and Co.                                                                     | -               |
|                                                                                                      | West ES, Todd   |
| WR, Mason HS, Van Bruggen JT (1974) Text book of Biochemistry, 4 <sup>th</sup> Ed., Amerind Publ.    | Co. Pvt. Ltd.,  |
|                                                                                                      | Lehninger AL,   |
| Nelson DL, Cox MM (1993) Principles of Bio Chemistry, 2 <sup>nd</sup> Ed., CBS Publ., anddistributor | S.              |
|                                                                                                      | Devlin TM       |
| (1986) Textbook of Biochemistry with clinical correlations, 2 <sup>nd</sup> Ed., John Wiley & Sons.  |                 |

| Program Name    | B Sc Food Nutrition and Dietetics |    | cs  |                      | Semester | Third Semester |
|-----------------|-----------------------------------|----|-----|----------------------|----------|----------------|
| Course Title    | Human Nutrition – II (Theory)     |    |     |                      |          |                |
| Course Code:    | DSC                               |    | No. | o. of Theory Credits |          | 3              |
| Contact hours   | 45 hrs                            |    |     | Duration of E        | SA/Exam  | 2 Hours        |
| Formative Asses | sment Marks                       | 40 | Sum | mative Assessmen     | t Marks  | 60             |

**Course Outcomes (COs)**: After the successful completion of the course, the student will be able to: CO 1. Understand the functions and sources of nutrients

CO 2. Apply the knowledge in maintenance of good health for individual and the community.

- CO 3. Evaluate factors affecting availability and requirements of minerals and vitamins
- CO 4. Assess the role of water and fibre in nutrition

|        | Content of Theory | 45 Hrs |
|--------|-------------------|--------|
| Unit-1 |                   | 15     |

Macro minerals: Calcium, Phosphorus, Magnesium, Sodium, Potassium, Chlorine and Sulphur-functions sources, requirements and effects of deficiency, Bioavailability

#### Unit -2

Micro minerals: Copper, Cobalt, Zinc, Iodine, Manganese, Fluorine, Molybdenum,Selenium, Chromium Iron-functions, sources, requirements and effects of deficiency, Bioavailability

15

#### Unit -3

Vitamins: Classification on the basis of solubility, Vitamin A, D, E, K, Ascorbic acid, Thiamine, Riboflavin Niacin, Folic acid, Vitamin B12, Pantothenic acid, Pyridoxine- functions, sources, absorption, requirements and deficiency

Water: Importance, distribution in the body, functions, oedema, dehydration, sources, water balance and requirements. Fibre: Definition, classification, sources and role of fibre in humannutrition

#### Pedagogy

| Formative Assessment:     |                    |
|---------------------------|--------------------|
| Assessment Occasion/ type | Weightage in Marks |
| Test 1                    | 10                 |
| Test 2                    | 10                 |
| Assignment / Seminar      | 5+5                |
| Project                   | 10                 |
| Total                     | 40 Marks           |

#### References

- WTO Technical Reports Series for Different Nutrients.
- Srilakshmi B (2015) Nutrition science 4<sup>th</sup> Ed., New Age International Publ., New Delhi
- Agarwal A, Udipi SA (2014) Text book of human nutrition, Jaypee Bros Medical Publ., New Delhi
- Bamji M, Rao NP, Reddy V. (2007) Text book of Human Nutrition, Oxford and IBH Publ. Co. Pvt Ltd, New Delhi
- Shills ME, Shike M, Ross AC, Caballero B, Cousins RJ (2005) Modern Nutrition in health and disease 10<sup>th</sup> Ed., Lippincott Williams and Wilkins
- Gopalan C (1991) Nutrition value of Indian foods, ICMR

Guthrie AH

(1986): Introductory Nutrition, 6<sup>th</sup> Ed., The CV Mosby Co. Robinson CH, Lawler MR, Chenoweth WL, Garwick AE (1986) Normal and therapeutic nutrition,17<sup>th</sup> Ed., Macmillan Publ. Co.

Swaminathan M (1985) Essentials of food and nutrition, Vol I and II, Ganesh and Co, Madras.

| Program Name    | B Sc Food Nutrition and Dietetics |    | Semester | Fourth Semester              |         |
|-----------------|-----------------------------------|----|----------|------------------------------|---------|
| Course Title    | Dietetics II (Theory + Practical) |    |          | a a area terretaria          |         |
| Course Code:    | DSC                               |    | No.      | of Theory +Practical Credits | 3+2     |
| Contact hours   | 45 hrs                            |    |          | Duration of ESA/Exam         | 2 Hours |
| Formative Asses | ssment Marks                      | 40 | Sum      | mative Assessment Marks      | 60      |

Course Outcomes (COs): After successful completion of this course, students will be able to:

- CO 1. Understand the principles of diet therapy for various ailments and diseases
- CO 2. Work out the modifications of normal diet for therapeutic purposes
- CO 3. Assess food allergies, intolerance and nutrient-drug interactions for appropriate dietetics approaches

| CO 4   | Evaluate nutritional requirements for deficiencies and develop suitable dietary treatments | S      |
|--------|--------------------------------------------------------------------------------------------|--------|
| CO -r. |                                                                                            | 45 11- |

| Content of Theory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 45 Hrs                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Unit–1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 15                                                                           |
| Diet in burns injury and surgery conditions: Burns- definition, classification, complications: Dietary<br>management - objectives, macronutrients, micronutrients, general considerations. Injury/ Trauma<br>definition. Metabolic, physiological and hormonal response to Injury: Dietary management - object<br>macronutrients, micronutrients, general considerations. Surgery- definition. Metabolic, physiolog<br>hormonal response to surgery: Dietary management - objectives, preoperative and postoperative<br>putritional care, macronutrients, micronutrients, general considerations                                     | /<br>a-<br>ctives,<br>ical and                                               |
| Unit -2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15                                                                           |
| Gastro-intestinal tract ailments: Diarrhoea- definition, classification, consequences. Trea<br>diarrhoea- Fluid management- Oral Rehydration Therapy (ORT). Dietary management - or<br>macronutrients, micronutrients, general considerations, low residue and low fiber foods.<br>symptoms, classification, complications and dietary management - objectives, macro<br>micronutrients, general considerations, foods allowed and not allowed for the following: Con<br>Gastro Oesophageal Reflux Disease (GERD), Gastritis- acute and chronic, Peptic ulcer, Irrita<br>syndrome, Steatorrhoea, Ulcerative colitis, Diverticulosis. | tment of<br>objectives<br>Definition<br>onutrients<br>ostipation<br>ble bowe |

Food intolerance: Definition, causative factors, diagnosis, treatment – elimination diet. Lactose intolerance symptoms, causative foods and stages according to severity, foods included and excluded, nutritior treatment. Gluten intolerance – symptoms, dietary treatment, foods included and excluded, nutritiona treatment. Nutrient- drug interaction

15

| Unit | t -3 |
|------|------|
|------|------|

Food Allergy: Definition, types of allergy, common food as allergens. Signs and Symptoms, tests for allergy. Dietetic treatment.

Nutritional deficiency: Protein – energy malnutrition- aetiology, types, symptoms, dietary treatment and prevention, hospital treatment, domiciliary rehabilitation. Aetiology, clinical features, dietary treatment and prevention, prophylaxis programmes of the following: Iodine Deficiency disease and Vitamin A deficiency. Nutritional Anaemia - Aetiology, clinical features, types, dietary treatment and prevention of the following: Iron deficiency Anaemia / Disorder (IDD), Megaloblastic Anaemia, Folate Deficiency,

#### Pernicious Anaemia

# Pedagogy

| Formative Assessment:     |                    |  |
|---------------------------|--------------------|--|
| Assessment Occasion/ type | Weightage in Marks |  |
| Test 1                    | 10                 |  |
| Test 2                    | 10                 |  |
| Assignment / Seminar      | 5+5                |  |
| Project                   | 10                 |  |
| Total                     | 40 Marks           |  |

| Course Title         | Dietetics II (Practical)                               | Practical Credits | 2 |
|----------------------|--------------------------------------------------------|-------------------|---|
|                      | Content of Practical                                   |                   |   |
| Planning, prepari    | ing and serving the following diets (two case studies) |                   |   |
| 1.                   |                                                        | Bu                |   |
| rns<br>2.            |                                                        | Со                |   |
| nstipation<br>3.     |                                                        | Ре                |   |
| ptic ulcer<br>4.     |                                                        | Pr                |   |
| otein deficier<br>5. | ncy                                                    | Iro               |   |
| n deficiency<br>6.   |                                                        | Vit               |   |
| amin A defici        | ency                                                   |                   |   |

#### Pedagogy

| Assessment Occasion/ type     | Weightage in Marks |
|-------------------------------|--------------------|
| Test 1                        | 05                 |
| Test 2                        | 05                 |
| Practical Record              | 10                 |
| Participation and Involvement | 05                 |
| Total                         | 25 Marks           |

| Re  | eferences                                                                                |               |
|-----|------------------------------------------------------------------------------------------|---------------|
|     |                                                                                          | Srilakshmi B  |
| •   | (2011) Dietetics, 6th Ed. New Age International Publ., New Delhi                         |               |
|     |                                                                                          | Joshi SA,     |
| -   | (1992) Nutrition and dietetics. Tata McGraw Hill Publications, New Delhi                 |               |
|     | (1552) (1001000000000000000000000000000000000                                            | Mahan LK,     |
| -   | Arlin MT (1992) Krause's Food, Nutrition and Diet Therapy, 8th Ed., W.B Saunders Comp    | any, London   |
|     | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,                                                  | Williams SR   |
|     | (1989) Nutrition and diet therapy, 6th Ed., Time, Mirror, Mosby College Publ.St Louis    |               |
|     | (2000)                                                                                   | Raheen Begur  |
|     | (1989) A textbook of foods, nutrition and dietetics, Sterling Publ., New Delhi           |               |
|     |                                                                                          | Robinson CH,  |
|     | Lawler MR, Chenoweth WL, Garwick AE (1986) Normal and therapeutic nutrition, 17th I      | Ed, Macmillan |
|     | Publ and Co.                                                                             |               |
|     |                                                                                          | Anderson L,   |
| -   | Dibble MV, Turkki PR, Mitchall HS, Rynbergin HJ (1982): Nutrition in health and disease, | 17th Ed., JB  |
| 1.0 | Lippincott and Co., Philadelphia                                                         |               |
| •   |                                                                                          | Antia FP      |
|     | (1973) Clinical dietetics and nutrition, 2nd Ed., Oxford Univ. Press, Delhi              |               |

| Program Name                  | B Sc Food Nu      | trition and Dieteti  | cs   | Semester                     | Fourth Semester |
|-------------------------------|-------------------|----------------------|------|------------------------------|-----------------|
| Course Title                  | Life Span Nut     | trition II (Theory + | cal) |                              |                 |
| Course Code:                  | DSC N             |                      |      | of Theory +Practical Credits | 3+2             |
| Contact hours                 | tact hours 45 hrs |                      |      | Duration of ESA/Exam         | 2 Hours         |
| Formative Assessment Marks 40 |                   | 40                   | Sum  | mative Assessment Marks      | 60              |

Course Outcomes (COs): After successful completion of this course, students will be able to:

CO 1. Understand the process of growth and development and the concept of growth promotion

CO 2. Comprehend nutritional needs at different stages of growth.

CO 3. Evaluate nutritional needs during pregnancy and lactation

CO 4. Apply nutritional requirements for the aged taking their physiology into account

| Content of Theory                                                                                    |            |  |  |  |
|------------------------------------------------------------------------------------------------------|------------|--|--|--|
| Unit–1                                                                                               | 15         |  |  |  |
| Nutritional needs of adults: Reference man and reference woman in relation to occupation. Dieta      | iry        |  |  |  |
| guidelines to reduce the cost of a meal. Nutritional requirements.                                   |            |  |  |  |
| Unit -2                                                                                              | 15         |  |  |  |
| Nutrition during pregnancy: Normal growth and weight gain. Physiological changes. Dietary mod        | fications. |  |  |  |
| General dietary problems. Complications during various stages of pregnancy. Nutritional require      | nents.     |  |  |  |
| Diet planning                                                                                        |            |  |  |  |
| Nutritional needs during lactation: Physiology of lactation. Milk output and factors affecting it. D | etary      |  |  |  |
| guidelines. Nutritional requirements. Diet planning                                                  |            |  |  |  |

Unit -3

15

Nutritional needs during old age: Physiological changes, RDA, Nutritional guidelines, nutritional, health concerns & complications and their management. Dietary modifications. Factors contributing to longevity

| Pedagogy<br>Formative Assessment: |                    |
|-----------------------------------|--------------------|
| Assessment Occasion/ type         | Weightage in Marks |
| Test 1                            | 10                 |
| Test 2                            | 10                 |
| Assignment / Seminar              | 5+5                |
| Project                           | 10                 |
| Total                             | 40 Marks           |

| Course Title    | Life span Nutrition - II (Practical)                | Practical Credits 2                        |
|-----------------|-----------------------------------------------------|--------------------------------------------|
|                 | Content of Practica                                 | al ,                                       |
| Planning, prep  | paring diets and calculating the major nutrients of | f following (Standard with two planned die |
| of different ca | lories and activities)                              |                                            |
| 1. A            | dult                                                |                                            |
| 2. Р            | regnancy                                            |                                            |
| 3. La           | actation                                            |                                            |
| 1 0             |                                                     |                                            |

#### Pedagogy

| ormative Assessment           |                    |  |  |  |  |  |  |
|-------------------------------|--------------------|--|--|--|--|--|--|
| Assessment Occasion/ type     | Weightage in Marks |  |  |  |  |  |  |
| Test 1                        | 05                 |  |  |  |  |  |  |
| Test 2                        | 05                 |  |  |  |  |  |  |
| Practical Record              | 10                 |  |  |  |  |  |  |
| Participation and Involvement | 05                 |  |  |  |  |  |  |
| Total                         | 25 Marks           |  |  |  |  |  |  |

#### References

• Elizabeth, K. E. (2022). Nutrition and child development, 6<sup>th</sup> Ed., Paras Medical Publisher, Hyderabad.

- Joshi AS. (2021). Nutrition and Dietetics, 5<sup>th</sup> Ed. McGraw Hill, Noida
- Srilashmi B. (2019). Dietetics, 8<sup>th</sup> Ed., New Age International Publishers., New Delhi
- Mudambi SR, Rajgopal MV. (2020). Fundamentals Of Foods, Nutrition And Diet Therapy, 6<sup>th</sup> Ed.,New Age International Publishers., New Delhi
- Agarwal A, Udipi SA. (2013). Textbook Of Human Nutrition., 1st Ed., Jaypee Brothers Medical

Publishers, New Delhi

- Srilakshmi B (2011) Dietetics, 6<sup>th</sup> Ed., New Age International Publ., New Delhi
- Mclaren DS, Meguid MM (1998) Nutrition and its disorders, Churchill Livingstone
- Gopalan C (1993) Recent trends in nutrition, 9<sup>th</sup> Ed., Oxford Univ. Press
- Ghosh (1992) The feeding and care of infants and young children, VHAI, 6<sup>th</sup> Ed., New Delhi
- Swaminathan M (1985) Essentials of food and nutrition, Vol I and II, Ganesh and Co, Madras
- WHO (1978) A growth chart for international use in maternal and child health care, Geneva

| Program Name                  | B Sc Food Nutrition and Di | etetics | Semester                | Fourth Semester |  |  |  |
|-------------------------------|----------------------------|---------|-------------------------|-----------------|--|--|--|
| Course Title                  | Quality Control I (Theory) |         |                         |                 |  |  |  |
| Course Code:                  | DSC                        | -       | No. of Theory Credits 3 |                 |  |  |  |
| Contact hours                 | 45 hrs                     |         | Duration of ESA/Exam    | 2 Hours         |  |  |  |
| Formative Assessment Marks 40 |                            | Summa   | ative Assessment Marks  | 60              |  |  |  |

#### Course Pre-requisite(s): Certificate with minimum 45%

**Course Outcomes (COs)**: After the successful completion of the course, the student will be able to: CO 1. Understand international and national food laws, regulations and standards governing the safety of

- the food from field to fork
- CO 2. Able to locate and interpret government regulations regarding the manufacture and sale of food products.
- CO 3. Describe the use of adulterants added to foods
- CO 4. Discuss the application of biotechnological techniques and evaluate packaging requirements of diverse foods

45 Hrs

15

15

15

#### **Content of Theory**

#### Unit-1

Food Laws: PFA - Mode of work and duties of food inspectors. Essential commodities act: fruit product order, milk and milk product order, meat product order, cold storage order, the vegetable oil product order, standard and weight measurement act, the infant milk substitute, feeding bottles and infant food act.

#### Unit -2

Food standards: ISI, AGMARK, Export inspection council, consumer protection act, CODEX Alimentarius, FSSAI. HACCP - Importance. Principles. Determination of CCP. Problems in implementing HACCP. Importance of TQM, GMP and GLP

Adulteration of food: Definition. Types. Contamination of food by incidental adulteration by microorganisms, packing materials and other sources. Tests to detect common adulterants Unit -3

Food technology: Biotechnology in food: Application, GM foods. Nutraceuticals. Organic foods. Packaging of foods: Classification, types of packaging materials – paper, plastics, glass, tins and metals, packaging of different food products – bakery, dairy, dehydrated, fresh fruits and vegetables, fats and oils, frozen food products

#### Pedagogy

| Formative Assessment.     |                    |   |  |  |  |  |
|---------------------------|--------------------|---|--|--|--|--|
| Assessment Occasion/ type | Weightage in Marks |   |  |  |  |  |
| Test 1                    | 10                 |   |  |  |  |  |
| Test 2                    | 10                 |   |  |  |  |  |
| Assignment / Seminar      | 5+5                | - |  |  |  |  |
| Project                   | 10                 |   |  |  |  |  |
| Total                     | 40 Marks           | 1 |  |  |  |  |

#### References

- Food Safety and Standards Authority of India, Ministry of Health and Family Welfare, Government of India
- Manay SN, Shadaksharaswamy M. (2001), Eds. Foods, Facts and Principles. 3rd edition, New Age International. New Delhi.
- Martin EH (1986) Standard methods for the examination of dairy products
- Ranjanna S (1985) Handbook of analysis and quality control for fruit and vegetable products
- Lees R (1978) Food analysis, analytical and quality control methods for food manufacturers and buyers
- Keister DC (1977) Food and beverage control, Prentice Hall Inc, New Jersey
- Coltman MM (1977) Food and beverage cost control, Prentice Hall Inc, New Jersey
- Kotas R (1973) An approach to food costing, Nelson Thornes, London

சாவாகி: வல்ல் : தீ. வி. கி. கி. 3:14 (2022-23)

ವಿಷಯ: I-IV ಸಮಿಸ್ಟರ್ ಬಿ.ಎ/ಬಿಎಸ್ಸಿ ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳ Physical Education, Sports & Yoga ಕೋರ್ ಕೋರ್ಸಿನ(I-II ಸೆ.ಪರಿಷ್ಕೃತ) ಮತ್ತು ಮೌಲ್ಯಾಧಾರಿತ ಕೋರ್ಸುಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಮೋದನೆ ಬಗ್ಗೆ.

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ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ 2020 ರ ಮಾದರಿಯನ್ವಯ ಸರ್ಕಾರ ಸಲ್ಲಿಸಿರುವ I-IV ಸಮಿಸ್ಟರ್ ಬಿ.ಎ/ ಬಿಎಸ್ಸಿ ಪದವಿ ಕಾರ್ಯಕ್ರಮಗಳ Physical Education, Sports & Yoga ಕೋರ್ ಕೋರ್ಸಿನ (I-II ಸೆ.ಪರಿಷ್ಕೃತ) ಮತ್ತು I –IV ಸಮಿಸ್ಟರ್ಗಳ ಮೌಲ್ಯಾಧಾರಿತ ಕೋರ್ಸುಗಳಾದ Health, wellness and Yoga, Sports I, Sports II ಮತ್ತು Sports III ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಡಾ.ಜೆರಾಲ್ಡ್ ಸಂತೋಷ್ ಡಿ.ಸೋಜ, ಅಧ್ಯಕ್ಷರು, ಪದವಿ ಮತ್ತು ಸ್ನಾತಕೋತ್ತರ ಶಾರೀರಿಕ ಶಿಕ್ಷಣ ಮತ್ತು ಕ್ರೀಡಾ ಸಂಯುಕ್ತ ಅಧ್ಯಯನ ಮಂಡಳಿ ಇವರು ಅಧ್ಯಯನ ಮಂಡಳಿ ಸದಸ್ಯರಿಗೆ Online Circulation ಮೂಲಕ ಕಳುಹಿಸಿ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಪಠ್ಯಕ್ರಮವನ್ನು ಇಮೇಲ್ ಮೂಲಕ ಸಲ್ಲಿಸಲಾಗಿದೆ.

Physical Education, Sports & Yoga ಕೋರ್ ಕೋರ್ಸಿನ ಪಠ್ಯಕ್ರಮವನ್ನು (ಮೌಲ್ಯಾಧಾರಿತ ಕೋರ್ಸುಗಳನ್ನು ಹೊರತುಪಡಿಸಿ) ಶೈಕ್ಷಣಿಕ ವರ್ಷ 2022-23ನೇ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ ಅಧಿಸೂಚಿಸಲಾಗಿದ್ದು, ಶಿಕ್ಷಣ ನಿಕಾಯದ ಡೀನರ ಅನುಮೋದನೆಯೊಂದಿಗೆ ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾನಿಲಯಗಳ ಅಧಿನಿಯಮ 2000 ಪ್ರಕರಣ 31(1)ರ ಪ್ರಕಾರ ಶೈಕ್ಷಣಿಕ ಮಂಡಳಿ ಸಭೆಯ ಘಟನೋತ್ತರ ಅನುಮೋದನೆಗಾಗಿ ಮಂಡಿಸಲಾಗಿದೆ.

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MANGALORE WIVERSITY NEP 2020 BASED CURRICULUM FOR PHYSICAL EDUCATION, SPORTS AND YOGA OCTOBER 2022 (SEMESTERS I TO IV)

# **FACULTY OF EDUCATION**

# **SYLLABUS FOR**

# PHYSICAL EDUCATION, SPORTS AND YOGA

# IN ACCORDANCE WITH NEP REGULATIONS 2021

# MANGALORE UNIVERSITY DEPARTMENT OF P.G. STUDIES AND RESEARCH IN PHYSICAL EDUCATION AND SPORTS

SYLLABUS OF MANGALORE UNIVERSITY, UNDERGRADUATE I TO IV SEMESTERS, PERTAINING TO PHYSICAL EDUCATION, SPORTS AND YOGA REVISED/ PREPARED THROUGH ONLINE CIRCULATION TO THE MEMBERS OF BOARD OF STUDIES IN PHYSICAL EDUCATION AND FINALISED SUBSEQUENTLY, SUBMITTED TO MANGALORE UNIVERSITY ON OCTOBER 25, 2022.

#### MEMBERS OF THE BOARD OF STUDIES IN PHYSICAL EDUCATION

- Dr. Gerald Santhosh Dsouza Chairman and Director of Physical Education Mangalore University, Mangalagangotri
- Dr. N D Virupaksha Director of Physical Education Kuvempu University, Shivamogga
- Dr. K K Amarnath Principal University College of Physical Education Bangalore University, Bengaluru
- Dr. Ramesh H N Assistant Director of Physical Education Mangalore University, Mangalagangotri
- Dr. John Pinto Physical Education Director Government First Grade Collee, Kavoor
- Dr. Roshan Kumar Shetty Physical Education Director Government First Grade Womens College Ajjarkadu, Udupi

**External Member** 

Chairman

External Member

Member

Member

Member

| Name of the Degree Program                           | : | BA/BCom/BBA/BCA & all other UG Courses                     |
|------------------------------------------------------|---|------------------------------------------------------------|
| Discipline Core                                      | : | Physical Education, Sports and Yoga – BA/BSc               |
| Total Credits for the Program<br>(I to IV Semesters) | : |                                                            |
| Discipline Core                                      | : | 24 Credits                                                 |
| <b>Open Electives</b>                                | : | 12 Credits (BA/BSc/BCom/BBA/BCA & all other UG Courses)    |
| Skill Enhancement Courses                            | : | 08 Credits (BA/BSc/BCom/BBA/BCA & all other<br>UG Courses) |
| Starting Year of Implementation                      | : | 2021-22                                                    |

#### **PROGRAM OUTCOMES**

By the end of the program the students will be able to:

- 1. Be an entrepreneur (to start their own fitness center, gym, etc) and devise appropriate fitness program for different genders and age groups at all level
- 2. Officiate, supervise various sports events and organize sports events
- 3. Acquire the knowledge of Physical Education, Sports and Yoga and understand the purpose and its development
- 4. Learn theoretical and practical aspects of game of his choice to apply at various levels for teaching, learning and coaching purposes.
- 5. Learn to apply knowledge of Physical fitness and exercise management to lead a better lifestyle.
- 6. Gain knowledge of professional preparation in Physical Education, Sports and Yoga
- 7. Assess Physical Fitness in a scientific manner.
- 8. Continue professional courses and research in Physical Education, sports and yoga.

# SEMESTER-I

| Discipline Specific Core-1 (BA/BSc programmes)                                  |                                                   |            |                                  |                               |           |                                  |                            |                   |                             |
|---------------------------------------------------------------------------------|---------------------------------------------------|------------|----------------------------------|-------------------------------|-----------|----------------------------------|----------------------------|-------------------|-----------------------------|
| Course                                                                          | Title of the Course                               | Theory     |                                  |                               | Practical |                                  |                            | Total             | Total Marks                 |
|                                                                                 |                                                   | Credits    | No. of<br>Teaching<br>Hours/Week | Total<br>Marks/<br>Assessment | Credits   | No. of<br>Teaching<br>Hours/Week | Total Marks/<br>Assessment | Hours/<br>Credits |                             |
| DSC-1                                                                           | Introduction to Physical                          | 4          | 4                                | 100 (60+40                    |           |                                  |                            |                   |                             |
| Theory                                                                          | Education, Sports and Yoga                        |            |                                  | IA)                           |           |                                  |                            | 6/8               | 150                         |
| DSC-1                                                                           | Basic Fitness, Track and                          |            |                                  |                               | 2         | 4                                | 50 (25+25                  |                   | 150                         |
| Practical                                                                       | Field, Major Games and Yoga                       |            |                                  | 57                            |           |                                  | IA)                        |                   |                             |
|                                                                                 | Open                                              | Electives  | (BA/BSc/BCa                      | om/BBA/BCA                    | & all of  | her UG Cours                     | es)                        |                   |                             |
| OE-1                                                                            | Self Defense                                      | 2          | 2                                | 60                            | 1         | 2                                | 40 (20                     | 3/4               | 100                         |
|                                                                                 |                                                   |            |                                  |                               |           |                                  | Prac+20 IA)                |                   |                             |
| OE-2                                                                            | Sports Event Management                           | 2          | 2                                | 60                            | 1         | 2                                | 40 (20                     | 3/4               | 100                         |
|                                                                                 |                                                   |            | 1.0.771                          | 1 11 1 1                      | ,         |                                  | Prac+20 IA)                |                   | 1                           |
| Note: For                                                                       | r Open Electives the No. of Credit                | s for Prac | ctical & Theory                  | y shall be alte               | red as pe | er requirement.                  | (1 Theory + 2)             | Practica          | l or 2 Theory +             |
| 1 Practice                                                                      | al)                                               |            |                                  |                               |           |                                  |                            |                   |                             |
| Skill Enhancement Courses (SEC) (BA/BSc/BCom/BBA/BCA & all other UG programmes) |                                                   |            |                                  |                               |           |                                  |                            |                   |                             |
| SEC-1                                                                           | Health, Wellness and Yoga                         | 1          | 1                                |                               | 1         | 2                                |                            | 2/3               | 50 (Internal<br>Assessment) |
| * SEC - A                                                                       | * SEC - Activity cum Theory based Practical paper |            |                                  |                               |           |                                  |                            |                   |                             |

|                                                                                 | SEMESTER-II                    |             |                |                 |             |                 |                |          |                |
|---------------------------------------------------------------------------------|--------------------------------|-------------|----------------|-----------------|-------------|-----------------|----------------|----------|----------------|
| Discipline Specific Core-2 (BA/BSc programmes)                                  |                                |             |                |                 |             |                 |                |          |                |
| Course Title of the Course Theory Practical Total                               |                                |             |                |                 |             |                 |                |          | Total Marks    |
| Course                                                                          |                                | Credits     | No of          | Total           | Credits     | No. of          | Total          | Hours/   |                |
|                                                                                 |                                | Cicuits     | Teaching       | Marks/          |             | Teaching        | Marks/         | Credits  |                |
|                                                                                 |                                |             | Hours/Week     | Assessment      |             | Hours/Week      | Assessment     |          |                |
| DSC-2                                                                           | Life Style Management          | 4           | 4              | 100 (60+40      |             |                 |                |          |                |
| 050-2                                                                           | Life Style Management          |             |                | IA)             |             |                 |                | 6/8      | 150            |
| DSC-2                                                                           | Advanced Fitness, Asanas,      |             |                |                 | 2           | 4               | 50 (25+25      | 0,0      |                |
| Practical                                                                       | Track & Field, Major Games     |             |                |                 |             |                 | IA)            |          |                |
|                                                                                 | Oper                           | n Elective  | es (BA/BSc/BC  | Com/BBA/BC      | A & all of  | her UG Courses  | s)             |          |                |
|                                                                                 |                                | 2           | 2              | 60              | 1           | 2               | 40 (20         | 3/4      | 100            |
| OE-3                                                                            | Yoga and Fitness               | 2           | 2              | 00              | 1           | _               | Prac+20 IA     | )        |                |
| OF 4                                                                            | A desentance Smonth            | 2           | 2              | 60              | 1           | 2               | 40 (20         | 3/4      | 100            |
| OE-4                                                                            | Adventure Sports               | 2           | 2              | 00              |             |                 | Prac+20 IA     | )        |                |
| Note: For                                                                       | Open Flectives the No. of Crea | lits for Pr | actical & Theo | orv shall be al | tered as pe | er requirement. | (1 Theory + 2) | Practico | al or 2 Theory |
| + 1 Practi                                                                      | cal)                           |             | uonour a invo  | .,              |             |                 |                |          |                |
| Skill Enhancement Courses (SEC) (BA/BSc/BCom/BBA/BCA & all other UG programmes) |                                |             |                |                 |             |                 |                |          |                |
|                                                                                 |                                | 1           |                | 1               | 1           | 2               |                | 2/3      | 50 (Internal   |
| SEC-2                                                                           | Sports – I                     |             | 1              |                 | 1           | 2               |                |          | Assessment)    |
| + 000 +                                                                         | Litter Theory have d Dream     | tical nana  |                |                 | 1           |                 | 1              | 1        |                |
| * SEC - Activity cum Theory based Practical paper                               |                                |             |                |                 |             |                 |                |          |                |

| SEMESTER-III                                                                                                                                  |                       |         |           |            |           |            |                                         |         |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|-----------|------------|-----------|------------|-----------------------------------------|---------|--------------|
| Discipline Specific Core 3 (PA/PSe programme)                                                                                                 |                       |         |           |            |           |            |                                         |         |              |
| Course Title of the Course Tt                                                                                                                 |                       |         |           |            |           |            |                                         |         |              |
| Course                                                                                                                                        | The of the Course     | Ineory  |           |            | Practical |            |                                         | Total   | Total Marks  |
|                                                                                                                                               |                       | Credits | No. of    | Total      | Credits   | No. of     | Total Marks/                            | Credits |              |
|                                                                                                                                               |                       |         | Teaching  | Marks/     |           | Teaching   | Assessment                              | / Hours |              |
|                                                                                                                                               |                       |         | Hours/Wee | Assessment |           | Hours/Week |                                         |         |              |
|                                                                                                                                               |                       |         | k         |            |           |            |                                         |         |              |
| DSC-3                                                                                                                                         | Sports Training and   | 4       | 4         | 100 (60+40 |           |            |                                         |         |              |
| Theory                                                                                                                                        | Coaching              |         |           | IA)        |           |            |                                         |         |              |
| DSC-3                                                                                                                                         | Sports Proficiency    |         |           |            | 2         | 4          | 50 (25+25                               | 6/8     | 150          |
| Practical                                                                                                                                     |                       |         |           |            |           |            | IA)                                     |         |              |
| Open Electives (BA/BSc/BCom/BBA/BCA & all other UG Courses)                                                                                   |                       |         |           |            |           |            |                                         |         |              |
|                                                                                                                                               |                       |         |           |            |           |            |                                         |         |              |
| OE-5                                                                                                                                          | Physical Fitness for  | 2       | 2         | 60         | 1         | 2          | 40 (20                                  | 3/4     | 100          |
|                                                                                                                                               | Careers               |         |           |            |           |            | Prac+20 IA)                             |         |              |
| OE-6                                                                                                                                          | Sports and Recreation | 2       | 2         | 60         | 1         | 2          | 40 (20                                  | 3/4     | 100          |
|                                                                                                                                               |                       |         |           |            |           |            | Prac+20 IA)                             |         |              |
| Note: For Open Electives the No. of Credits for Practical & Theory shall be altered as per requirement. (1 Theory + 2 Practical or 2 Theory + |                       |         |           |            |           |            |                                         |         |              |
| 1 Practical)                                                                                                                                  |                       |         |           |            |           |            |                                         |         |              |
| *Skill Enhancement Courses (SEC) (BA/BSc/BCom/BBA/BCA & all other UG programmes)                                                              |                       |         |           |            |           |            |                                         |         |              |
| SEC-3                                                                                                                                         | Sports - II           | 1       | 1         |            | 1         | 2          | I i i i i i i i i i i i i i i i i i i i |         |              |
| SLC-5                                                                                                                                         | 50015-11              | 1       | 1         |            | T         | 2          |                                         | 2/3     | 50 (Internal |
| * SEC Activity over Theory haved Dreatical energy                                                                                             |                       |         |           |            |           |            |                                         |         |              |
| SEC - Activity cum Theory based Practical paper                                                                                               |                       |         |           |            |           |            |                                         |         |              |
|            | SEMESTED IV                                                                                                                       |            |                |              |            |                 |              |         |              |
|------------|-----------------------------------------------------------------------------------------------------------------------------------|------------|----------------|--------------|------------|-----------------|--------------|---------|--------------|
|            |                                                                                                                                   |            | 51             | LVIESTER-I   | v<br>~~~   |                 |              |         |              |
|            |                                                                                                                                   | Discij     | oline Specific | Core-4 (BA/  | BSc progr  | rammes)         |              | Tetal   | Total Marks  |
| Course     | Title of the Course                                                                                                               |            | Theory         |              |            | Practical       |              | Total   | TOTAL MARKS  |
|            |                                                                                                                                   | Credits    | No. of         | Total        | Credits    | No. of          | Total Marks/ | Credits |              |
|            |                                                                                                                                   |            | Teaching       | Marks/       |            | Teaching        | Assessment   | / Hours |              |
| ~          |                                                                                                                                   |            | Hours/Wee      | Assessment   |            | Hours/Week      |              |         |              |
|            |                                                                                                                                   | 1          | k              |              |            |                 |              |         |              |
| DSC-4      | Sports Injuries and                                                                                                               | 4          | - 4            | 100 (60+40   |            |                 |              |         |              |
| Theory     | Management                                                                                                                        |            |                | IA)          |            |                 |              | 6/8     | 150          |
| DSC-4      | First Aid and Athletic Care                                                                                                       |            |                |              | 2          | 4               | 50 (25+25    |         |              |
| Practical  |                                                                                                                                   |            |                |              |            |                 | IA)          |         |              |
|            | Ope                                                                                                                               | n Elective | s (BA/BSc/B    | Com/BBA/BO   | CA & all o | ther UG Course  | es)          |         |              |
| 07.5       | -                                                                                                                                 | 2          | 2              | 60           | 1          | 2               | 40 (20       | 3/4     | 100          |
| OE-7       |                                                                                                                                   | 2          | <u>ک</u>       | 00           | 1          |                 | Prac+20 IA)  |         |              |
| 0.0.0      |                                                                                                                                   | 2          | 2              | 60           | 1          | 2               | 40 (20       | 3/4     | 100          |
| OE-8       |                                                                                                                                   | 2          | 2              | 00           | 1          | _               | Prac+20 IA)  |         |              |
|            | No. El diversity No. of Credits for Practical & Theory shall be altered as per requirement. (1 Theory + 2 Practical or 2 Theory + |            |                |              |            |                 |              |         |              |
| Note: For  | Open Electives the No. of Crea                                                                                                    | usjoriru   |                | ry shan be a |            |                 |              |         |              |
| I Practica | t)<br>*Shill Enhancen                                                                                                             | ant Cour   | SOS (SEC) (R   | A/RSc/RCom   | BBA/BC     | A & all other U | G programmes | )       |              |
|            | *Skill Enhancen                                                                                                                   | ient Cour  | SCS (SEC) (D.  |              |            |                 |              | 2/2     | 50 (Internal |
| SEC-4      | Sports - III                                                                                                                      | 1          | 1              |              | 1          | 2               |              | 213     | Assessment)  |
|            | -                                                                                                                                 |            |                |              |            |                 |              |         | Assessment   |
| * SEC - A  | ctivity cum Theory based Pract                                                                                                    | ical paper |                |              |            |                 |              |         |              |

## PHYSICAL EDUCATION, SPORTS AND YOGA

## **BA/BSC SEMESTER I to IV**

#### Aim of the Course

The course aims at creating awareness about the fundamentals of Physical Education, Sports and Yoga and promote Health and wellness through Healthy Lifestyle.

#### **Objectives of the Course**

- 1. To impart the students with basic concepts of Physical Education, Sports and Yoga for health and wellness.
- 2. To familiarize the students with health-related Exercise, Sports and Yoga for Overall growth & development
- 3. To create a foundation for the professionals in Physical Education, Sports and Yoga.
- 4. To impart the basic knowledge and skills to teach Physical Education, Sports & Yoga activities.

5. To create awareness about the career opportunities through Physical Education and Yoga

#### Learning Outcome/ Skills:

- Students will be able to understand the basic principles and practices of Physical Education, Sports and Yoga.
- Students will be able to instruct the Physical Activities, Sports and Yoga practices for Healthy Living.
- To develop professionalism among students, to conduct, organize & officiate Physical Education, Sports and Yoga events at schools and community level.

#### Employability/ Entrepreneurship abilities:

- The candidate will be able to work as Physical Education, Sports and Yoga instructor.
- The Candidate will be able to instruct, organize & officiate Physical Education, Sports and Yoga.
- The candidate will be able to establish fitness, sports and yoga centers.
- The candidate will be able to conduct Traditional games, Sports and General Yoga classes for rural and community level.
- The candidate will be able to guide aspirants to achieve various physical fitness standards required for related professions.

# Curriculum Structure for Undergraduate Degree Program

BA / BSc Courses in Physical Education, Sports & Yoga

Total Credits for the Program (I to IV Semester): 6+6+6+6=24 Credits

Starting year of implementation: 2021-22

Name of the Degree Program: BA/B.Sc

## Discipline/Subject: Physical Education, Sports & Yoga Program

This matrix lists only the core courses. Core courses are essential to earn the degree in that discipline/subject. They include courses such as theory, laboratory, project, internships etc. Elective courses may be listed separately

|       |                                                                           | D outcomes that                                                                                                                                                                                                                                                                                                                                                             | Pre-                                                                                                                              | Pedagogy                                                                                                                                                 | Assessmen                                            |
|-------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Sem   | Title /Name Of                                                            | Program outcomes that                                                                                                                                                                                                                                                                                                                                                       | requisite                                                                                                                         |                                                                                                                                                          | t                                                    |
| ester | the course                                                                | the course addresses                                                                                                                                                                                                                                                                                                                                                        | requisite<br>course(s)                                                                                                            |                                                                                                                                                          |                                                      |
|       |                                                                           | (not more than 3 per                                                                                                                                                                                                                                                                                                                                                        | course(s)                                                                                                                         |                                                                                                                                                          |                                                      |
|       |                                                                           | course)                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                   | The course shall be                                                                                                                                      | Theory                                               |
| 1     | Introduction<br>to Physical<br>Education,<br>Sports & Yoga<br>(6 Credits) | <ul> <li>To understand the basic principles and practices of Physical Education, Sports and Yoga.</li> <li>To understand the career options by taking up physical education, sports and yoga</li> <li>To understand and be able to practice fitness</li> </ul>                                                                                                              | Students with<br>Arts/Science/<br>Commerce<br>streams at<br>12 <sup>th</sup> / +2 leve<br>preferable<br>with Sports<br>Background | The course shall be<br>taught through Lecture,<br>Practical, Interactive<br>Sessions, Materials,<br>Assignments<br>Seminars, Intramural &<br>Extramurals | 100<br>(60+40)<br>Practical<br>50 (25+25)            |
|       |                                                                           | activities, games, athletics                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                   |                                                                                                                                                          |                                                      |
| 2     | Life Style<br>Management<br>(6 Credits)                                   | <ul> <li>and yoga.</li> <li>To understand the fitness types to be adapted in ones lifestyle.</li> <li>To understand the yogic principles of healthy lifestyle.</li> <li>To understand and apply the knowledge of Physical fitness and exercise management to lead better quality life.</li> <li>To be able to practi physical activities and yoga and assess the</li> </ul> | ce                                                                                                                                | The course shall be<br>taught through Lecture<br>Practicals, Interactive<br>Sessions, Materials,<br>Assignments<br>Seminars, Intramural d<br>Extramurals | Theory<br>100<br>(60+40)<br>Practicals<br>50 (25+25) |
|       | · · ·                                                                     | fitness.                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                   |                                                                                                                                                          |                                                      |

|   | 3 | Sports       | • To understand the         | Studente                |                         |              |
|---|---|--------------|-----------------------------|-------------------------|-------------------------|--------------|
|   |   | Training and | basic principles of         | Arta/Saiana             | in the course shall be  | Theory       |
|   |   | Coaching     | training                    | Alts/Science            | taught through Lecture  | , 100        |
|   |   | (6 Credits)  | • To know about the         | commerce                | Practical, Interactive  | (60+40)      |
|   |   |              | various performing          | sueams at               | Sessions, Materials,    |              |
|   |   |              | influencing motor abilities | $12^{11}/+2$ leve       | elAssignments           | Practical    |
|   |   |              | and the methods of          | <sup>s</sup> preferable | Seminars, Intramural &  | 2 50 (25+25) |
|   |   |              | developing them             | with Sports             | Extramurals             |              |
|   |   |              | acveloping them.            | Background              |                         |              |
|   |   |              | To understand the           |                         |                         |              |
|   |   |              | of cooching and philosophy  |                         |                         |              |
|   |   |              | of coaching and its         |                         |                         |              |
|   |   |              | requirements.               |                         |                         |              |
|   |   |              | • To know about             |                         |                         | 2            |
|   |   | ×            | periodization and how to    |                         |                         |              |
|   |   |              | improve performance         |                         |                         |              |
|   |   |              | through various training    | с. <b>н</b>             |                         |              |
|   |   |              | cycles.                     |                         |                         |              |
|   |   |              | • To be able to practice    |                         |                         |              |
|   |   |              | methods to improve motor    |                         |                         |              |
|   |   | ~            | abilities.                  |                         |                         |              |
| 2 | + | Sports       | • To know the various       |                         | The course shall be     | Theory       |
|   |   | Injuries and | common sports injures       |                         | taught through Lecture. | 100          |
|   |   | Management   | and their cause.            |                         | Practicals. Interactive | (60+40)      |
|   |   | (6 Credits)  | • To know the various       |                         | Sociona Material        | <b>D</b>     |
|   |   | 1            | first aid measures and      |                         | sessions, materials,    | Practicals   |
|   |   | I            | prevention of sports        |                         | Assignments             | 50 (25+25)   |
|   |   | ļi           | njuries.                    |                         | Seminars, Intramural &  |              |
|   |   | •            | To know the various         |                         | Extramurals             |              |
|   |   | p            | procedures of treating      |                         |                         |              |
|   |   | į.           | njuries.                    |                         |                         |              |
|   |   | •            | To know the                 |                         |                         |              |
|   |   | r            | ehabilitative techniques    |                         |                         |              |
|   |   | tl           | hrough various              |                         |                         |              |
|   |   | n n          | nodalities.                 |                         |                         |              |
|   |   | •            | To be able to practice      |                         |                         |              |
|   |   | fi           | rst aid techniques and      |                         |                         |              |
|   |   | re           | ehabilitative measures      |                         |                         |              |
|   |   | W            | hile treating sports        |                         |                         |              |
|   |   | in           | ijuries.                    |                         |                         |              |

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## I SEMESTER

#### Semester I

### **DISCIPLINE SPECIFIC CORE - 1**

Title of the Course:

## Introduction to Physical Education, Sports and Yoga

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the historical concepts and significance of Physical Education and Yoga.
- Learn the modern trends in sports and yoga and its relation to education.
- Learn the Principles of implementing fitness activities and yoga.
- Understand the biological principles on which physical education, yoga and sports is based.
- Learn the basic yoga practices.
- Be aware of the career opportunities arising out of undergoing courses in physical education, sports and yoga.
- Understand and perform warm up and conditioning activities.
- Assess the health-related fitness parameters and evaluate the same.
- Perform basic skills in a game and athletic event.
- Perform basic asanas and pranayama.
- Learn to record and prepare reports.

| Number of<br>Theory CreditsNumber of lecture<br>hours/ semesterNumber of<br>practical CreditsNumber of<br>hours/ semester                                                                                                                                                                  |                                                                                                                    |                          |                                |   |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------|---|--|--|
| 4                                                                                                                                                                                                                                                                                          | 56                                                                                                                 | 2                        | 56                             |   |  |  |
| 2                                                                                                                                                                                                                                                                                          | Contents of                                                                                                        | f the Course             |                                |   |  |  |
|                                                                                                                                                                                                                                                                                            | 4                                                                                                                  | 0-2                      | 24                             |   |  |  |
| Unit- I I                                                                                                                                                                                                                                                                                  | atroduction                                                                                                        |                          |                                |   |  |  |
| Meaning                                                                                                                                                                                                                                                                                    | and definition of Physic                                                                                           | al Education, Sports and | d Yoga.                        | ~ |  |  |
| • Aim and                                                                                                                                                                                                                                                                                  | Objectives of Physical F                                                                                           | Education, Sports and Yo | oga.                           |   |  |  |
| <ul> <li>History of Physical Education, Sports and Yoga.</li> <li>Ancient Greece</li> <li>Ancient and Modern Olympics</li> <li>Asian Games and Commonwealth Games</li> <li>Post-Independence Period – Various Policies, Institutions, SAI, Khelo<br/>India, Fit India Movement.</li> </ul> |                                                                                                                    |                          |                                |   |  |  |
| • Modern trends of Physical Education, Sports and Yoga (brief concepts.)                                                                                                                                                                                                                   |                                                                                                                    |                          |                                |   |  |  |
| o Exercis<br>o Activit<br>Varies                                                                                                                                                                                                                                                           | <ul> <li>Activities like Aerobics, Pilates, Power yoga, Yoga for sports preparation,<br/>Varies careers</li> </ul> |                          |                                |   |  |  |
| • Brief concept of Education in relation to Physical Education. Sports and                                                                                                                                                                                                                 |                                                                                                                    |                          |                                |   |  |  |
| Yoga.                                                                                                                                                                                                                                                                                      | -<br>                                                                                                              |                          | , - <b>P</b> • • • • • • • • • |   |  |  |
| o Applica                                                                                                                                                                                                                                                                                  | ations in Education: Ped                                                                                           | agogy, Research          |                                |   |  |  |
| o Relatio                                                                                                                                                                                                                                                                                  | nship of Education with                                                                                            | Physical Education and   | Yoga                           |   |  |  |

| Unit- II Yoga & Fitness Training       Importance of Fitness         Fundamentals Principles of Yoga & Fitness Training       0 Yoga: Principles, Essentials of Yoga Practice       14         Components of Fitness       0 Health related fitness components       14         Mill related fitness components       0 Skill related fitness components       14         Masses       0 Health related fitness components       14         Mill Fielded fitness components       0 Skill related fitness components       14         Masses       0 Asanas       0 Pranayama       14         No Asanas       0 Pranayama       14       14         Mill Fielded fitness components       17       17       16         Onsiderations for practice of Yoga and Fitness       16       17         Unit- III Biological Foundations of Physical Education and Yoga       18       14         Considerations for practice of Yoga and Fitness       18       14         Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females       14         Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.       14         Unit- IV Carcer Opportunities in Physical Education, Sports and Yoga       14         Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                   |
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| <ul> <li>Importance of Fitness</li> <li>Fundamentals Principles of Yoga &amp; Fitness Training         <ul> <li>Yoga: Principles, Essentials of Yoga Practice</li> <li>Fitness: FITT principle</li> </ul> </li> <li>Components of Fitness         <ul> <li>Health related fitness components</li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> <li>Yppes of Yoga practices (concepts)</li> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> </ul> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Sports and Yoga Indifferent professions.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and tint the club is Characteri</li>                                                                                                                                                                                                                            | Unit- II Yoga & Fitness Training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                   |
| <ul> <li>Fundamentals Principles of Yoga &amp; Fitness Training <ul> <li>Yoga: Principles, Essentials of Yoga Practice</li> <li>Fitness: FITT principle</li> </ul> </li> <li>Components of Fitness <ul> <li>Health related fitness components</li> <li>Skill related fitness components</li> </ul> </li> <li>Types of Yoga practices (concepts) <ul> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> </ul> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports.</li> <li>Applications of benefits of sports and yoga in different professions: Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Management.</li>                                                                                                                                                                                                                                                                                                                                               | Importance of Fitness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                   |
| <ul> <li>Yoga: Principles, Essentials of Yoga Practice</li> <li>Fitness: FITT principle</li> <li>Components of Fitness</li> <li>Health related fitness components</li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> <li>Types of Yoga practices (concepts)</li> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> </ul> Unit: III Biological Foundations of Physical Education and Yoga Growth and Development: Meaning, Principles and Stages Heredity and Environment: Meaning, principles and influence on growth and development Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports. Unit- IV Career Opportunities in Physical Education, Sports and Yoga Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional. Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs. Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees. Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management. Specialised professions: Sports Journalists, sports Commentators, Photo and this the clocet Ampricing and Equipment/Props manufacturers.                                                                                                                                                                                                                                                                                                                                                                      | Fundamentals Principles of Yoga & Fitness Training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                   |
| <ul> <li>Fitness: FITT principle</li> <li>Components of Fitness</li> <li>Health related fitness components</li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> <li>Types of Yoga practices (concepts)         <ul> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> </ul> Unit- III Biological Foundations of Physical Education and Yoga <ul> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and the development.</li> </ul>                                                                                                                                                                                                                                                                              | • Yoga: Principles, Essentials of Yoga Practice                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 14                                                |
| <ul> <li>Components of Fitness         <ul> <li>Health related fitness components</li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> </ul> </li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> <li>Sypes of Yoga practices (concepts)</li> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> </ul> Unit- III Biological Foundations of Physical Education and Yoga <ul> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and Stages</li> <li>Heredity and Environment: Meaning, principles and stages</li> <li>Heredity and Environment: Meaning, principles and finuence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports. Unit- IV Career Opportunities in Physical Education, Sports and Yoga Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Wish development.</li> </ul>                                                                                                                                                                           | • Fitness: FITT principle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                   |
| <ul> <li>Health related fitness components</li> <li>Skill related fitness components</li> <li>Skill related fitness components</li> <li>Types of Yoga practices (concepts)</li> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> </ul> Unit- III Biological Foundations of Physical Education and Yoga <ul> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports. Unit- IV Career Opportunities in Physical Education, Sports and Yoga Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional. Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs. <ul> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and time device Coert Marketing and Equipment/Props manufacturers.</li> </ul></li></ul>                                                                                                                                                                                                                                                                                                                                     | • Components of Fitness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                   |
| <ul> <li>Skill related fitness components</li> <li>Types of Yoga practices (concepts) <ul> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> </ul> <li>Unit- III Biological Foundations of Physical Education and Yoga <ul> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and Influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> </ul> 14 14 14 14 14 14 15 16 16 17 18 18 19 19 10 10 10 10 10 10 10 11 10 10 10 11 10 10 11 12 12 14 14 14 14 14 14 14 14 14 14 14 14 14 15 16 16 17 18 18 19 10 19 10 10 10 10 10 10 10 10 10 10 10 10 10 11 11 12 12 14 14 14 14 14 14 14 14 14 14 14 14 14 15 16 16 17 18 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10</li>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | • Health related fitness components                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                   |
| <ul> <li>Types of Yoga practices (concepts) <ul> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> </ul> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and State of professions: Sports Marketing and Empinemt/Props manufacturers.</li>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul> <li>Skill related fitness components</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                   |
| <ul> <li>Asanas</li> <li>Pranayama</li> <li>Kriyas</li> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and Influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Studies of Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | • Types of Yoga practices (concepts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.0                                               |
| <ul> <li>Pranayama         <ul> <li>Kriyas</li> <li>Bandhas</li> </ul> </li> <li>Considerations for practice of Yoga and Fitness</li> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | o Asanas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                   |
| <ul> <li>Kriyas</li> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | o Pranayama                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                   |
| <ul> <li>Bandhas</li> <li>Considerations for practice of Yoga and Fitness</li> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Unit Amagement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | o Kriyas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                   |
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| <ul> <li>Unit- III Biological Foundations of Physical Education and Yoga</li> <li>Growth and Development: Meaning, Principles and Stages</li> <li>Heredity and Environment: Meaning, principles and influence on growth and development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Unit of the last Sports Marketing and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Considerations for practice of Yoga and Filless                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                   |
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| <ul> <li>development</li> <li>Concepts: Athletic Heart, Types of Ages, Types of load, Physical and<br/>Physiological differences between males and females</li> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical<br/>Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga<br/>Physical Education, Sports and Yoga professionals at various levels of<br/>educational institutions- Qualities and Qualifications for a physical education<br/>and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports<br/>Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions:<br/>Teaching, Business Executives, Police department, Defense personnel,<br/>Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga<br/>studios, Recreational clubs: Characteristics, Facilities and Infrastructure and<br/>Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and<br/>Specialised professions: Sports Journalists, sports Commentators, Photo and<br/>With the last Sports Marketing and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Heredity and Environment: Meaning, principles and and and a second |                                                   |
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| <ul> <li>Physiological differences between males and females Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Link and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | • Concepts: Athletic Heart, Types of Ages, Types of Ioad, Thysicar and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 14                                                |
| <ul> <li>Body Types: Meaning, Types, Characteristics, and implications in Physical Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Units. Applications and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Physiological differences between males and females                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 14                                                |
| <ul> <li>Education and sports.</li> <li>Unit- IV Career Opportunities in Physical Education, Sports and Yoga</li> <li>Physical Education, Sports and Yoga professionals at various levels of educational institutions- Qualities and Qualifications for a physical education and sports professional.</li> <li>Professions: Sports Trainer, Yoga Instructor, Coach, Sports Manager, Sports Scientist, Event manager, Technical Official, Entrepreneurs.</li> <li>Applications of benefits of sports and yoga in different professions: Teaching, Business Executives, Police department, Defense personnel, Government employees.</li> <li>Sports and Yoga Institutions: Health Clubs, Fitness centers, Dance and yoga studios, Recreational clubs: Characteristics, Facilities and Infrastructure and Management.</li> <li>Specialised professions: Sports Journalists, sports Commentators, Photo and Unit deviced Sports Marketing and Equipment/Props manufacturers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul> <li>Body Types: Meaning, Types, Characteristics, and implications in Flysical</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                   |
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| 56 Hr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | A Basic Fitness, Training and Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | -                                                 |
| Content of Practical Course 1: Practical (2 credits/56 hours) 56 Hi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul> <li>A. Basic Filless, Haining and Assessmenting down – Meaning, types and benefice General and specific warm-up, limbering down – Meaning, types and benefice Body Composition (BMI)</li> <li>Training and Assessment for Health-related fitness - Muscular Endurance, Muscular Strength, Flexibility, Cardio-respiratory Endurance, Body Composition</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | īts<br>56                                         |
| Content of Practical Course 1: Practical (2 credits/56 hours)56 HoursA. Basic Fitness, Training and Assessment6General and specific warm-up, limbering down – Meaning, types and benefitsBody Composition (BMI)Training and Assessment for Health-related fitness - Muscular Endurance,<br>Muscular Strength, Flexibility, Cardio-respiratory Endurance, Body56Composition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul> <li>Major/Minor Outdoor Games / Track &amp; Field</li> <li>One Game (Among the list of IOA, AIU, SGFI)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                   |

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One Game (Among the list of IOA, ATO, SOTT)
Athletics: Running, Jumping and Throwing Event – One event from each.

1 /

| B. | Basic Asanas & Surya Namaskara (as per the reference books) |  |
|----|-------------------------------------------------------------|--|
| ٠  | Shithilikarana Vyayama (Dynamic)                            |  |
| •  | Surya Namaskara                                             |  |
| •  | Standing & Sitting Asanas (2 asanas from each)              |  |
| •  | Prone & Supine Asanas (2 asanas from each)                  |  |
| C. | Basic Pranayamas                                            |  |
| •  | Sukha Pranayama (Breath awareness)                          |  |
| ٠  | Kapalabhathi/Basthrika                                      |  |
| ٠  | Anuloma Viloma/Nadi Shuddhi                                 |  |
| D. | Preparation of Records and Reports                          |  |

\* The practical classes shall be adapted to the physically challenged students as per requirement. Pedagogy: The course shall be taught through Lecture, Practical's, Interactive, Sessions, Materials, Assignments, Seminars, Intramural & Extramural activities.

|                 | Formative A | Assessmer    | ıt |               |       |
|-----------------|-------------|--------------|----|---------------|-------|
| Assessment Type | Internal    | Assessme     | nt | Semester Exam | Total |
|                 | Test        | 20           |    |               |       |
| Theory          | Assignment  | 10           | 40 | 60            | 100   |
|                 | Seminar     | 10           | _  | 60            | 200   |
| Practical       | Test        | 15           |    |               |       |
| Tactical        | Assignment  | 10           | 25 | 25            | 50    |
|                 | 7           | <b>Cotal</b> |    |               | 150   |

Assignments can be in the form of field work, projects, written tasks, practical tasks etc.

#### **Reference Books**

- Bucher, C. A. (n.d.) Foundation of physical education. St. Louis: The
- C.V. Mosby Co. Deshpande, S. H. (2014). Physical Education in Ancient India. Amravati: Degree college of Physical education.
- Mohan, V. M. (1969). Principles of physical education. Delhi: Metropolitan Book Dep. Nixon, E. E. & Cozen, F.W. (1969). An introduction to physical education. Philadelphia: W.B. Saunders Co.
- William, J. F. (1964). The principles of physical education. Philadelphia:
- W.B. Saunders Co.
- Coalter, F. (2013) Sport for Development: What game are we playing?. Routledge.
- Singh Hardayal (1991), Science of Sports Training, DVS Publication, New Delhi
- Muller, J. P. (2000). Health, Exercise and Fitness, Delhi : Sports.
- Russell, R. P. (1994). Health and Fitness Through Physical Education. USA, Human Kinetics.
- Uppal, A.K. (1992). Physical Fitness. New Delhi : Friends Publication.
- Nagendra, H. R. & Nagarathna, R. (2002). Samagra Yoga Chikitse. Bengaluru: Swami Vivekananda Yoga Prakasana.
- Kumar, Ajith (1984) Yoga Pravesha. Bengaluru: Rashtrothanna Prakashana.
- D.M Jyoti, Yoga and Physical Activities (2015) lulu.com3101, Hills borough, NC27609, United States
  - D.M Jyoti, Athletics (2015) lulu.com3101, Hills borough, NC27609, United States

Gharote, M. L. & Ganguly, H. (1988). Teaching methods for yogic practices. Lonawala: .

- Pinto John and Roshan Kumar Shetty (2021) Introduction to Physical Education, Louis Kaivalyadhama. . Publications, Mangalore
  - Shekar, K. C. (2003). Yoga for health. Delhi: Khel Sahitya Kendra..
- Amit Arjun Budhe, (2015) Career aspects and Management in Physical Education, Sports
- Publication, New Delhi Pinto John and Ramachandra K (2021) Kannada Version, Daihika Shikshanada
- Parichaya, Louis Publications, Mangalore
- Officiating and Coaching, Dr. Anil Kumar Vanaik, 2017, Friends Publications(India), Ist Edition, Daryaganj, New Delhi
- Officiating, Coaching, Training Methods and Recreation in Physical Education,
  - Dr. Md. Attaullah Jagirdar, 2015, Khel Sahitya Kendra, Daryaganj, New Delhi.

### Semester I OPEN ELECTIVE PAPER - 1

Title of the Course:

#### Self Defense

## (BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the meaning and need of self-defense.
- Understand the fitness requirements to implement self-defense.
- Learn the basic techniques of selected combative sports.
- Learn the defensive techniques applied from combative sports.
- Implement survival techniques during emergencies.
- Learn to record and prepare reports.

| Number o<br>Theory Cre      | f<br>edits                                                             | Number of lecture<br>hours/semester | Number of Practical<br>Credits | Number of Pra<br>hours/ seme | actical<br>ester |
|-----------------------------|------------------------------------------------------------------------|-------------------------------------|--------------------------------|------------------------------|------------------|
| 2                           |                                                                        | 28                                  | 1                              | 28                           |                  |
|                             |                                                                        | Contents of                         | f the Course                   |                              |                  |
|                             |                                                                        | 2 –                                 | 0 - 1                          |                              |                  |
| Theory                      |                                                                        |                                     |                                |                              |                  |
| Meani                       | ng an                                                                  | d Importance of Self D              | Defense                        |                              | 28               |
| Principles of Self Defense  |                                                                        |                                     |                                |                              |                  |
| Meaning                     | • Meaning and Characteristics of combative sports – Karate Kick boying |                                     |                                |                              |                  |
| Judo, W                     | Judo, Wrestling                                                        |                                     |                                |                              |                  |
| • Fitness                   | requ                                                                   | irements for self defen             | se                             |                              |                  |
| • Ethical                   | cons                                                                   | derations of application            | ons of self-defensive skill    | s                            |                  |
| Practical                   |                                                                        |                                     |                                | 5                            |                  |
| • Genera                    | l con                                                                  | ditioning and self-defe             | nse specific conditioning      | 2                            | 28               |
| Basic t                     | echni                                                                  | ques of karate, kickbox             | xing, judo and wrestling       | х.                           | 4                |
| <ul> <li>Applic</li> </ul>  | • Applications of techniques of combative sports for self-defense.     |                                     |                                |                              |                  |
| <ul> <li>Self-de</li> </ul> | fense                                                                  | techniques for specific             | c situations: chain snatchi    | ing, knife or stick          |                  |
| attack, ł                   | noldir                                                                 | ig from back or front e             | tc.                            |                              |                  |
| • Self-de                   | fense                                                                  | using equipment such                | as stick (lathi), nanchaku     | Letc                         |                  |
| Record                      | and                                                                    | report preparation.                 | (and ), manonale               |                              |                  |

\* The practical classes shall be adapted to the physically challenged students as per requiment.

|                 | Formative Assessment |               |       |  |  |  |  |
|-----------------|----------------------|---------------|-------|--|--|--|--|
| Assessment Type | Internal Assessment  | Semester Exam | Total |  |  |  |  |
| Theory          | 20                   | 60            |       |  |  |  |  |
| Practical       | 20*                  |               |       |  |  |  |  |
| Total           | 40                   | 60            | 100   |  |  |  |  |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- "Darren Levine has my unqualified support and gratitude for his contributions to Krav Maga." –ImiLichtenfeld, founder of Krav Maga
- In the Name of Self-Defense:: What it costs. When it's worth it, 603 pages, Kindle Edition, first published July 2, 2014
- Self Defense: The Ultimate Guide To Beginner Martial Arts Training Techniques (Martial Arts, Self Defense For Women, Self Defense Techniques Book 1) Kindle Edition
- Taekwondo: A Step-by-Step Guide to the Korean Art of Self-Defense Paperback 15 Jan 2003
- The Self-Defense Handbook (English, Paperback, Fury Sam)
- The Walking Stick Method of Self Defence Paperback Import, 14 August 2018

## Semester I OPEN ELECTIVE PAPER - 2

Title of the Course:

## Sport Event Management

(BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the meaning and salient features of sport event management.
- Learn the various sports related events and the required skills for their management.
- Learn the application of financial and human resource management in organizing sports events.
- Know the various gadgets, implements, equipment used in conducting sports events.
- Undergo practical exercise in conducting various sports related events.
- Get the opportunity to practically visit and learn the nuances of sports event management from actual sports events.
- Learn to record and prepare reports.

| Number of<br>Theory Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Number of lecture<br>hours/semester | Number of Practical<br>Credits | Number of Pr<br>hours/ sem | ractical<br>ester |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------|----------------------------|-------------------|
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 28                                  | 1                              | 28                         |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Contents of                         | f the Course                   |                            |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2 –                                 | 0 - 1                          |                            |                   |
| <ul> <li>Meaning, Definition and importance of Sports Event Management</li> <li>Scope of Sports Event Management</li> <li>Types of Sports Events and Principles of Sports Event Management</li> <li>Financial and Human resources Planning in Sports Event Management</li> <li>Types of Sports Events, modalities of organization, event specific equipment and gadgets utilised – Major sports such as athletic events and games, Road races and marathons, traditional and folk events, Sports Conferences and workshops.</li> <li>Sponsorship and sports event management.</li> </ul> |                                     |                                |                            |                   |
| Practical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                     |                                | 12                         |                   |
| <ul> <li>Organising</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | project athletic meets.             | 25                             |                            | 28                |
| <ul> <li>Organising</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | project competitions in             | games.                         |                            |                   |
| <ul> <li>Organising</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | project road races etc.             |                                |                            | 56                |
| <ul> <li>Participation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | n and visit to various sp           | orts events and preparation    | on of reports:             |                   |
| Financial ou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | tlay, sponsorship usage,            | , marketing and media, H       | uman resources             |                   |
| management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | , competitions rules and            | d regulations, equipment       | and gadgets used,          |                   |
| Usage of vol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | unteers etc.                        |                                |                            |                   |
| • Preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | of records and reports              |                                |                            |                   |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Formative Assessment</b> |               |      |
|-----------------|-----------------------------|---------------|------|
|                 | Internal Assessment         | Semester Exam | Tota |
| Assessment Type | 20                          | 60            |      |
| Theory          | 20                          |               |      |
| Practical       | 20*                         |               | 100  |
|                 | 40                          | 60            | 100  |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- Bachelor of Sports Management Syllabus (Revised)'2008
- Chandan, JS : Management Concepts and Strategies, Vikas Publishing
- Daft, RL : Management, Thomson
- Harold Koontz & Heinz Weihrich, Essentials of Management, Tata McGraw Hill, 201, Reference Book: 1. Stoner, Freeman, Gilbert Jr., Management.
- Ramaswami T; Principles of Mgmt., Himalaya Publishing
- Robbins, SP : Management, Prentice Hall
- Sports Marketing A strategic perspective by Matthew D. Shank, Prentice Hall.
- Stoner J and Freeman RE: Management; Prentice-Hall
- V.S.P Rao & Hari Krishna: Management-Text & Cases, Excel Books.
- Weihrich and Koontz, et al: Essentials of Management; Tata McGraw Hill.

### Semester I SKILL ENHANCEMENT COURSES (SEC-1) Title of the Course:

## Health, Wellness and Yoga

(BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the benefits, principles of practice of yoga.
- Perform asanas, kriyas and pranayamas
- Conduct classes in selected yoga practices.
- Learn the importance of sports and fitness
- Perform warmup exercises and exercises to develop fitness
- Understand the concepts and significance of health and wellness.
- Understand the role of physical activities in developing health and wellness.
- Perform various physical and fitness activities to develop health and wellness.
- Perform related tests to assess parameters related to health.
- Learn to record and prepare reports.

|            | Number of Credits                    | Number of lectur           | e hours/ sem | ester   |  |
|------------|--------------------------------------|----------------------------|--------------|---------|--|
|            | 2                                    | 56     the Course     `56  |              |         |  |
| 12.1       | Contents of t                        | he Course                  |              | `56 Hrs |  |
| Init 1. I. |                                      | - 2                        |              |         |  |
|            | Acoping Definition and Loss (        |                            |              | 56      |  |
| a.r        | Nearing, Definition and Importance   | ce of Health & Wellness    |              |         |  |
| 0.1        | Dimensions of Health and Wellnes     | S                          |              |         |  |
|            | actors influencing Health and We     | llness                     |              |         |  |
| P          | hysical Fitness, Nutrition, Habits,  | Age, Gender, Lifestyle     |              |         |  |
| a          | Health & Wellness through Physic     | cal Activities             |              |         |  |
| 5          | ports, Games, Yoga, Recreation a     | nd Leisure time activities |              |         |  |
| e. (       | auses of Stress & Stress relief thro | ough Exercise and Yoga     |              |         |  |
| Unit 2: Pr | actical's- Exercises for Health a    | nd Wellness                |              |         |  |
| a.         | Warm-Up and Cool Down - Gen          | eral & Specific Exercises  |              |         |  |
| b.         | Physical Fitness Activities          |                            |              |         |  |
| с.         | Stretching Exercises                 |                            |              |         |  |
| d.         | Strengthening Exercises              |                            |              |         |  |
| e.         | Cardiovascular Exercises             |                            |              |         |  |
| f.         | Flexibility and Agility Exercises    |                            |              |         |  |
| g.         | Assessment of BMI                    |                            |              |         |  |
| h.         | Relaxation techniques                |                            |              |         |  |
| Unit 3:- Y | oga                                  |                            |              |         |  |
| a.         | Shitalikarna Vyayama                 |                            |              |         |  |
| b.         | Suryanamaskara                       |                            |              |         |  |
| с.         | Basic Set of Yoga Asanas             |                            |              |         |  |
| d.         | Basic Set of Pranayama & Me          | ditation                   |              |         |  |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

| Total |
|-------|
|       |
|       |
| 50    |
| 50    |
|       |
|       |

Class room activity shall be assessed based on Discipline, Mass Participation Activity, Punctuality. Performance – due credit shall be given to sports achievements of students.

| References:   | Densili D. D. (1994) Health and Fitness Through Physical Education. USA:           |
|---------------|------------------------------------------------------------------------------------|
| 1.            | Russell, K. P. (1994). Hourin and a second                                         |
| Human Kineti  | cs.                                                                                |
| 2.            | Uppal, A.K. (1992). Physical Filless. New Dennie Filess. (2002). Samagra           |
| 3.            | Nagendra, H. R. & Nagaratima, R. Nagaratima, R. Visuakananda Yoga Prakasana.       |
|               | Yoga Chikitse.Bengaluru: Swami Vivekananda Toga Tranapana Prakashana.              |
| 4.            | Kumar, Ajith. (1984) Yoga Pravesha. Bengaluru. Kashtrothanna Fillsborough,         |
| 5.            | D.M Jyoti, Yoga and Physical Activities (2013) Induconister, million of            |
| NC27609, Un   | ited States Eitness Test                                                           |
| 6.            | AAPHERD "Health related Physical Finess rest                                       |
|               | Manual." 1980 Published by Association drive Reston Virginia                       |
| 7.            | Bucher.C.A (1979) Foundation of Physical Education (5 <sup>th</sup> Edition        |
| Missouri CV   | Mosby Co.) I Disciple Education" New Delhi :                                       |
| 8.            | Puri .k. Chandra S.S (2005) "Health and Physical Education" New 2 can              |
| Surjeet Publi | cation.                                                                            |
| 9.            | Thomas D Fahey and others. Fit and well : 6 <sup>th</sup> Edition New York .McGraw |
| Hill Publishe | ers, 2005                                                                          |
| 10.           | Dixit Suresh (2006) Swasthya Shiksha sports Publications Denni.                    |
| 11.           | Uppal A K & Gautam G P (2008) Health and Physical Education. Theres                |
|               |                                                                                    |

Publication New Delhi.

## **II SEMESTER**

. <sub>5</sub> °\*

· 8, \*\*

## Semester II

## **DISCIPLINE SPECIFIC CORE - 2**

#### Title of the Course:

## Lifestyle Management

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the meaning of lifestyle management and its significance. Understand the types of fitness and their significance and methods of developing them. •
- Understand the yogic principles and their applications in improving lifestyle. Know the importance diet, the applications of a proper diet plan to improve lifestyle. .
- Know the meaning of physical literacy and the movement patterns.
- Understand the role of physical activity in improving health and fitness.
- Understand and perform warm up and conditioning activities.
- Assess the skill-related fitness parameters and evaluate the same.
- Perform basic skills in a game and athletic event.
- Perform basic asanas and pranayama.
- Learn to record and prepare reports.

|                                                                          |                          | Number of practical       | Number of pract       | Ical |
|--------------------------------------------------------------------------|--------------------------|---------------------------|-----------------------|------|
| Number of                                                                | Number of lecture        | Number of practical       | hours/ semeste        | r    |
| Theory Credits                                                           | hours/semester           | Credits                   | 56                    |      |
| 4                                                                        | 56                       | 2                         | 50                    |      |
| т.<br>                                                                   | Contents o               | f the Course              |                       |      |
|                                                                          | 4 –                      | 0-2                       | ETTNESS               |      |
| I INTROD                                                                 | UCTION TO LIFE S         | TYLE & PHYSICAL           | FILLESS               |      |
| Unit – I INTROD                                                          | Definitions of Physic    | al Fitness and Life Style |                       |      |
|                                                                          | anofits of Physical Fitn | ess                       |                       |      |
| Need and Be                                                              | Inclusion and Component  | s: - Cardiovascular End   | urance, Muscular      | 12   |
| <ul> <li>Health Relation</li> </ul>                                      | ted Fitness Component    | avibility Body Compo      | sition                |      |
| Strength, N                                                              | Auscular Endurance, FI   | Agility Bal               | ance. Co- ordination, |      |
| Skill Relate                                                             | d Physical Fitness Con   | iponents: - Aginty, Dur   |                       |      |
| Power, Reaction Time, Speed                                              |                          |                           |                       |      |
|                                                                          |                          |                           | ANACEMENT             |      |
| IInit - 2                                                                | OGIC PRINCIPLES          | AND LIFESTYLE N           | ANAGENEIN             |      |
| Vogic pri                                                                | nciples and lifestyle ma | inagement                 |                       |      |
| o Jn                                                                     | ana Yoga                 |                           |                       | 14   |
| o Ka                                                                     | arma Yoga                |                           |                       | 14   |
| o Bl                                                                     | hakthi Yoga              |                           |                       |      |
| o R                                                                      | aja Yoga / Astanga Yog   | ga                        | ahara                 |      |
| Vogic Life Style: Ahara, Vihara, Vichara, Achara, Vyavanara              |                          |                           |                       |      |
|                                                                          | -                        |                           | MENT                  |      |
| Unit - 3 N                                                               | UTRITION AND LI          | FE STYLE MANAGE           |                       |      |
| • Nutrition and Diet: Meaning, Balanced diet.                            |                          |                           |                       | 10   |
| Components of Balance Diet and its importance – Macro nutrients.         |                          |                           |                       |      |
| • Components of Emotein, Fat Micro nutrients: Vitamins & Minerals, water |                          |                           |                       |      |
| Caroony                                                                  | ifactule through Diet a  | and Fitness               |                       |      |
| Healthy I                                                                | Inestyle unough Diet     |                           |                       |      |

| Unit - 4 PHYSICAL LITERACY                                                                    |        |
|-----------------------------------------------------------------------------------------------|--------|
| • Meaning, Definition and Importance of Physical Literacy.                                    |        |
| Core Elements of Physical Literacy                                                            |        |
| <ul> <li>Fundamental Movements - Art of Walking, Running, Jumping and<br/>Throwing</li> </ul> | 14     |
| Contribution of the internet                                                                  |        |
| <ul> <li>Contribution of physical activity towards adopting Healthy lifestyle</li> </ul>      |        |
| CONTENT OF PRACTICAL COURSE 2: Prosting 1 (2 11) (76)                                         |        |
| A. Specific warm-up / Lead up Activities                                                      | 56 Hrs |
| Training and Assessment of Skill and the Lorenza                                              |        |
| Coordination Dense Density Filated fitness: Agility, Balance, Speed,                          |        |
| B. Advanced to the Reaction Time.                                                             |        |
| <b>B.</b> Advanced Asanas (as per the reference books)- 2 asanas from each.                   |        |
| • Standing Asanas                                                                             |        |
| Shung Asanas                                                                                  |        |
| • Prone Asanas                                                                                |        |
| • Supine Asanas                                                                               |        |
| C. Advanced Pranayamas (Any two)                                                              |        |
| <ul> <li>Surya Anuloma Viloma/Surya Bhedana Pranayama</li> </ul>                              |        |
| Chandra Anuloma Viloma/Chandra Bhedana Pranavama                                              |        |
| • Ujjayi Pranayama                                                                            |        |
| <ul> <li>Kumbhaka Pranayama</li> </ul>                                                        |        |
|                                                                                               |        |
| D. GAMES /TRACK & FIELD                                                                       |        |
| • One Game: Rules and Regulations of the Game and Officiating.                                |        |
| <ul> <li>Introduction to Track and Field Events. Athletic Rules as recognized by</li> </ul>   |        |
| the Athletics Federation. Marking of Track and Field. Officiating.                            |        |
| Records and Report Preparation                                                                |        |
| E. Preparation of Records and Reports                                                         |        |
|                                                                                               |        |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

Pedagogy: The course shall be taught through Lecture, Practicals, Interactive Sessions, Materials, Assignments, Seminars, Intramural & Extramurals

| Formative Assessment |                               |                |     |               |       |
|----------------------|-------------------------------|----------------|-----|---------------|-------|
| Assessment Type      | Internal                      | Assessme       | ent | Semester Exam | Total |
| Theory               | Test<br>Assignment<br>Seminar | 20<br>10<br>10 | 40  | 60            | 100   |
| Practical            | Test<br>Assignment            | 15<br>10       | 25  | 25            | 50    |
|                      |                               | Total          | I   |               | 150   |

Assignments can be in the form of field work, projects, written tasks, practical tasks etc.

#### **Reference Books:**

- Fitness and Wellness, Werner. W.K. Hoegar, Sharon.A. Hoegar, 1990, Morton Publishing Company, Englewood, Colorado
- Fit to be Well, Alton L.Thygerson, Karl L.Larson, Jones and Bartlett Publishers, Sudbury
- Fitness Education, Teaching Concepts Based Fitness in Schools, 1997, Garsuch scaris brick Publishers, Arizona
- Health, Exercise and Fitness, Dr.Briz, Mohan.T.Raman, Sports Publications, Darya Ganj, New Delhi
- Introduction to Physical Education, Fitness and Sport, 5<sup>th</sup> Edition, Dary Sidentop, Mc Graw Hill 007-123271-0ISBN
- Physical Fitness and Wellness, Dr. Sanjay R.Agashe, Khel Sahithya Kendra, 7/26 Ansari Road, Darya Ganj, New Delhi
- Fit & Well, 4<sup>th</sup> Edition, Thomas D.Fahey, Paul M.Insel, Walton T.Roth, Mayfield Publishing company, Mayfield Publishing Company, London
- Pinto John and Ramachandra K (2021) Kannada Version, Daihika Shikshanada Parichaya, Louis Publications, Mangalore
- Track & Field Training & Movement science-Theory and Practice for all Disciplines, Dr.Henko.K, Struder, 2021, Meyer & Meyer Sport(UK) publishers, Germany
- Pinto John and Roshan Kumar Shetty (2021) Introduction to Physical Education, Louis
- Publications, Mangalore "Nutrition Education", Anjali Pattanaik, (2004), Published by Chaman Enterprises, Patoudi
- House, New Delhi Approach to Measurement in Physical Education, 1979, 3rd A Practical Edition, Barrow. M. Harold, Rosemary. Mc. Gee, Lea & Febiger, Phildelphia
- Abels, K. & Bridges, J. M. (2010) Teaching Movement Education: Foundations for active
- lifestyles. Human Kinetics Graham, G., Holt, Shirley & Parker, Melissa (1993) Children Moving. A Reflective Approach to Teaching Physical Education with Movement Analysis, Wheel 3rdEdition, Mayfield Publishing Company.
- Yoga for Promotion of Positive Health, 2011. Dr.H.R.Nagendra and Dr.R.Nagarathna, Swamy Vivekananda Yoga Prakashna, Bangalore
- "Asana, Pranayama, Mudra, Bandha", 1969, Swamy Sathyananda Saraswati, Bihar Yoga Bharati, Munger
- "Four Yoga of Swamy Vivekananda", 1979, Swamy Tapasyananda, Adwaitha Prakashana, Ramakrishna Ashrama, Calcutta
- New Perspectives in Stress Management, 2014, Dr.H.R.Nagendra, Swamy Vivekananda Yoga Prakashna, Bangalore
- Pranic Energization Technique, 2005, Dr. H. R. Nagendra, Swamy Vivekananda Yoga Prakashna, Bangalore
- Mind, Sound, Resonance Technique, 2005, Dr.H.R.Nagendra, Swamy Vivekananda Yoga Prakashna, Bangalore.

### Semester II OPEN ELECTIVE PAPER - 3

Title of the Course:

#### **Yoga and Fitness**

(BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the principles of practicing asanas and fitness activities.
- Learn the various concepts of fitness and general and specific conditioning for the same.
- Practically learn the principles of implementing fitness activities and yoga.
- Perform specific activities to develop motor abilities.
- Perform fitness activities to improve fitness.
- Perform prescribed asanas.
- Learn and practice recreational activities to develop fitness.
- Learn to record and prepare reports.

| Number of<br>Theory CreditsNumber of lecture<br>hours/semesterNumber of Practical<br>CreditsNumber of Pract<br>hours/ semester |                           |                                         |              |    |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------|--------------|----|
| 2                                                                                                                              | 2 28 1 28                 |                                         |              |    |
|                                                                                                                                | Contents of               | the Course                              |              |    |
|                                                                                                                                | 2 - (                     | 0-1                                     |              |    |
| Theory                                                                                                                         |                           |                                         |              |    |
| Meaning an                                                                                                                     | d Importance of Yoga a    | and Fitness                             |              | 28 |
| <ul> <li>Types and F</li> </ul>                                                                                                | Principles of Asanas      |                                         |              |    |
| <ul> <li>Types of Fit</li> </ul>                                                                                               | tness and their compone   | ents                                    |              |    |
| <ul> <li>General and</li> </ul>                                                                                                | Specific Conditioning     | and their importance                    |              |    |
| Methods of                                                                                                                     | developing Strength, St   | peed, Agility, Flexibility,             | coordinative |    |
| abilities                                                                                                                      |                           | , , , , , , , , , , , , , , , , , , , , |              |    |
| Nutrition for                                                                                                                  | r Fitness                 |                                         |              |    |
| Practical                                                                                                                      |                           |                                         |              |    |
| • General and                                                                                                                  | Specific Warm up          |                                         |              | 28 |
| Specific Exe                                                                                                                   | ercises for Strength, Spe | eed, Agility, Flexibility, C            | Coordinative |    |
| abilities                                                                                                                      |                           | , , , , , , , , , , , , , , , , , , , , |              |    |
| • Aerobics/Zu                                                                                                                  | mba/Dance/Pilates/Res     | sistance training/Swiss ba              | lls/Fitness  |    |
| activities usin                                                                                                                | ng varied equipment       |                                         |              |    |
| • Yogasanas -                                                                                                                  | - Sitting, standing, supi | ne and prone position                   |              |    |
| • Fitness through recreational activities                                                                                      |                           |                                         |              | ×  |
| • Preparation                                                                                                                  | of records and reports    |                                         |              |    |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Eormative Assessment</b> |               |       |
|-----------------|-----------------------------|---------------|-------|
|                 | Internal Assessment         | Semester Exam | Total |
| Assessment Type | 20                          | 60            |       |
| Theory          | 20                          |               |       |
| Practical       | 20*                         | (0            | 100   |
| Tatal           | 40                          | 60            | 100   |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

•

- Ajith 'Yoga pravesha'' Rashtrotana parishad Bangalore •
- B K S Iyengar 'Light on Yoga' Rashtrotana parishad Bangalore
- B.K.S.Iyengar 'Yoga the path to holistic Health', Dorling Kindersley Delhi 2001
- Leslie Kaminoff, Amy Matthews 'Yoga Anatomy' Human Kinetics U.S.A. 2007
- Muller, J. P.(2000). Health, Exercise and Fitness. Delhi: Sports •
- Swami Sachidananda 'the yoga sutras of Pathanjali Integral yoga Publications 2012. •

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### Semester II OPEN ELECTIVE PAPER - 4

Title of the Course:

#### **Adventure Sports**

#### (BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the meaning and importance of Adventure sports.
- Learn the various types of adventure sports, the equipment and resources required to practice these sports.
- Learn the safety measures to be taken while practicing adventure sports.
- Be aware of the job opportunities in this area of sports.
- Practically perform selected adventure sports.
- Teach, plan and organize various adventure sports.
- Learn to record and prepare reports.

| Number of<br>Theory Credits                                                                                  | Number ofNumber of lectureNumber of PracticalNumber of PracticalTheory Creditshours/semesterCreditshours/ semester                                                                                 |                                                                                                                                     | ctical<br>r                                                   |    |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----|
| 2                                                                                                            | 2 28 1 28                                                                                                                                                                                          |                                                                                                                                     |                                                               | 1  |
| Contents of the Course                                                                                       |                                                                                                                                                                                                    |                                                                                                                                     |                                                               |    |
| а — Е                                                                                                        | 2                                                                                                                                                                                                  | 0-1                                                                                                                                 | · · · · · · · · · · · · · · · · · · ·                         | a  |
| Theory<br>Definiti<br>History-<br>Water s<br>surfing,<br>Aero sp<br>skydivir<br>Mounta<br>Safety n<br>Recent | on, Meaning and Impo<br>- Development, Scope,<br>ports – Canoeing, rafti<br>paddling.<br>orts: Ballooning, Hang<br>ng<br>ineering – Trekking, R<br>neasures and first aid<br>Trends in Adventure S | ortance of Adventure Spo<br>, and Objectives<br>ing, kayaking, scuba divi<br>g gliding, Paragliding, Pa<br>Rock Climbing, Wall clir | orts<br>ing, snorkeling,<br>arasailing,<br>nbing, Bouldering. | 28 |
| <ul> <li>Job Opp</li> <li>Practical</li> <li>Fitness,</li> </ul>                                             | Conditioning, Warmin                                                                                                                                                                               | re Sports<br>ng Up, Specific Exercise                                                                                               | es, Cooling Down                                              | 28 |
| <ul> <li>Practica</li> <li>Planning<br/>Para Sai</li> <li>Records</li> </ul>                                 | I, teaching, demonstra<br>g and Organising-Mou<br>iling, Water Sports, etc<br>and Report Preparatio                                                                                                | tion, training, technical<br>intaineering, Trekking, F<br>c.<br>on                                                                  | training.<br>Rock Climbing,                                   |    |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Formative Assessment</b> |               |       |
|-----------------|-----------------------------|---------------|-------|
| Assessment Type | Internal Assessment         | Semester Exam | Total |
| Theory          | 20                          | 60            |       |
| Practical       | 20*                         |               |       |
| Total           | 40                          | 60            | 100   |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- Adventure Sports: World's Most Popular 89 Adventure Sports Paperback Import, 13
   February 2020, by Mahesh Sharma (Author)
- Adventure Tourism and Sports 1st Edition (English, Hardcover, Negi Jagmohan)
- The world of adventure sports, By:Berne, Emma Carlson, Lonely Planet
- Kids, Jepson, Ian(Illustrated by) Part of the Lonely Planet Kids series
- Sports, Games and Adventure Sports (English, Hardcover, Ghosh C N)

### Semester II SKILL ENHANCEMENT COURSES (SEC-2)

Title of the Course:

#### **Sports I**

## (BA/BSc/BCom/BBA/BCA & all other UG Courses)

On completion of the Course the student will:

- Learn the rules and regulations and practically participate in sports activities.
- Be able to practice the skills of a game and athletic events.
- Learn the various fitness activities and practically learn them.
- Be able to teach and organize intramural and extramural competitions.
- Learn to record and prepare reports.

| Number of Credits                                   | Number of Practical hours/ semesters |
|-----------------------------------------------------|--------------------------------------|
| 2 56                                                |                                      |
| Contents of the Course                              |                                      |
| 0-0-2                                               |                                      |
| Unit 1: - Physical Education & Sports               |                                      |
| General and Conditioning exer                       | rcises                               |
| • Aerobic and anaerobic activitie                   | es                                   |
| • One Olympic Game and one in                       | digenous game of Choice (Basic       |
| Skills)                                             |                                      |
| • Athletics - One Track/One Fie                     | d event 56                           |
| Organisation of Intramural / Example 1              | stramural Competitions               |
| • Project, Records and Report Preparatio            | n                                    |
| Proficiency in particular Sport                     |                                      |
| • Rules & Regulations                               |                                      |
| <ul> <li>Marking &amp; Ground Management</li> </ul> |                                      |
| • Officiating                                       |                                      |
|                                                     |                                      |

Games may be selected based on student strength and facilities available in the college.

- No game/athletic events shall be repeated in successive semesters
- The practical classes shall be adapted to the physically challenged students as per requirement.

| Formative Assessment |                        |        |       |  |
|----------------------|------------------------|--------|-------|--|
| Assessment Type      | Internal Asses         | ssment | Total |  |
|                      | Skill and Fitness Test | 10     |       |  |
|                      | Class room activity    | 10     |       |  |
| Practical            | Project / Record       | 20     | 50    |  |
|                      | Performance            | 10 '   |       |  |

| :                                                                                                                                                                                                                    | Total                                                                                                                                                                                                                 | 50                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <ul> <li>Class room activity shall be ass<br/>Punctuality.</li> <li>Performance – due credit shall</li> </ul>                                                                                                        | sessed based on Discipline, Mass Parti<br>be given to sports achievements of s                                                                                                                                        | cipation Activity,                                 |
| References:<br>Muller, J. P. (2000). Healt<br>IAAF Manual<br>Vanaik. A (2005) Play Fie<br>M. J. Vishwanath (2002)<br>Officiating Manual, Silver Star<br>Steve oldenburg (2015) C<br>Note: Skills of Sports and Games | h, Exercise and Fitness. Delhi: Sports.<br>eld Manual, Friends Publication New I<br>Track and Field Marking<br>Publication, Shimoga<br>Complete Conditioning for Volleyball,<br>(Game Specific books) may be referred | Delhi<br>g and Athletics<br>Human Kinetics.<br>ed. |

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## **III SEMESTER**

#### Semester III

## **DISCIPLINE SPECIFIC CORE - 3**

Title of the Course:

## Sports Training and Coaching

#### **Course outcomes**

On completion of the Course the student will be able to:

. ...

- Learn the meaning and principles of Sports Training
- Understand the components of fitness and methods of training.
- Learn the meaning of Periodization and the characteristics of training plans.
- Implement basic training plans for fitness and performance.
- Learn to record and prepare reports.

| Number of                   | Number of lecture                | Number of practical      | Number of pra | ctical |
|-----------------------------|----------------------------------|--------------------------|---------------|--------|
| <b>Theory Credits</b>       | hours/semester                   | Credits                  | hours/ semes  | ter    |
| 4                           | 56                               | 2                        | 56            |        |
| 5                           | Contents of                      | f the Course             | · .           |        |
|                             | 4 –                              | 0-2                      |               |        |
| Unit – 1 INTROD             | UCTION                           |                          |               |        |
| <ul> <li>Introdu</li> </ul> | ction to Sports Training         | 5                        |               |        |
| • Meanir                    | ng, Definition, Aims and         | d Objectives of Sports 7 | Training      | 12     |
| Need a                      | nd Importance of Sport           | s Training               |               |        |
| Princip                     | les of Sports Training           |                          |               |        |
| Unit 2 MOTOR                | A GULITIES AND M                 | ETHODS OF TRAIN          | ING           |        |
| Motor Abilitie              | es and their Developm            | ent                      |               |        |
|                             | and then beverepin               |                          |               |        |
| • Stre                      | ength                            |                          | . ·           |        |
| • Spe                       | eed                              |                          |               |        |
| • End                       | durance                          |                          |               |        |
| • Fle                       | xibility                         |                          |               |        |
| • Ag                        | Agility & Coordinative abilities |                          |               |        |
| Methods of S                | ports Training                   |                          |               |        |
| • Co                        | ntinuous Training                |                          |               |        |
| • Inte                      | erval Training                   |                          |               |        |
| • Far                       | tlek Training                    |                          |               |        |
| • Cir                       | cuit Training                    |                          |               |        |
| • We                        | eight Training                   |                          | к.            |        |
| Unit - 3 COACH              | IING                             |                          |               |        |
| • Me                        | aning, Definition and I          | mportance of Coaching    |               | 16     |
| • Pri                       | nciples of Coaching              |                          |               |        |

|          | <ul> <li>Qualities and Qualifications of a Coach</li> </ul>       |        |
|----------|-------------------------------------------------------------------|--------|
|          | <ul> <li>Responsibilities and Duties of a Coach</li> </ul>        |        |
| Unit -   | 4 TRAINING PROGRAMME AND PLANNING                                 |        |
|          | <ul> <li>Periodization- Meaning, Importance and types</li> </ul>  |        |
|          | • Phases of Periodisation – Preparation phase, Competition phase, | 14     |
|          | Transition phase                                                  |        |
|          | <ul> <li>Cycles of Training- Micro, Meso and Macro</li> </ul>     |        |
| CONTE    | ENT OF PRACTICAL COURSE: SPORTS PROFICIENCY                       | 56 Hrs |
| Practica | l (2 credits/56 hours)                                            |        |
| 1.       | Brief Introduction of Particular Sport/Game                       | 1      |
| (A       | mong the list of IOA, AIU, SGFI)                                  |        |
| 2.       | Play Field Technology- Construction, Marking and Equipment        |        |
| 3.       | Specific Fitness for specific Sport/Game                          |        |
| 4.       | Basic Skill, Drills and Techniques of the Game                    |        |
| 5.       | Officiating of the Specific Game                                  |        |
| 6.       | Preparation of Records and Reports                                |        |
|          |                                                                   |        |
|          |                                                                   |        |

Practical classes will be conducted in any two games depending on the facilities available in the college.

\* The practical classes shall be adapted to the physically challenged students as per requirement.

**Pedagogy:** The course shall be taught through Lecture, Practicals, Interactive Sessions, Materials, Assignments, Seminars, Intramural & Extramurals

|                 | Formative Assessment |                                   |    |    |     |  |
|-----------------|----------------------|-----------------------------------|----|----|-----|--|
| Assessment Type | Internal             | Internal Assessment Semester Exam |    |    |     |  |
|                 | Test                 | 20                                |    | 60 |     |  |
| Theory          | Assignment           | 10                                | 40 |    | 100 |  |
|                 | Seminar              | 10                                |    |    |     |  |
| Drastical       | Test                 | 15                                | 25 | 25 | 50  |  |
| Fractical       | Assignment           | 10                                | 25 |    | 30  |  |
| ×               | Total                |                                   |    |    | 150 |  |

Assignments can be in the form of field work, projects, written tasks, practical tasks etc.

#### **Reference Books:**

- Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc.
- Cart, E. Klafs& Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C.V. Mosby Company

- Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Luis, Mosby Year Book
- David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moore University
- Gary, T. Moran (1997) Cross Training for Sports, Canada : Human Kinetics.
- Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications.
- Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia.
- Ronald, P. Pfeiffer (1998) Concepts of Athletics Training 2nd Edition, London: Jones and Bartlett Publications
- YograjThani (2003), Sports Training, Delhi : Sports Publications.
- Thomas Kurz Science of Sports Training: How to Plan and Control Training for Peak Performance.

#### Semester III

#### **OPEN ELECTIVE PAPER - 5**

Title of the Course:

#### **Physical Fitness for Careers**

#### (BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Be aware of various professions which require physical fitness and abilities.
- Learn the specific physical requirements of various professions.
- Learn about the various tests to be conducted to evaluate physical fitness.
- Learn the mode of selections and fitness standards required for related careers.
- Practice the motor abilities required by related professions.
- Assess and prepare themselves for passing in the physical fitness tests of these professions.
- Learn to record and prepare reports.

| Number of                            | Number of lecture                                             | Number of Practical         | Number of Pra      | ctical |
|--------------------------------------|---------------------------------------------------------------|-----------------------------|--------------------|--------|
| <b>Theory Credits</b>                | hours/semester                                                | Credits                     | hours/ semeste     | er     |
| 2                                    | 28                                                            | 1                           | 28                 |        |
|                                      | Contents of                                                   | f the Course                | × 4                | •      |
|                                      | 2 –                                                           | 0 - 1                       |                    |        |
| Theory                               |                                                               |                             |                    | 28     |
| <ul> <li>Meaning, T</li> </ul>       | ypes and Importance of                                        | f careers requiring physi   | ical fitness.      |        |
| <ul> <li>Physical Fi</li> </ul>      | tness Standards for Mer                                       | n and Women: Tests for      | Speed, Endurance,  |        |
| Strength, Ag                         | gility and Flexibility.                                       |                             |                    |        |
| <ul> <li>Career specified</li> </ul> | ific Fitness Tests:                                           |                             |                    |        |
| Fitness Tes                          | ts for Defense Forces, F                                      | SI, Police Constable, F     | ire Force,         |        |
| Forest Depa                          | artment, Professional Co                                      | ourses-Sports & Physica     | al Education       |        |
| General and                          | d Specific Conditioning                                       | and its importance          |                    |        |
| • Specific Te                        | • Specific Tests for Strength Test, Speed Test, Agility Test, |                             |                    |        |
| Flexibility T                        | est, Coordinative abilit                                      | ies, etc                    |                    |        |
| <ul> <li>Mode of Se</li> </ul>       | elections and Qualifying                                      | Standards                   | ·                  |        |
| Practical                            |                                                               |                             |                    | 28     |
| General and                          | d Specific conditioning                                       | exercises                   |                    |        |
| • Training fo                        | r Endurance, Speed, Str                                       | ength, Agility, Flexibili   | ty.                |        |
| • Assessment                         | t of career specific fitne                                    | ss abilities (fitness tests | ): Defense Forces, |        |
| PSI, Police                          | Constable, Fire Force, F                                      | orest Department, Profe     | essional Courses-  |        |
| Sports & Ph                          | ysical Education                                              |                             |                    |        |
| <ul> <li>Records and</li> </ul>      | Report Preparation                                            |                             |                    |        |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Formative Assessment</b> |               |      |
|-----------------|-----------------------------|---------------|------|
| Assessment Type | Internal Assessment         | Semester Exam | Tota |
| Theory          | 20                          | 60            |      |
| Practical       | 20*                         |               |      |
| Total           | 40                          | 60            | 100  |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- A Practical Approach to Measurement in Physical Education, 1979, 3<sup>rd</sup> Edition, Barrow.M. Harold, Rosemary.Mc.Gee, Lea & Febiger, Phildelphia
- AAPHERD "Health related Physical Fitness Test Manual." 1980 Published by Association drive Reston Virginia
- Muller, J. P.(2000). Health, Exercise and Fitness. Delhi: Sports.
- Russell, R.P.(1994). Health and Fitness through Physical Education. USA: Human Kinetics
- Singh Hardayal (1991), Science of Sports Training, DVS Publication, New Delhi
- Uppal, A.K. (1992). Physical Fitness. New Delhi : Friends Publication.

### Semester III OPEN ELECTIVE PAPER - 6

Title of the Course:

#### **Sports and Recreation**

(BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Know the role of recreational activities in improving health and fitness.
- Learn the different types of sports and recreational activities.
- Understand the educational values of practicing recreational and sports activities.
- Get a hands-on experience in sports recreational activities.
- Get a hands-on experience in organizing sports recreational activities.
- Learn to record and prepare reports.

| Number of                                                   | Number of lecture       | Number of Practical       | Number of Pra  | ctical |
|-------------------------------------------------------------|-------------------------|---------------------------|----------------|--------|
| Theory Credits                                              | hours/semester          | Credits                   | hours/ semeste | er     |
| 2                                                           | 28                      | 1                         | 28             |        |
|                                                             | Contents o              | f the Course              |                |        |
|                                                             | 2 –                     | 0-1                       |                |        |
| Theory                                                      |                         |                           |                | 28     |
| <ul> <li>Meaning,</li> </ul>                                | Definition and Conce    | pt of Recreation          |                |        |
| <ul> <li>Objective</li> </ul>                               | es, Characteristics and | Principles of Recreation  | 1              |        |
| Importance                                                  | e, Purpose, Benefits of | Recreation                |                |        |
| • Types of Recreation                                       |                         |                           |                |        |
| • Recreation                                                | through Sports and Ga   | ames                      |                |        |
| • Use of Leis                                               | sure Time Activities ar | nd their educational valu | ies            |        |
| Practical                                                   |                         |                           |                |        |
| • Traditional                                               | , Folk and Indigenous   | Games                     |                | 28     |
| • Outdoor camp actifies                                     |                         |                           |                |        |
| • Cycling, hiking, trekking activities                      |                         |                           |                |        |
| <ul> <li>Organisation of Recreational activities</li> </ul> |                         |                           |                |        |
| Records and                                                 | Report Preparation      |                           |                |        |
|                                                             |                         |                           |                |        |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Formative Assessment</b> |               |       |
|-----------------|-----------------------------|---------------|-------|
| Assessment Type | Internal Assessment         | Semester Exam | Total |
| Theory          | 20                          | 60            | Č,    |
| Practical       | 20*                         |               |       |
| Tatal           | 40                          | 60            | 100   |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- Bucher. C. A (1979) Foundations of Physical Education (5<sup>th</sup> edition Missouri CV Mosby • Co.)
- Coalter, F. (2013) Sport for Development: What game are we playing? Routledge. •
- Puri .k. Chandra S.S (2005) "Health and Physical Education" New Delhi : Surjeet • Publications.
- Thomas D Fahey and others. Fit and well: 6th Edition New York : McGraw Hill • Publishers, 2005

### Semester III SKILL ENHANCEMENT COURSES (SEC-3)

Title of the Course:

#### **Sports II**

## (BA/BSc/BCom/BBA/BCA & all other UG Courses)

On completion of the Course the student will:

- Learn the rules and regulations and practically participate in sports activities. •
- Be able to practice the skills of a game and athletic events. .
- Learn the various fitness activities and practically learn them.
- Be able to teach and organize intramural and extramural competitions.
- Learn to record and prepare reports.

| Number of Credits Number of Practical hours               |                                  | emesters |
|-----------------------------------------------------------|----------------------------------|----------|
| 2 56                                                      |                                  |          |
| Contents of th                                            | Contents of the Course           |          |
| 00                                                        | 2                                |          |
| Unit 1: - Physical Education & Sports                     |                                  |          |
| General and Conditioning examples                         | xercises                         |          |
| • Aerobic and anaerobic activ                             | ities                            |          |
| One Olympic Game and one                                  | indigenous game of Choice (Basia |          |
| Skills)                                                   | margenous game of Choice (Dasie  |          |
| <ul> <li>Athletics - One Track/One Field event</li> </ul> |                                  | 56       |
| Organisation of Intramural /                              | Extramural Competitions          | 2.4      |
| • Project, Records and Report Preparat                    | tion                             |          |
| Proficiency in particular Spo                             | ort                              |          |
| • Rules & Regulations                                     |                                  |          |
| • Marking & Ground M                                      | lanagement                       |          |
| • Officiating                                             | C .                              |          |
|                                                           |                                  |          |

Games may be selected based on student strength and facilities available in the college. 

- No game/athletic events shall be repeated in successive semesters
- The practical classes shall be adapted to the physically challenged students as per requirement.

| Formative Assessment |                        |        |       |  |
|----------------------|------------------------|--------|-------|--|
| Assessment Type      | Internal Asses         | ssment | Total |  |
|                      | Skill and Fitness Test | 10     |       |  |
|                      | Class room activity    | 10     |       |  |
| Practical            | Project / Record       | 20     | 50    |  |
|                      | Performance            | 10     |       |  |

|       | 50 |
|-------|----|
| Total |    |
|       |    |

- Class room activity shall be assessed based on Discipline, Mass Participation Activity, Punctuality.
- Performance due credit shall be given to sports achievements of students

#### **References:**

- Muller, J. P. (2000). Health, Exercise and Fitness. Delhi: Sports.
- IAAF Manual
- Vanaik. A (2005) Play Field Manual, Friends Publication New Delhi
- Field Marking and Athletics Track and M. J. Vishwanath (2002) Officiating Manual, Silver Star Publication, Shimoga
- Steve oldenburg (2015) Complete Conditioning for Volleyball, Human Kinetics. Note: Skills of Sports and Games (Game Specific books) may be refered.

## **IV SEMESTER**
## Semester IV

# **DISCIPLINE SPECIFIC CORE - 4**

Title of the Course:

# Sports Injuries and Management

#### **Course outcomes**

On completion of the Course the student will be able to:

- Understand the meaning of Sports Injuries. .
- Understand the common injuries occurring in sports and their immediate management.
- Know the causes of sports injuries and methods to treat them.
- Understand the methods of Rehabilitation of sports injuries
- Get an insight into the first aid measures to treat sports injuries
- Learn to record and prepare reports. .

| Number of                          | Number of lecture        | Number of practical<br>Credits | Number of prac<br>hours/ semest | tical<br>er |
|------------------------------------|--------------------------|--------------------------------|---------------------------------|-------------|
| <b>Theory Credits</b>              | hours/semester           | 2                              | 52 - 56                         |             |
| 4                                  | 52 - 56                  | L<br>S the Course              |                                 |             |
|                                    | Contents o               | 1 the Course                   |                                 |             |
|                                    | 4 -                      | IS INITIRIES                   |                                 |             |
| Unit – 1 INTROD                    | outinition & Concept of  | Sports Injuries                |                                 |             |
| • Meaning, D                       |                          |                                |                                 |             |
| <ul> <li>Classification</li> </ul> | ion of Sports Injuries   | -                              |                                 |             |
| o Aci                              | ute Injuries and         | 2. <sup>1</sup>                |                                 | 10          |
| o Ov                               | er Use Injuries          |                                |                                 | 12          |
| Common S                           | Sports Injuries:         |                                |                                 |             |
| o Spi                              | rain, Strain and Cramps  | 3                              |                                 |             |
| o Fra                              | ctures and Dislocation   |                                |                                 |             |
| o Ab                               | rasion and Contusion     |                                |                                 |             |
| o Cu                               | ts and Bruise            |                                |                                 |             |
| Unit - 2 CAUSE                     | S AND PREVENTIO          | N OF SPORTS INJU               | aes                             |             |
| Causes                             |                          |                                |                                 |             |
| <ul> <li>Accident</li> </ul>       |                          |                                |                                 |             |
| Poor Train                         | ing Practice             |                                |                                 |             |
| • Improper                         | Equipments and Surfac    | es                             |                                 |             |
| • Lack of C                        | onditioning              |                                |                                 | 14          |
|                                    | nnlements for Sports P   | erformance                     |                                 |             |
| • Use of Su                        | ppiements for 2person    |                                |                                 |             |
| Prevention                         | ditioning                |                                |                                 |             |
| • Good Col                         | Including                | ησ                             |                                 |             |
| • Scientific                       | and Systematic Trainin   | nd Sports Wears                |                                 |             |
| <ul> <li>Specified</li> </ul>      | Equipment, Surfaces a    | nu sports would                |                                 |             |
| <ul> <li>Misconce</li> </ul>       | ptions of Sports Injurie | S                              |                                 |             |

| Unit -  | 3 MANAGEMENT OF SPORTS IN HIDLES                      |        |
|---------|-------------------------------------------------------|--------|
| •       | First Aid - Meaning and Definition First Aid          |        |
|         | Principles of First Aid                               |        |
|         | First Aid Vit and its I                               |        |
| •       | First Ald Kit and its Importance                      | 16     |
| •       | Diagnosis and Treatment                               |        |
| •       | CPR for Sudden Cardiac Arrest in Sports               |        |
| •       | RICE Treatment – Rest, Ice, Compression and Elevation |        |
| Unit    | t - 4 REHABILITATION OF SPORTS INJURIES               |        |
| •       | Physical and Psychological Preparation                |        |
| •       | Sports Therapy, Yoga, Pranayama, Meditation           | 14     |
| •       | Massage and Relaxation Techniques                     | 14     |
| •       | Appropriate Measures to restart sports activities     |        |
| GONT    |                                                       |        |
| CONI    | TENT OF PRACTICAL COURSE: FIRST AID AND ATHLETIC CARE | 56 Hrs |
| Practic | cal (2 credits/56 hours)                              |        |
| 1.      | Usage of First Aid Kit                                |        |
| 2.      | Management Techniques of Injuries                     |        |
|         | Taping and Wrapping                                   |        |
|         | • Bandages                                            |        |
| 3.      | Rehabilitation Exercises                              |        |
|         | Active and Passive Exercises                          |        |
|         | Resistance and Assisted Exercise                      |        |
|         | Asanas and Pranayama                                  |        |
| 4.      | CPR Training                                          |        |
| 5.      | Modalities of therapy                                 |        |
|         | • Cryotherapy                                         |        |
|         | • Hydrotherapy                                        |        |
|         | Electro therapy                                       |        |
|         | • Massage                                             |        |
| 6.      | Preparation of related records and reports            |        |
|         |                                                       |        |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

**Pedagogy:** The course shall be taught through Lecture, Practicals, Interactive Sessions, Materials, Assignments, Seminars, Intramural & Extramurals.

| Formative Assessment |                               |                |     |                  |       |
|----------------------|-------------------------------|----------------|-----|------------------|-------|
| Assessment Type      | Internal                      | Assessme       | ent | Semester<br>Exam | Total |
| Theory               | Test<br>Assignment<br>Seminar | 20<br>10<br>10 | 40  | 60               | 100   |
| Practical            | Test<br>Assignment            | 15<br>10       | 25  | 25               | 50    |
| Total                |                               |                |     |                  | 150   |

Assignments can be in the form of field work, projects, written tasks, practical tasks etc.

| RE | FERENCES:                                                                    |  |
|----|------------------------------------------------------------------------------|--|
| 1  | Sports Injuries – Types, Prevention & Treatment, 2012,                       |  |
| 1. | H K Koushik, Sublime Publications, Jaipur, ISBN:978-81-8192-209              |  |
| 2  | Sports Injuries, 2013, Bhushan Kumar Mishra, Sports                          |  |
| 2. | Publications, Darya Ganj, New Delhi, ISBN:978-81-7879-743-4                  |  |
| 3. | Sports Injuries and Rehabilitation, 2017, Dr.Sinku Kumar                     |  |
|    | Singh, Khel Sahitya Kendra, Darya Ganj, New Delhi, ISBN:978-81-7524-590-5    |  |
| 4. | Prevention And Treatment of Sports Injuries, 2000, Anju                      |  |
|    | Ambast, Khel Sahitya Kendra, Shiv Market, Ashok Vihar, Delhi, ISBN: 81-7524- |  |
|    | 047-4                                                                        |  |
| 5. | Sports Injuries, 2016, Khel Sahitya Kendra, Darya Ganj, New                  |  |
|    | Delhi, ISBN:978-81- 7524-862-5                                               |  |
| 6. | Sports Injuries and Athletic Problems, 1996, 2nd Edition,                    |  |
|    | Morris B.Mellion, MD, Surjeet Publications, Kamalanagar, Delhi               |  |
|    |                                                                              |  |

## Semester IV OPEN ELECTIVE PAPER - 7

Title of the Course:

### **Sports Nutrition**

#### (BA/BSc/BCom/BBA/BCA & all other UG Courses)

#### **Course outcomes**

On completion of the Course the student will be able to:

- Be Understand the meaning and importance of nutrition.
- Understand the principles and components of nutrition and its importance in weight management.
- Learn the specific physical nutritional requirements of sportspersons.
- Learn the practical requirements of fitness and weight management with respect to exercise.
- Learn to record and prepare reports.

| Number of                                                                        | Number of lecture         | Number of Practical      | I Number of Practical |    |
|----------------------------------------------------------------------------------|---------------------------|--------------------------|-----------------------|----|
| <b>Theory Credits</b>                                                            | hours/semester            | Credits                  | hours/ semester       |    |
| 2                                                                                | 28                        | 1                        | 28                    |    |
|                                                                                  | Contents of               | f the Course             |                       |    |
|                                                                                  | 2 -                       | 0 - 1                    |                       |    |
|                                                                                  | THE                       | CORY                     |                       |    |
| UNIT-1-INTRODU                                                                   | UCTION                    |                          |                       | 28 |
| <ul> <li>Meaning and</li> </ul>                                                  | d definition of Sports N  | utrition.                |                       |    |
| <ul> <li>Role of Nutr</li> </ul>                                                 | ition in health promoti-  | on and Sports            |                       |    |
| <ul> <li>Concept of c</li> </ul>                                                 | liet                      |                          |                       |    |
| <ul> <li>Balanced Di</li> </ul>                                                  | et: Components, factor    | s affecting Balanced Die | t and Malnutrition    |    |
|                                                                                  |                           |                          |                       |    |
| UNIT 2- NUTRIER                                                                  | NTS                       |                          |                       |    |
| Meaning, Cl                                                                      | assification, Sources, f  | unctions of nutrients    |                       |    |
| Micro Nutrie                                                                     | ents: Vitamins, Minera    | ls, Water                |                       |    |
| <ul> <li>Macro Nutri</li> </ul>                                                  | ents: Carbohydrates, Pr   | rotein, Fat              |                       |    |
| • Role of mac                                                                    | ro nutrients as fuel for  | muscular activities.     |                       |    |
| UNIT 3-Nutrition i                                                               | in sports and Weight      | Management               |                       |    |
| <ul> <li>Nutrients for</li> </ul>                                                | Sportsmen - Calories      | and diet for Games. Spo  | orts. Sprints.        |    |
| Endurance a                                                                      | nd Power Events.          | , <b>1</b>               | , , , ,               |    |
| <ul> <li>Nutritional intake before, during and after sports activity.</li> </ul> |                           |                          |                       |    |
| <ul> <li>Meaning Definition and Importance of Weight Management</li> </ul>       |                           |                          |                       |    |
| <ul> <li>Causes of Obesity and its prevention strategies</li> </ul>              |                           |                          |                       |    |
|                                                                                  |                           |                          |                       |    |
| Practical                                                                        |                           |                          |                       | 28 |
| <ul> <li>Aerobic and</li> </ul>                                                  | resistance training activ | vities.                  |                       |    |

- Calculation of BMI and Body composition
- Physical Activities for Weight Loss
- Assessment of Energy expenditure and caloric values of common food.
- Prescription of exercise for weight reduction.
- Records and Report Preparation

\* The practical classes shall be adapted to the physically challenged students as per requirement.

|                 | <b>Formative Assessment</b> |               |       |
|-----------------|-----------------------------|---------------|-------|
| Assessment Type | Internal Assessment         | Semester Exam | Total |
| Theory          | 20                          | 60            |       |
| Drastical       | 20*                         |               |       |
| Practical       | 20                          | (0)           | 100   |
| Total           | 40                          | 60            | 100   |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- Bessesen, D. H. (2008). Update on obesity. J ClinEndocrinolMetab.93(6), 2027-2034.
- Butryn, M.L., Phelan, S., &Hill, J. O.(2007). Consistent self-monitoring of weight: a key component of successful weight loss maintenance. *Obesity(Silver Spring)*. 15(12), 3091-3096.
- Scott K. Powers and Stephen L. Dodd. Total Fitness: Exercise, Nutrition and wellness, Boston: Allyn and Bacon, 1999.
- Bamji, M. S., Krishnaswamy, K., & Brahmam, G. N. V. (Eds.). (2009). Textbook of human nutrition. Oxford & IBH. 2. Gilchrist, J. M. (2003).
- Introduction to Human Nutrition. Blackwell Science Ltd, Oxford, United Kingdom.
- Driskell, J. A., & Wclinsky, I. (Eds.). (2016). Nutritional assessment of athletes. CRC press.
- ACSM's Health-Related Physical Fitness Assessment Manual
- Bamji, M. S., Krishnaswamy, K., & Brahmam, G. N. V. (Eds.). (2009).
- Textbook of human nutrition. Oxford &IBH. Gilchrist, J. M. (2003).
- Introduction to Human Nutrition. Blackwell Science Ltd, Oxford, UnitedKingdom. Geissler, C., & Powers, H. (2009).
- Fundamentals of Human Nutrition E-Book: for Students and Practitioners in the Health Sciences. Elsevier Health Sciences.

## Semester IV OPEN ELECTIVE PAPER - 8

Title of the Course:

# Health and Safety Education

(BA/BSc/BCom/BBA/BCA & all other UG Courses)

### **Course outcomes**

On completion of the Course the student will be able to:

- Know the meaning of health and factors influencing it.
- Learn causes and prevention of communicable diseases.
- Learn the safety measures to be taken in playgrounds, schools and at home.

| Number of                                                                                                                                                                                                                                                                                                  | Number ofNumber of lectureNumber of PracticalNumber of Practicalheary Creditshours/semesterCreditshours/ semester                          |                                                                                                | Number of Practi          | cal |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------|-----|
| Theory Credit                                                                                                                                                                                                                                                                                              |                                                                                                                                            |                                                                                                | hours/ semester           |     |
| 2                                                                                                                                                                                                                                                                                                          | 28                                                                                                                                         | 1                                                                                              | 28                        |     |
|                                                                                                                                                                                                                                                                                                            | Contents                                                                                                                                   | of the Course                                                                                  |                           |     |
|                                                                                                                                                                                                                                                                                                            | 2 -                                                                                                                                        | - 0 - 1                                                                                        |                           |     |
|                                                                                                                                                                                                                                                                                                            | T                                                                                                                                          | HEORY                                                                                          |                           |     |
| <ul> <li>UNIT 1 - DEFINITION OF HEALTH</li> <li>Factors influencing health: heredity, environment and habits</li> <li>Physical and mental health- meaning and dimensions</li> <li>Personal Hygiene – Skin, Mouth, Teeth, Nails, Clothing, Shoes, Food, Exercises,</li> <li>Sleep and Relaxation</li> </ul> |                                                                                                                                            |                                                                                                |                           | 28  |
| UNIT 2- CC<br>• Mear<br>• Caus<br>• Sprea<br>• Preve<br>Smal                                                                                                                                                                                                                                               | MMUNICABLE DISt<br>ing and Definition of C<br>es of Communicable dist<br>of Infections<br>entive measures of Mala<br>1 Pox, whooping Cough | EASE<br>Communicable Disease<br>seases<br>aria, Filaria, Typhoid, C<br>n, Tuberculosis and AID | holera, Dysentery,<br>DS. |     |
| <ul> <li>UNIT 3- PUBLIC HEALTH AND SAFETY</li> <li>General methods of sanitation</li> <li>Supply of drinking water and methods of water purification</li> <li>Safety measures and precaution: at home, street, play ground</li> </ul>                                                                      |                                                                                                                                            |                                                                                                |                           |     |
| Practical<br>• Firs<br>• Firs<br>• Firs<br>Spra                                                                                                                                                                                                                                                            | Aid<br>aid requirements durin<br>t aid during emergenc<br>ains, Strain.                                                                    | ng Sports Competition<br>ies: SCA, Fractures, B                                                | reathlessness, Cramps,    | 28  |

\* The practical classes shall be adapted to the physically challenged students as per requirement.

| Formative Assessment |                     |               |       |  |
|----------------------|---------------------|---------------|-------|--|
| Assessment Type      | Internal Assessment | Semester Exam | Total |  |
| Theory               | 20                  | 60            |       |  |
| Practical            | 20*                 |               |       |  |
| Total                | 40                  | 60            | 100   |  |

\*Internal marks can be assigned for field work, projects, written tasks, practical tasks etc.

#### References

- Bucher. C. A (1979) Foundations of Physical Education (5<sup>th</sup> edition Missouri CV Mosby Co.)
- Coalter, F. (2013) Sport for Development: What game are we playing? Routledge.
- Puri. K. Chandra S.S (2005) "Health and Physical Education" New Delhi: Surject Publications.
- Thomas D Fahey and others. Fit and well: 6th Edition New York : McGraw Hill Publishers, 2005
- Wellgoose. (1977). Health Teaching in secondary Carl. E. Schools: W.B. Saunders.
- Wilson, Kathleen J. W. (1987). Anatomy and Physiology, Health and illness. 6th Edition. Churchull Livingstone Edinburgh.
- Anderson.T. Mc. Clerg, (1961). Human Kinetics and Analyzing Body Movements, London: William Heinman Medical Books Ltd.
- Frank, H. &Walter, H., (1976). Turners school health education. Saint Louis: The C.V. Mosby Company.
- Nemir, A. (n.d.). The school health education. New York: Harber and Brothers. 6. Prarce, J.W. (1984). Anatomy for students and Teachers of Physical Education, Edward Arnold & Co.

## Semester IV SKILL ENHANCEMENT COURSE (SEC- 4)

Title of the Course:

### **Sports III**

#### (BA/BSc/BCom/BBA/BCA & all other UG Courses)

On completion of the Course the student will:

- Learn the rules and regulations and practically participate in sports activities.
- Be able to practice the skills of a game and athletic events.
- Learn the various fitness activities and practically learn them.
- Be able to teach and organize intramural and extramural competitions.
- Learn to record and prepare reports.

| Number of Credits                                   | Number of Practical hours/ semesters |        |
|-----------------------------------------------------|--------------------------------------|--------|
| 2 56                                                |                                      |        |
| Contents of the                                     | Course                               | 56 Hrs |
| 0-0-2                                               |                                      |        |
| Unit 1: - Physical Education & Sports               |                                      |        |
| General and Conditioning exer                       | rcises                               | e e    |
| <ul> <li>Aerobic and anaerobic activitie</li> </ul> | es                                   |        |
| • One Olympic Game and one in                       | digenous game of Choice (Basic       |        |
| Skills)                                             |                                      |        |
| • Athletics - One Track/One Field                   | d event                              | 56     |
| Organisation of Intramural / Ex                     | xtramural Competitions               |        |
| • Project, Records and Report Preparatio            | n                                    |        |
| Proficiency in particular Sport                     |                                      |        |
| • Rules & Regulations                               |                                      |        |
| <ul> <li>Marking &amp; Ground Mar</li> </ul>        | nagement                             | ×      |
| • Officiating                                       |                                      |        |
|                                                     |                                      | 5      |

Games may be selected based on student strength and facilities available in the college.

• No game/athletic events shall be repeated in successive semesters

 The practical classes shall be adapted to the physically challenged students as per requirement.

| Formative Assessment |                        |        |       |  |
|----------------------|------------------------|--------|-------|--|
| Assessment Type      | Internal Asses         | ssment | Total |  |
|                      | Skill and Fitness Test | 10     |       |  |
|                      | Class room activity    | 10     |       |  |
| Practical            | Project / Record       | 20     | 50    |  |
|                      | Performance            | 10     |       |  |

|       | 50 |
|-------|----|
| Total |    |
| Total |    |
| Total |    |

- Class room activity shall be assessed based on Discipline, Mass Participation Activity, Punctuality.
- Performance due credit shall be given to sports achievements of students

#### **References:**

- Muller, J. P. (2000). Health, Exercise and Fitness. Delhi: Sports.
- IAAF Manual
- Vanaik. A (2005) Play Field Manual, Friends Publication New Delhi
- M. J. Vishwanath (2002) Track and Field Marking and Athletics Officiating Manual, Silver Star Publication, Shimoga
- Steve oldenburg (2015) Complete Conditioning for Volleyball, Human Kinetics.

Note: Skills of Sports and Games (Game Specific books) may be referred.

### SCHEME / PATTERN OF EXAMINATION

### **DISCIPLINE SPECIFIC CORE - THEORY**

| Max          | . marks: 60                                                                     | Time: 03 Hours   |
|--------------|---------------------------------------------------------------------------------|------------------|
| Inst<br>1. A | ructions:<br>nswer all questions                                                |                  |
| 2. Ea        | ach answer shall not exceed three pages                                         |                  |
| 1.           | Essay Question from Unit 1<br>Or                                                | 12 marks         |
|              | Essay Question from Unit 1                                                      |                  |
| 2.           | Essay Question from Unit 2<br>Or                                                | 12 marks         |
|              | Essay Question from Unit 2                                                      |                  |
| 3.           | Essay Question from Unit 3<br>Or                                                | 12 marks         |
|              | Essay Question from Unit 3                                                      |                  |
| 4.           | Essay Question from Unit 4<br>Or                                                | 12 marks         |
|              | Essay Question from Unit 4                                                      |                  |
| 5. W         | rite short notes on any Two of the following (one from each unit)<br>(a)<br>(b) | 6 x 2 = 12 marks |
|              | (c)                                                                             |                  |

(c)(d)

**DISCIPLINE SPECIFIC CORE – PRACTICAL** 

#### Max marks: 25

1. Assessment of various practical activities/fitness tests (4 activities x 5 marks each)202. Record Book5

### **OPEN ELECTIVE - THEORY**

Max. marks: 60

Time: 02 Hours

#### Instructions:

1. Answer all questions

I. Answer any five of the following questions in not exceeding one page  $5 \times 6 = 30$  marks

1. 2. 3. 4.

5.

6.

II. Answer any three of the following questions in not exceeding two pages 3x10=30 marks1.2.

3.

4.