

## **Yogic Science (Optional) Subject for Graduation**

### **Programme Objectives:**

- To train the individuals in the traditional knowledge of India in the Graduate level.
- To spread the value-based knowledge of yogic science.
- Traditional text-based knowledge of Yoga along with modern science.
- To evolve trained teachers in yogic science.
- To study the preventive, promotive and curative aspects of yogic practices.

### **Programme Outcome:**

- The Graduates will be having the knowledge of yogic science with the study of the classical texts along with the knowledge of modern anatomy and physiology.
- They can get the traditional text based knowledge of Yoga along with modern science.
- They can become yoga teachers and instructor after the completion of the programme.
- They will have the knowledge of food and lifestyle, mind body management techniques.
- They can go for Post-graduation in Yogic Science.

## Course Pattern and Scheme of Examination

T – Theory,          P-Practical,          IA – Internal Assessment

### a) I/II/III/IV Semester

Courses	Instruction hrs / week	Duration of Exam (hrs)	Marks			Credits
			IA	Exam	Total	
1T	4	3	20	80	100	2
1P	3	3	10	40	50	1
Group II Elective Courses	2	2	10	40	50	1*

\* Credits for elective Courses will be considered for the entire graduation programme.

### b) V/VI Semester

Courses	Instruction hrs / week	Duration of Exam (hrs)	Marks			Credits
			IA	Exam	Total	
2 T	2 x 4	2 x 3	2 x 20	2 x 80	2 x 100	2 x 2
2 P	2 x 3	2 x 3	2 x 10	2 x 40	2 x 50	2 x 1

**MANGALORE UNIVERSITY**  
**CHOICE BASED CREDIT SYSTEM**

**COURSE PATTERN AND SCHEME OF EXAMINATION**

**YOGIC SCIENCE**

**I SEMESTER**

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Max. Marks			Credits
					IA*	Exam	Total	
Group I Core Courses	BSCYSC 131	Introduction to Yogic Science - I	4	3	20	80	100	2
	BSCYSP 132	Practicals I	3	3	10	40	50	1
Group II Elective Courses	BSCYSCE 133	Basics relevant to Yogic Science	2	2	10	40	50	1

**II SEMESTER**

Group I Core Courses	BSCYSC 181	Hatha Yoga	4	3	20	80	100	2
	BSCYSP 182	Practicals II	3	3	10	40	50	1
Group II Elective Courses	BSCYSCE 183	Ghata Yoga	2	2	10	40	50	1

**III SEMESTER**

Group I Core Courses	BSCYSC 231	Basic Anatomy and Physiology: Modern Concepts	4	3	20	80	100	2
	BSCYSP 232	Practicals III	3	3	10	40	50	1
Group II Elective Courses	BSCYSCE 233	Blood	2	2	10	40	50	1

**IV SEMESTER**

Group I Core Courses	BSCYSC 281	Fundamentals of Yogic Science - I	4	3	20	80	100	2
	BSCYSP 282	Practicals IV	3	3	10	40	50	1
Group II Elective Courses	BSCYSOE 283	Introduction to Yogic Science- II	2	2	10	40	50	1

**V SEMESTER**

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Max. Marks			Credits
					IA*	Exam	Total	
Group I Core Courses	BSCYSC 331	Fundamentals of Yogic Science-II	4	3	20	80	100	2
	BSCYSC 332	Neurophysiology and Nutrition	4	3	20	80	100	2
	BSCYSP 333	Practicals V	3	3	10	40	50	1
	BSCYSP 334	Practicals VI	3	3	10	40	50	1

**VI SEMESTER**

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Max. Marks			Credits
					IA*	Exam	Total	
Group I Core Courses	BSCYSC 381	Upanishad & Consciousness (Isha, Kena and Kathopanishad)	4	3	20	80	100	2
	BSCYSC 382	Application of Yogic Science	4	3	20	80	100	2
	BSCYSP 383	Practicals VII	3	3	10	40	50	1
	BSCYSP 384	Practicals VIII	3	3	10	40	50	1

\* Based on internal test or tests

# SYLLABUS FOR OPTIONAL SUBJECT - YOGIC SCIENCE

## I SEMESTER

**BSCYSC 131: Introduction to Yogic Science-I**

48 hrs (Each Unit 12 hrs) - 4 hrs/week

### Course Objectives:

- To study the Concepts and mis-concepts of Yoga
- To get the knowledge of different schools of yoga.
- Study of citta and its modifications.
- To Study the basics of Kundalini Yoga.

### Course Outcome:

The student will have:

- The knowledge of Concepts and mis-concepts of Yoga
- The knowledge of different schools of yoga.
- Knowledge of citta and its modifications.
- Knowledge of the basics of Kundalini Yoga.

Unit I Yoga: meaning, objective and definitions, Importance of Yoga in personal and social life, Concepts and mis-concepts of Yoga, Origin of Yoga and its development.

Unit II Schools of Yoga - Hatha Yoga, Raja Yoga, Bhakti Yoga, Jnana Yoga, Karma Yoga.

Unit III Five kleshas, tapa traya, antarayas, Concept of citta, stages of citta (vritti), Methods of controlling chitta vrittis, Samadhi and its kinds.

Unit IV Yogic anatomy – Nadis, Susumna nadi, Pancha Koshas, Pancha Pranas, Six Chakras, Sahasrara chakra

### References:

1. Vivekananda Swami (2009), Rajayoga, Published from, Advaita Ashram, Kolkata.
2. Prasada Rama (1988), Patanjali's Yoga Sutras Translation, Published from Munshiram Ashram, New Delhi.

3. Taimini I. K. (1999), The Science of Yoga Theosophical, Publishing House, Adyar, Madras.
4. Adidevananda Swami (1970), Patanjala Yogadarsana Vyasabhasyasahita, Published from, Advaita Ashram, Kolkata.
5. Virupakshananda Swami (1995), Sankhyakarika of Iswara Krishna, Published by Sri Ramakrishna Math, Mylapore, Madras -600 004
6. Dasgupta S. N. (1924), Yoga as a Philosophy and Religion, Published from Delhi.
7. Krishnananda Swami (1973), A short history of religions and philosophic thought in India, Published from The divine life society, Shivanandanagar, Rishikesh.
8. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.

### **BSCYSP 132: Practicals – I**

**36 hrs (3 hrs/week)**

#### **Course Objectives:**

- Fundamentals of Yogic Kriyas and Yogasanas.
- Practical knowledge of Yogic Kriyas and Yogasanas.
- Traditional knowledge in modern educational method.

#### **Course Outcome:**

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

- Perform the kriyas and asanas systematically.
- Describe and demonstrate the procedures of the selected Kriyas and Asanas.

1. Jalaneti
2. Kapalabhati
3. Swastikasana
4. Vajrasana
5. Suptavajrasana
6. Urdva Vajrasana
7. Tada – 1

8. Surya Namaskara - 12 vinyasa
9. Trikonasana
10. Parsvakonasana
11. Pavanamuktasana
12. Bhujangasana
13. Ujjayi pranayama
14. Anuloma-Viloma pranayama
15. Savasana - 0

**References:**

1. Iyengar B.K.S. (2003), Light on Yoga, Published by Harper Collins Publishers, India
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## II SEMESTER

### BSCYSC 181: Hatha Yoga

48 hrs (Each Unit 12 hrs) - 4 hrs/week

#### Course Objectives:

- To make the students to have the knowledge of fundamentals of Hatha yoga.
- Development of yoga according to the system of Hathayoga.
- Detailed study of Hatha Yoga.
- Study of asanas, kriyas, pranayamas, and mudras

#### Course Outcome:

The student will have:

- The knowledge of requirements for the practise of hathayoga, asanas.
- The knowledge of practise of Pranayamas and the kriyas.
- The theoretical knowledge of practice of selected mudras and bandhas.

Unit I Hatha Yoga: Its meaning, objects and development, Personality of Hatha Yogi, helping and obstructional elements in Sadhana; characteristic features of a Yogi and his personality. Asana: Its meaning and purpose, different types of Asanas – Methodology and benefits of Asanas.

Unit II Shat-Karma according to Hatha Yoga Pradeepika and Gheranda Samhita.

Unit III Definition and different types of Pranayamas according to Hatha Yoga Pradeepika

Unit IV Definition and types of mudras according to Hatha Yoga Pradeepika

#### References:

1. Digambaraji Swami (1970), Hathayoga Pradipika of Swatmarama, Published by Kaivalyadhama, Lonavala (Dist. Pune), Maharashtra.
2. Digambaraji Swami (1978), Gheranda Samhita, Published by Kaivalya dhama, Lonavala (Dist. Pune), Maharashtra.
3. Hathayoga Pradipika of Swatmarama (1994), Published by The Adyar library and research centre, Chennai

## **BSCYSP 182: Practicals II**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Fundamentals of Yogic Kriyas and Yogasanas.
- Practical knowledge of Yogic Kriyas and Yogasanas.
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the kriyas and asanas systematically.
- Describe and demonstrate the procedures of the selected Kriyas and Asanas.

1. Sutraneti
2. Swastikasana
3. Siddhasana
4. Tadasana-2
5. Padangusthasana
6. Parsvothanasana
7. Virabhadrasana
8. Pascimattonasana
9. Purvothanasana
10. Vakrasana
11. Salabhasana
12. Maricasana-I
13. Ujjayi pranayama
14. Anuloma-Viloma pranayama
15. Savasana-1

### **References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## III SEMESTER

### BSCYSC 231: Basic Anatomy and Physiology: Modern Concepts

48 hrs (Each Unit 12 hrs) - 4 hrs/week

#### Course Objectives:

To study the basic Anatomy and physiology of

- Musculo-skeletal system, Cardiovascular system.
- Digestive system and excretory system
- Respiratory system, Endocrine system
- Special senses

#### Course Outcome:

The student will understand:

- Anatomy and physiology of human muscular-skeletal system, cardiovascular system, Digestive system and excretory system, Respiratory system, Endocrine system, Special senses

Unit I      Cell, Tissues, Basic anatomy and physiology of Skeleton system and muscles; Basic anatomy and physiology of cardio vascular system

Unit II      Basic anatomy and physiology of digestive system and excretory system

Unit III     Basic anatomy and physiology of Respiratory system, an introduction to Special senses

Unit IV      Basic anatomy and physiology of Endocrine system

#### References:

1. Chatterjee C. C. (1992), Human Physiology (Vol. I & II), Published by Medical Allied Agency, Calcutta, 1992.
2. Evelyn C. Pearce (1982), Anatomy and Physiology for Nurses, Published by Faber and Faber Ltd., London, 1968.
3. Tortora J. D. *et al.* (2009), Principles of Anatomy and Physiology, Published by John Wiley and Sons, New Jersey.
4. Gore M. M. (2005), Anatomy and physiology of yogic practices, published by New Age Books, New Delhi.

## **BSCYSP 232: Practicals III**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Fundamentals of Yogic Kriyas and Yogasanas.
- Practical knowledge of Yogic Kriyas and Yogasanas.
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the kriyas and asanas systematically.
- Describe and demonstrate the procedures of the selected Kriyas and Asanas.

1. Swastikasana
2. Trataka Kriya
3. Vaidika Suryanamaskara -9 Vinyasa
4. Padmasana
5. Bhekasana
6. Dhanurasana
7. Ustrasana
8. Maricasana -I
9. Janusirsasana
10. Navasana
11. Utthanapadasana
12. Padottanasana
13. Ujjayi Pranayama
14. Anuloma-Viloma pranayama
15. Savasana -2

### **References:**

1. Iyengar B.K.S (2003), Light on Yoga, Published by Harper Collins Publishers, India
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## IV SEMESTER

**BSCYSC 281: Fundamentals of Yogic Science – I** 48 hrs (Each Unit 12 hrs) - 4 hrs/week

### Course Objectives:

- To make the students to have knowledge of fundamental classical texts of yoga.
- Development of yoga according to the system of MaharshiPatanjali.
- Study of Patanjala Yoga Sutra.

### Course Outcome:

The student will have:

- The knowledge of Patanjala Yoga Sutra.
- The theoretical knowledge of attaining of Samadhi in the case of a practitioner with concentrated citta.
- The knowledge of method of practice of yoga in the case of an individual with citta which is not concentrated.

Unit I	Nature of Yoga Science, Definition of Yoga, the nature of seer in pure and modified state, Vrttis – Nature, classification, definition, method to control of citta vrttis; Samprajnata Samadhi and its classification, Asamprajnata and its classification. Variation in the attainment of Asamprajnata Samadhi; Ishwarapranidhana – a means to attain Samadhi, Definition & quality of Ishwara.
Unit II	Chittavikshepa, Chittaprasadana and its associates, control of Chittavikshepa, different methods of manasthiti and its benefits, Samapatti, Sukshnavishayatwa, Sabijasamadhi, Speciality of Nirvichara, Rthambaraprajna, Nirbijasamadhi
Unit III	Kriya-yoga and its benefits; classification, methods to control kleshas, karmasaya. Vipaka of kleshamula, Heyaswarupa, Heyahetu, Drsya and Drasta.
Unit IV	Samyoga-Nature & cause, Hanopaya, Hanaswarupa. Vivekakhyathi, Astanga yoga

## References:

1. Vivekananda Swami (2009), Rajayoga, Published from, Advaita Ashram, Kolkata.
2. Prasada Rama (1988), Patanjali's Yoga Sutras Translation, Published from Munshiram Ashram, New Delhi.
3. Taimini. I. K. (1999), The Science of Yoga Theosophical, Publishing House, Adyar, Madras.
4. Adidevananda Swami (1970), Patanjala Yogadarsana Vyasabhasyasahita, Published from, Advaita Ashram, Kolkata.

## BSCYSP 282: Practicals IV:

36 hrs (3 hrs/week)

### Course Objectives:

- Fundamentals of Yogasanas.
- Practical knowledge of Yogasanas.
- Traditional knowledge in modern educational method.

### Course Outcome:

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

- Perform the asanas systematically.
- Describe and demonstrate the procedures of the selected Asanas.

1. Swastikasana
2. Yaugika Suryanamaskara -17 vinyasa
3. Padmasana
4. Baddha padmasana
5. Ardha baddha padma pascimottanasa
6. Marिकासana -2
7. Marिकासana -3
8. Jathara Parivarta
9. Upavistakonasana
10. Supta padangusthasana

11. Bharadwajasana
12. Ardhamatsyendrasana
13. Ujjayi Pranayama
14. Anuloma-Viloma pranayama
15. Savasana -2

**References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## V SEMESTER

### BSCYSC 331: Course I - Fundamentals of Yogic Science-II

48 hrs (Each Unit 12 hrs) - 4 hrs/week

#### Course Objectives:

- To make the students to have knowledge of fundamental classical texts of yoga.
- Development of yoga according to the system of MaharshiPatanjali.
- Detailed study of Patanjala Yoga Sutra.
- To study Yogic concepts in Bhagavad-Gita.

#### Course Outcome:

The student will have:

- The knowledge of Patanjala Yoga Sutra.
- The theoretical knowledge of attaining of Samadhi in the case of a practitioner with concentrated citta.
- The knowledge of method of practice of yoga in the case of an individual with citta which is not concentrated.
- The knowledge of yogic concepts in Bhagavad-Gita.

Unit I Dharana, Dhyana, Samadhi, Samyama, Antaranga and Bahiranga yoga, Application and benefits of Parinama, Dharma and Dharmi, Parinamanyatva, Samyama on – Parinamatraya, knowledge of bhuta ruta, Parachitta jnana, Antardhana, Aparantajana, Samyama on – Maitri, Surya, Chandra, Nabhichakra, Kanthakupa, Kaurmanadi, Murdhajyothi, Pratibha, Hrdaya, Swartha, Udana, Samana, and their benefits; Attainments of divyashrotra, Akashagamana, Bhutajaya, Animadi siddhi, Indriya jaya, Kaya jaya, Sarvajnatva, Kaivalya, Vivekajnana, knowledge of satva and purusha and its benefits – According to Patanjala Yoga sutra - Chapter – III.

Unit II Kaivalya – Introduction, Siddhi, Jatyantaraparinama, Nirmanachitta. Karma, Vasana, Smrti and Samskara, Support of vasana, Guna and its existence, Vastu, Jnata and Ajnata of Vastu. Quality of purusha, Non-self illumination of Buddhi and its function. Chitta, Dharmamegha Samadhi, Infinite

knowledge. Mutation of Guna, Krama, Pratiprasava and Kaivalya – According to Patanjala Yogasutra – Chapter IV.

Unit III Introduction to Bhagavadgita, Concept of Sankhya Yoga and Karma Yoga according Bhagavadgita Chapter 2

Unit IV Concept of Triguna according Bhagavadgita Chapter 14 - Qualities of satva, Rajas, Tamas

**References:**

1. Vivekananda Swami (2009), Rajayoga, Published from, Advaita Ashram, Kolkata.
2. Prasada Rama (1988), Patanjali's Yoga Sutras Translation, Published from Munshiram Ashram, New Delhi.
3. Taimini.I.K (1999), The Science of Yoga Theosophical, Publishing House, Adyar, Madras.
4. Adidevananda Swami (1970), Patanjala Yogadarsana Vyasabhasyasahita, Published from, Advaita Ashram, Kolkata.
5. Dr. S. Radhakrishnan (1948), Bhagavadgeetha, Harper Collins, New Delhi-201307

## **BSCYSC 332: Course II - Neurophysiology and Nutrition**

48 hrs (Each Unit 12 hrs) - 4 hrs/week

### **Course Objectives:**

- To study anatomy and physiology of Central Nervous system.
- To get the basic knowledge of Diet and Nutrition

### **Course Outcome:**

The student will understand:

- Anatomy and physiology of Central Nervous system
- Knowledge of Diet and Nutrition

Unit I Introduction of nervous system, Central nervous system, Cranial Nerves and spinal nerves, sympathetic and parasympathetic nervous system; Neurons- structure & function, synapses, Function of ganglion axon and dendrites.

Unit II Structure of Brain, parts of brain, general introduction of left and right brain hemisphere, spinal cord; Electro Encephalogram, Nature of brain waves and general introduction of Alfa waves, Beta waves, Theta waves and Delta waves.

Unit III Nutrition – Macro nutrients in diet – Carbohydrate, Protein, Fat

Unit IV Nutrition –Micro nutrients in diet - Vitamins, Minerals

### **References:**

1. Chatterjee C. C. (1992), Human Physiology (Vol. I & II), Published by Medical Allied Agency, Calcutta, 1992.
2. Evelyn C. Pearce (1982), Anatomy and Physiology for Nurses, Published by Faber and Faber Ltd., London, 1968.
3. Tortora J. D. *et al.* (2009), Principles of Anatomy and Physiology, Published by John Wiley and Sons, New Jersey.
4. Gore M.M (2005), Anatomy and physiology of yogic practices, Published by New Age Books, New Delhi.
5. Prof. A. K. Jain (2002), Human Physiology and Biochemistry, Arya Publications, industrial area, Trilokpur Road, Kala Amb-173030, Sirmour, HP.
6. Ross and Wilson (2006), Anatomy and Physiology in Health and Illness, 10<sup>th</sup> edition, Elsevier Publication. New York.

## **BSCYSP 333: Practicals - V**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Practical knowledge of asanas, Pranayama and Meditation
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the asanas, Pranayama and Meditation systematically.
  - Demonstrate the procedures of the selected asanas, Pranayama and Meditation
1. Triyak Tadasana
  2. Katiparivarta
  3. Ardachandrasana
  4. Padahasthasana
  5. Utthita padangusthasana
  6. Prasarita padottanasana
  7. Maricasana – 4
  8. Baddhakonasana
  9. Supta padangusthasana – Parsvasahita
  10. Simhasana
  11. Akarnadhanurasana
  12. Ujjayi Pranayama
  13. Anuloma-Viloma pranayama
  14. Pranava Meditation
  15. Savasana-2

### **References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## **BSCYSP 334: Practicals - VI**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Fundamentals of Yogic Kriyas and Yogasanas.
- Practical knowledge of Yogic Kriyas and Yogasanas.
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the kriyas and asanas systematically.
- Describe and demonstrate the procedures of the selected Kriyas and Asanas.

1. Vahnisara
2. Prasaritapadottanasana – 1
3. Prasaritapadottanasana – 2
4. Prasaritapadottanasana – 3
5. Prasaritapadottanasana – 4
6. Pascimottanasana – 1
7. Pascimottanasana – 2
8. Purvottanasana
9. Tryanmukhaikapada pascimottanasana
10. Kurmasana
11. Viparitarani
12. Halasana
13. Ujjayi Pranayama
14. Anuloma-Viloma pranayama
15. Pranava Meditation

### **References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## VI SEMESTER

### BSCYSC 381: Course I- Upanishad & Consciousness (Isha, Kena and Kathopanishad)

48 hrs (Each Unit 12 hrs) - 4 hrs/week

#### Course Objectives:

- To know the yogic methods in Upanishads.
- Understanding of Yoga concepts in classical texts.

#### Course Outcome:

After the completion of course the student will be able to understand-

- Yogic concepts in the selected Upanishads and their practical usage.
- Yoga concepts in certain classical texts.

Unit I	Definition of Upanishad, Introduction of Aupanishadic literature, importance of Upanishad, Aupanishadic theory of Advaita, davita and Trait.
Unit II	Karma, types of Karma, Karmaliptata, Karmatyaga – Karmavipaka, Purushartha chatushtya, Vidya – Avidya and Shambhuti – Vinasha; Indriya (sense organs), Five Jnanedriya and five Karmendriya, Concept of manas, Relation between senses and Consciousness, Vishayas – Shabda, Sparsha, Roopa, Rasa and Gandha.
Unit III	Nachiketopakhyana, Definition of Mrityu (death), Death and Consciousness, Death and human body, tempting power of Vishayas, Immortality of the soul, Shreyas – Preyas and Swarga – Naraka.
Unit IV	Nature of Consciousness, What is knowledge of soul, means of knowledge of soul, knowledge and logic, liberation: as the result of Jnana, definition of libration, Rta and Satya.

#### References:

1. Rashakrishnan S., The Principal Upanishads, Motilal Banarsidas, New Delhi.
2. Ranganathananda Swami, Message of Upanishads, Published by Bharatiya Vidhya Bhavan, Bombay.
3. Pathak N Bhawesh, Dashopanishad, Chowkamba Varanasi.
4. Rashakrishnan S., Dashopanishads with English translations, Motilal Banarsidas, New Delhi

## **BSCYSC 382: Course II- Application of Yogic Science**

48 hrs (Each Unit 12 hrs) - 4 hrs/week

### **Course Objectives:**

To make the student to understand:

- Concept of health and disease.
- Food system and health management.
- Preventive, promotive and curative aspects of Kriyas, Asanas, Pranayamas

### **Course Outcome:**

The student will be able to:

- Explain Concept of health and disease appropriate to the need of individual
- Explain Food system and health management.
- .Understand Preventive, promotive and curative aspects of Kriyas, Asanas, Pranayamas

Unit I Role of Yoga in Physical and mental diseases with emphasis on modern crisis of health, Potentiality of yoga in Prevention and cure of Physical and mental diseases; Yogic food system: Concept of 'Anna', Pathya-apathya, mithahara, Rules in food consumption, Food and health.

Unit II Application of kriyas: To remove impurities from different systems and to promote their function

Unit III Application of Asanas: In prevention & cure of diseases and promotion of health with respect to different systems.

Unit IV Application of Pranayamas and Meditation Techniques: In prevention & cure of diseases and promotion of health with respect to different systems.

### **References:**

1. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
2. Kuvaalayananda Swami and Vinekar, Yogic Therapy, Kaivalyadhama, Lonavala, Pune, Maharashtra.

3. Gore M.M. (2005), Anatomy and physiology of yogic practices, Published by New Age Books, New Delhi.
4. Swami Shankaradevananda Sarasvati, Yogic Management of common diseases, Bihar School of Yoga, Munger.
5. Iree ne Carmine (2008), Hidden secrets of Yogic diet for weight loss, published by Jaico, Ahmedabad.

## **BSCYSP 383: Practicals - VII**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Practical knowledge of asanas, Pranayama and Meditation
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the asanas, Pranayama and Meditation systematically.
- Demonstrate the procedures of the selected asanas, Pranayama and Meditation

1. Swastika
2. Ardha baddha padmothanasana
3. Parivrtta Trikonasana
4. Vatayanasana
5. Ubhaya padangusthasana
6. Urdhawamukha pascimottanasana
7. Kapotasana
8. Pascimottanasana -III
9. Yogamudra
10. Ekapadasirsasana
11. Ujjayi Pranayama
12. Anuloma-Viloma pranayama
13. Soham Meditation
14. Savasana I
15. Savasana II

### **References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## **BSCYSP 384: Practicals - VIII**

36 hrs (3 hrs/week)

### **Course Objectives:**

- Practical knowledge of asanas, Pranayama and Meditation
- Traditional knowledge in modern educational method.

### **Course Outcome:**

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

- Perform the asanas, Pranayama and Meditation systematically.
- Demonstrate the procedures of the selected asanas, Pranayama and Meditation

1. Swastika
2. Dvipadasirsasana
3. Yoganidrasana
4. Setubandhasana
5. Sarvangasana
6. Suptakonasana
7. Urdhwa padmasana
8. Pindasana
9. Matsyasana
10. Sirsasana
11. Ujjayi Pranayama
12. Anuloma-viloma pranayama
13. Soham Meditation
14. Savasana I
15. Savasana II

### **References:**

1. Iyengar B. K. S. (2003), Light on Yoga, Published by Harper Collins Publishers, India.
2. Satyananda Saraswati Swami (1997), Asana, Pranayama, Mudra, Bandha, Published by Bihar School of Yoga, Munger, Bihar.
3. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.
4. Jois Pattabhi (1962), Yoga mala – Part I, Published by Asthangayoga Nilaya, Mysore.

## **BSCYSCE133: Elective Course I: Basics relevant to Yogic Science**

24 hrs (Each Unit 12 hrs) - 2 hrs/week

### **Course Objectives:**

- To make the student to understand the knowledge of yogic concepts in Bhagavad-Gita.

### **Course Outcome:**

- The student will be able to get the knowledge of yogic concepts in Bhagavad-Gita

Unit I Introduction to Bhagavadgita; Karma Yoga and Dhyana Yoga according Bhagavadgita

Unit II Triguna concept of food according Bhagavadgita; Concept of Jnana Yoga and Bhakti Yoga according Bhagavadgita.

### **References:**

1. Dr. S. Radhakrishnan (1948), Bhagavadgeetha, Harper Collins, New Delhi-201307
2. Vivekananda Swami (2009), Rajayoga, Published from, Advaita Ashram, Kolkata.
3. Prasada Rama (1988), Patanjali's Yoga Sutras Translation, Published from Munshiram Ashram, New Delhi.
4. Taimini I. K. (1999), The Science of Yoga Theosophical, Publishing House, Adyar, Madras.
5. Adidevananda Swami (1970), Patanjala Yogadarsana Vyasabhasyasahita, Published from, Advaita Ashram, Kolkata.

**BSCYSCE 183: Elective Course II: Ghata Yoga**      24 hrs (Each Unit 12 hrs) - 2 hrs/week

**Course Objectives:**

- To make the student to understand the knowledge of yogic concepts in Ghata yoga.

**Course Outcome:**

- The student will be able to get the knowledge of yogic concepts in Ghata yoga

Unit I            Ghata yoga – Introduction, Kriyas- 21 varieties of practices & benefits;

Asana – practicing methods and benefits

Unit II            Pranayama, preparation, types of practice, benefits.

**References:**

1. Digambaraji Swami (1970), Hathayoga Pradipika of Swatmarama, Published by Kaivalyadhama, Lonavala (Dist.Pune), Maharashtra.
2. Digambaraji Swami (1978), Gheranda Samhita, Published by Kaivalyadhama, Lonavala (Dist.Pune), Maharashtra.
3. Hathayoga Pradipika of Swatmarama (1994), Published by The Adyar library and research centre, Chennai
4. Swami Niranjanananda, Gheranda Samhita, Bihar School of Yoga.
5. Swami Digambarji, Gheranda Samhita, Kaivalyadhama, Lonavala.

## **BSCYSCE 233: Elective Course III: Blood**

24 hrs (Each Unit 12 hrs) - 2 hrs/week

### **Course Objectives:**

- To make the student to understand the knowledge of Blood and blood groups.

### **Course Outcome:**

- The student will be able to get the knowledge of Blood and blood groups

Unit I            Composition of blood, RBC, WBC, Platelets and plasma; Hemoglobin, Coagulation and Anticoagulants

Unit II           Blood groups and importance; Blood volume, Blood Pressure and diseases.

### **References:**

1. Chatterjee C. C. (1992), Human Physiology (Vol. I & II), Published by Medical Allied Agency, Calcutta, 1992.
2. Evelyn C. Pearce (1982), Anatomy and Physiology for Nurses, published by Faber and Faber Ltd., London, 1968.
3. Tortora J. D. *et al.* (2009), Principles of Anatomy and Physiology, published by John Wiley and Sons, New Jersey.
4. Gore M. M. (2005), Anatomy and physiology of yogic practices, published by New Age Books, New Delhi.
5. Prof. A. K. Jain (2002), Human Physiology and Biochemistry, Arya Publications, industrial area, Trilokpur Road, Kala Amb-173030, Sirmour, HP.
6. Ross and Wilson (2006), Anatomy and Physiology in Health and Illness, 10<sup>th</sup> edition, Elsevier Publication. New York.

## **BSCYSOE 283: Open Elective Course: Introduction to Yogic Science- II**

24 hrs (Each Unit 12 hrs) - 2 hrs/week

### **Course Objectives:**

- To make the student to understand the knowledge of Schools of Yoga.

### **Course Outcome:**

- The student will be able to get the knowledge of Schools of Yoga

Unit I            Yoga: meaning, objective and definitions, Importance of Yoga in personal and social life, Concepts and mis-concepts of Yoga, Origin of Yoga and its historical development, Yoga for personal health.

Unit II            Schools of Yoga - Hatha Yoga, Raja Yoga, Bhakti Yoga, Jnana Yoga, KarmaYoga, Kundalini Yoga

### **References:**

1. Vivekananda Swami (2009), Rajayoga, Published from, Advaita Ashram, Kolkata.
2. Prasada Rama (1988), Patanjali's Yoga Sutras Translation, Published from Munshiram Ashram, New Delhi.
3. Taimini. I. K. (1999), The Science of Yoga Theosophical, Publishing House, Adyar, Madras.
4. Adidevananda Swami (1970), Patanjala Yogadarsana Vyasabhasyasahita, Published from, Advaita Ashram, Kolkata.
5. Virupakshananda Swami (1995), Sankhyakarika of Iswara Krishna, Published by Sri Ramakrishna Math, Mylapore, Madras -600 004
6. Dasgupta S.N (1924), Yoga as a Philosophy and Religion, Published from Delhi.
7. Krishnananda Swami (1973), A short history of religions and philosophic thought in India, Published from The divine life society, Shivanandanagar, Rishikesh.
8. Bhat K. Krishna (2006), the Power of Yoga, Suyoga Publications, Mangalore.