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FNH 401

I Semester M.Sc. Degree (CBCS) Examination, May 2022
FOOD SCIENCE AND NUTRITION
Food Science

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) Blanching.
 - b) Ageing of meat.
 - c) Types of pulses.
 - d) Whey Protein.
 - e) Methods available for preserving fruits.
 - f) Stages of dough development.
 - g) Curing of Fish.
 - h) Fortification of Milk.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**). **(5×5=25)**
 - a) Factors affecting the quality of milk.
 - b) Theory of Gel Formation.
 - c) Germination – definition and importance.
 - d) Role of Egg in Indian cookery.
 - e) Effect of processing on nutritive value of milk.
 - f) Enzymatic browning and its prevention.
 - g) Nutritive value of Rice.
 - h) Tenderization of meat.

3. Answer **any three** of the following (**not exceeding 5 pages each**) : **(3×10=30)**
 - a) Discuss on composition and substitutes of eggs.
 - b) Elaborate on physical and chemical properties of milk.
 - c) Discuss on effect of heat on vegetables.
 - d) Elaborate on baking technology.
 - e) Discuss on composition and preservation of fish.

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FNH 402

I Semester M.Sc. Degree (CBCS) Examination, May 2022
FOOD SCIENCE AND NUTRITION
Principles of Nutrition

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) Essential Amino Acids
 - b) ICMR and WHO
 - c) Glycaemic load of foods
 - d) Protein supplements
 - e) PUFA
 - f) Dietary Fibre
 - g) Fat Sources
 - h) Protein Efficiency Ratio.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**) : **(5×5=25)**
 - a) Energy Metabolism and Physical Activity.
 - b) Lipid metabolism
 - c) Classifications of Carbohydrate
 - d) Functions of cholesterol
 - e) Trends in dietary intake of carbohydrate
 - f) Amino acid pool
 - g) Lipid Requirement
 - h) Deficiency of proteins.

3. Answer **any three** of the following (**not exceeding 5 pages each**): **(3×10=30)**
 - a) Describe the Energy expenditure calculation in Man and Woman.
 - b) Explain the digestion and absorption process of carbohydrate.
 - c) Elaborate on latest concepts in dietary recommendations.
 - d) Describe the clinical and biochemical changes observed in protein energy malnutrition.
 - e) Explain the significance of lipids and fatty acids.

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FNH 403

I Semester M.Sc. Degree (CBCS) Examination, May 2022

FOOD SCIENCE AND NUTRITION

Human Physiology

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) Hormones
 - b) Brown adipose tissue
 - c) Antibody
 - d) Organization of human body
 - e) Oxidative stress
 - f) Detoxification
 - g) Importance of excretion
 - h) Function of kidney.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**) : **(5×5=25)**
 - a) Blood clotting procedure.
 - b) Cell and humoral immunity.
 - c) Process of nerve impulse conduction.
 - d) Gross structure of the brain.
 - e) Role of anti-oxidant in human health and diseases.
 - f) Acid and base balance.
 - g) Gross structure of the kidney.
 - h) Process of nutrient absorption from the small intestine.

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FNS 404

I Semester M.Sc. Degree (CBCS) Examination, May 2022
FOOD SCIENCE AND NUTRITION
Nutritional Biochemistry

Time : 3 Hours

Max. Marks : 70

1. Write short notes on any five of the following (not exceeding 2 pages each) :

(5×3=15)

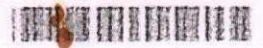
- a) Properties of RNA and DNA
- b) Enzyme kinetics
- c) Mechanism of enzyme action
- d) Coenzymes
- e) HMP shunt
- f) Break down of Hemoglobin
- g) Nucleotides
- h) Lipoprotein.

2. Write explanatory notes on any five of the following (not exceeding 3 pages each) :

(5×5=25)

- a) Glycolysis
- b) Gluconeogenesis
- c) Inhibitors of respiratory chain
- d) Transamination
- e) Chemiosmotic theory

P.T.O.



- f) Components of oxidative phosphorylation
 - g) Isoenzymes
 - h) Regulatory function of hormones.
3. Answer any three of the following (not exceeding 5 pages each) : (3×10=30)
- a) What is Prostaglandin ? Discuss its structure and biosynthesis.
 - b) Explain classification, nomenclature and general properties of enzymes with example.
 - c) Explain in-detail on electron transport chain.
 - d) Explain TCA cycle.
 - e) Discuss on synthesis of saturated and unsaturated fatty acids.
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FNS 405

I Semester M.Sc. Degree (CBCS) Examination, May 2022
FOOD SCIENCE AND NUTRITION
Food Microbiology

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not** exceeding **2** pages each) : **(5×3=15)**
- a) Mold.
 - b) Gram positive bacteria.
 - c) Food poisoning.
 - d) Rancidity
 - e) Indicator organisms.
 - f) Microorganism in meat industry.
 - g) HACCP.
 - h) Hepatitis A.
2. Write explanatory notes on **any five** of the following (**not** exceeding **3** pages) : **(5×5=25)**
- a) Growth curve.
 - b) Sporulating and non-sporulating organisms.
 - c) Food infection and food intoxication.
 - d) Contaminating of cereals and pulses.
 - e) Principles of GMP in food processing.
 - f) Prebiotics and probiotics.
 - g) Fermented food based on milk.
 - h) Microorganisms in baking.

P.T.O.



3. Answer **any three** of the following (**not exceeding 5 pages each**) : **(3×10=30)**

- a) Explain microorganisms in natural food products.
- b) Discuss on microbial toxins.
- c) Describe microbial spoilage of milk and meat products.
- d) Explain on fermented and alcoholic beverages.
- e) Discuss on traditional fermented foods of India and other Asian countries.

(5×3=15)

(5×2=10)

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FNH 451

II Semester M.Sc. Degree (CBCS) Examination, September/October 2022

FOOD SCIENCE AND NUTRITION

Vitamins in Human Nutrition

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**). (5×3=15)
 - a) Choline.
 - b) Niacin and Riboflavin.
 - c) Deficiency and symptoms of niacin.
 - d) Vitamins – D and K.
 - e) Vitamin toxicity.
 - f) Thiamine.
 - g) Pangamate.
 - h) Pseudovitamins.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**). (5×5=25)
 - a) Toxicity and storage of Vitamin E.
 - b) Changes during preparation and handling of vitamins.
 - c) Write a brief note on riboflavin.
 - d) Discuss the factors affecting the absorption of vitamins.
 - e) Write a note on vitamin like compounds.
 - f) Significance of vitamins in human health.
 - g) Write short note on flavonoids.
 - h) With suitable example, give an account on Vitamin-Drug interaction.

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3. Answer **any three** of the following (**not exceeding 5 pages each**). **(3×10=30)**

- a) Vitamins have different jobs to help keep the body working properly.
– Justify the statement.
- b) Give a detailed account on Vitamin A and its deficiency disorder.
- c) With respect to Cobalamin, discuss the following : Sources, daily requirements, deficiencies and symptoms and treatment.
- d) Elaborate on the differences between natural and artificial vitamins with a suitable example.
- e) Discuss in detail about the interaction various types of food with drug.
Add a note on its consequences.

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FNH 452

II Semester M.Sc. Degree (CBCS) Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Minerals in Human Nutrition

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) Functions of Selenium.
 - b) Definition of microelements with four examples.
 - c) Calcium phosphorus ratio and its importance.
 - d) Hypokalemia and its causes.
 - e) Functions of iodine.
 - f) Physiological requirement and RDA of calcium for growing children.
 - g) Food sources and importance of cobalt.
 - h) Iron overload.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**). **(5×5=25)**
 - a) Absorption and metabolism of zinc.
 - b) Functions and deficiency of fluorine.
 - c) Disorders associated with iodine deficiency.
 - d) Electrolyte imbalance.
 - e) Role of minerals in electrolyte balance.
 - f) Factors affecting the absorption of calcium.
 - g) Role of sulphur in nutrition and its toxicity.
 - h) Role of minerals in enzyme action with suitable examples.

3. Answer **any three** of the following (**not exceeding 5 pages each**). **(3×10=30)**
 - a) The normal serum calcium level and its hormonal regulation.
 - b) Describe the sources, functions and deficiency of phosphorus.
 - c) Discuss the absorption of iron and consequences of anemia in various stages of life.
 - d) Describe the drug mineral interaction with suitable examples.
 - e) Elaborate the importance of sodium and its relation in renal conditions.

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FNS 453

II Semester M.Sc. (CBCS) Degree Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Life Span Nutrition

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**).
(5×3=15)
- Meal Planning.
 - Food groups.
 - Let Down Reflux.
 - Growth Spurt.
 - Food Frequency Questionnaire.
 - Food Exchange List.
 - Complimentary Feeding.
 - Weight Gain in Pregnancy.
2. Write short notes on **any five** of the following (**not exceeding 3 pages each**).
(5×5=25)
- Factors contributing to Longevity.
 - The consequences of adolescent pregnancy ?
 - Write on the Physiological changes in elderly.
 - Significance of iron, folic acid and iodine during pregnancy.
 - The points to be considered while planning a diet for a lactating mother.
 - Breast feeding v/s bottle feeding.
 - Factors influencing dietary pattern of adolescents.
 - Consequences of malnutrition on physical, mental and cognitive development of children.

P.T.O.



3. Answer **any three** of the following (**not exceeding 5 pages each**). (3×10=30)

- a) Discuss in detail nutritional problems in old age and their dietary management.
- b) Elaborate on different dietary assessment methods.
- c) Discuss lactation under :
 - i) Physiology
 - ii) Nutritional requirement.
- d) Discuss pregnancy under :
 - i) Physiological changes.
 - ii) Complications and management.
- e) Discuss the following aspects in adolescents.
 - i) Growth and development.
 - ii) Nutritional problems and RDA.

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FNS 454

II Semester M.Sc. Degree (CBCS) Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Analytical Techniques in Food Science

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) :
(5×3=15)
 - a) NMR.
 - b) Radiation sources.
 - c) Phenol's compounds.
 - d) Enzymes.
 - e) Antibiotics.
 - f) Analysis of ash content.
 - g) Vitamins.
 - h) TLC.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**).
(5×5=25)
 - a) Principle and working of Gel filtration chromatography.
 - b) Scintillation counter.
 - c) UV-Visible spectrophotometer.
 - d) Isolation of enzymes.
 - e) How is PCR condition optimized suitable for food analysis ?
 - f) Enlist the criteria for enzyme purification.
 - g) Analysis of anti nutritional factors.
 - h) Significance and quantitation of organic acids in food.

3. Answer **any three** of the following (**not exceeding 5 pages each**). (3×10=30)
 - a) With suitable example, elaborate how immunological techniques be used in food technology.
 - b) Elaborate on the application of HPLC in food industry.
 - c) Discuss in detail about the estimation of secondary metabolites in food.
 - d) PCR is a powerful tool in food safety. Justify.
 - e) Give a detailed account of G M Counter. Add a note on its applications.

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FNE 464

II Semester M.Sc. Degree (CBCS) Examination, September/October 2022
FOOD SCIENCE AND NUTRITION (Open Elective)
Food Preservation

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**). **(5×3=15)**
 - a) Hurdle technology.
 - b) Fungicidal agents.
 - c) Types of irradiation.
 - d) Role of antioxidants as preservatives with two examples.
 - e) Principle of chilling.
 - f) Baking.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**). **(5×5=25)**
 - a) Changes in the food during freezing.
 - b) Pasteurization and its types.
 - c) Explain the types and applications of cryogenic freezing.
 - d) Effect of heat on foods.
 - e) Effect of radiation on foods.
 - f) Theory of gel formation.

3. Answer **any three** of the following (**not exceeding 5 pages each**). **(3×10=30)**
 - a) Discuss the principle of freezing, types of freezers and its applications.
 - b) Discuss the principle of dehydration and types.
 - c) Elaborate on methods of application of irradiation on foods. Add a note on health consequence of irradiated food.
 - d) Discuss in detail the types and mode of action of organic and inorganic preservatives.

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FNH 501

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022

FOOD SCIENCE AND NUTRITION

Clinical Nutrition and Dietetics – I

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) :

(5×3=15)

- Mechanical soft diet
- Post-operative diet
- Dietitian
- Malaria
- Set point theory of obesity
- Types of diabetes mellitus
- Crohn's disease
- Lactose intolerance.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**) :

(5×5=25)

- Inter relationship between health and nutrition.
- Team approach in patient care.
- Assessment of obesity.
- Factor affecting glycaemic index.
- Types and dietary management of burns.
- Pathophysiology of peptic ulcer.
- Objectives of diet therapy.
- Dietary management of Rheumatoid arthritis.

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3. Answer any three of the following (not exceeding 5 pages each) : (3×10=30)

- a) Explain the types and roles of hospital diets in reducing hospital stay.
- b) Explain the types, routes and complications of tube feeding.
- c) Explain the types, causes and MNT of constipation.
- d) Give a detailed note on MNT of diabetes mellitus. Add a note on the importance of physical activity in diabetes mellitus.
- e) Explain the dietary management of obesity and add a note on eating disorders.

a) Mechanical soft diet
b) Post-operative diet
c) Dietitian
d) Malabs
e) Set point theory of obesity
f) Types of diabetes mellitus
g) Crohn's disease
h) Lactose intolerance

2. Write explanatory notes on any five of the following (not exceeding 3 pages) : (5×5=25)

- a) Inter relationship between health and nutrition
- b) Team approach in patient care
- c) Assessment of obesity
- d) Factor affecting glycaemic index
- e) Types and dietary management of burns
- f) Pathophysiology of peptic ulcer
- g) Objectives of diet therapy
- h) Dietary management of Rheumatoid arthritis

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FNH 502

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022

FOOD SCIENCE AND NUTRITION

Community Nutrition and Statistics

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) UNICEF
 - b) Standard deviation
 - c) Marasmus
 - d) Nutrition interventions
 - e) Median
 - f) NIN
 - g) Mid-day Meal Programme
 - h) Mortality.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**) : **(5×5=25)**
 - a) Significance of NIN and ICAR in public health.
 - b) Methods for the assessment of nutritional status.
 - c) Protein energy malnutrition.
 - d) National agencies involved in improving the nutrition status of women.
 - e) Significance of regression analysis.
 - f) Low-cost menu planning.
 - g) Importance of fertility indicators.
 - h) Various types of hypothesis testing and step involved.

P.T.O.



3. Answer **any three** of the following (**not exceeding 5 pages each**) : **(3×10=30)**

- a) Elaborate on the principles and concepts of public health nutrition.
- b) Explain the nutrient deficiency prophylaxis programmes in India with respect to the deficiency of Vitamin A and Iodine.
- c) Write a detailed note on the contribution of Melinda and Bill Gates Foundation in nutrition education.
- d) Detail on the various tests used for analysing variance. Add a note on the techniques of interpretation.
- e) Elaborate on the various malnutrition prevention programmes and healthcare services offered by Government of India for dealing with malnutrition.

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FNS 503

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022
FOOD SCIENCE AND NUTRITION
Recent Trends in Food Technology

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**).
(5×3=15)
 - a) Nano sensors
 - b) Surfactants
 - c) Intelligent packaging
 - d) Odor removers
 - e) Light absorbers
 - f) Viscosifiers
 - g) Microbial growth indicators
 - h) UV radiation

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**).
(5×5=25)
 - a) Aseptic packaging
 - b) Moisture controllers
 - c) Uses of Chlorine in food processing
 - d) MAP
 - e) Ethylene scavengers
 - f) Uses of electron beam in food processing
 - g) Anti Oxidants
 - h) Pathogen indicators

3. Answer **any three** of the following (**not exceeding 5 pages each**).
(3×10=30)
 - a) Explain the role of nano particles in water purification process.
 - b) Discuss on the functional classification of nano particles.
 - c) Describe the advantages of edible films and coatings in food packaging.
 - d) Explain the scope of retort pouch processing in food packaging.
 - e) Discuss the advantages and disadvantages of high-pressure processing.

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FNS 504

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022
FOOD SCIENCE AND NUTRITION
Principles of Food Processing

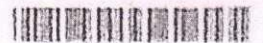
Time : 3 Hours

Max. Marks : 70

1. Write short notes on any five of the following (not exceeding 2 pages each) :
(5×3=15)
 - a) Water activity
 - b) Hot filling
 - c) Cold point
 - d) Foaming
 - e) Thawing
 - f) Food refining
 - g) Aseptic packaging
 - h) D Value.

2. Write explanatory notes on any five of the following (not exceeding 3 pages each).
(5×5=25)
 - a) Separation techniques
 - b) TDT curve
 - c) Inoculated pack studies
 - d) Factors affecting freezing rate
 - e) Intermittent thawing

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- f) MAP
- g) Role of nitrogen gas in food packaging
- h) Coating and enrobing.

3. Answer any three of the following (not exceeding 5 pages each) : (3×10=30)

- a) Explain the basic principles of cold processing of foods and irradiation.
 - b) Describe the steps involved in thermal food processing and its advantages.
 - c) Write a note on edible food wraps. Add a note on its advantages and disadvantages.
 - d) Discuss the processing of extruded products. Add a note on heating food in containers.
 - e) Give a brief account on food laws, safety and regulations of food industry.
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FNS 506

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022

FOOD SCIENCE AND NUTRITION

Functional Foods

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) : **(5×3=15)**
 - a) Nutraceuticals.
 - b) Functional foods.
 - c) Inulin.
 - d) Nutraceuticals in cardiovascular diseases.
 - e) Pharma foods.
 - f) Polyphenols.
 - g) Immune enhancing functional foods.
 - h) Bioactive peptides.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**) : **(5×5=25)**
 - a) Peri-menopausal syndrome and nutraceuticals.
 - b) Prebiotics and probiotics.
 - c) Types of functional foods.
 - d) Regulatory issues for nutraceuticals.
 - e) Benefits of specific nutraceuticals in cancer.
 - f) Use of nutraceuticals in traditional health science.
 - g) Role of spices as nutraceuticals.
 - h) Benefits of functional foods in age-related macular degeneration.

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FNE 514

III Semester M.Sc. Degree (CBCS) Examination, April/May 2022
FOOD SCIENCE AND NUTRITION
Diet and Diseases (Open Elective)

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**). **(5×3=15)**
 - a) Hyperlipidemia.
 - b) Pathophysiology of diarrhoea.
 - c) Incidence of CVD in India.
 - d) DASH diet.
 - e) Causes and symptoms of Hepatitis A.
 - f) Proteinuria.
 - g) Juvenile diabetes.
 - h) Carcinoma.

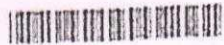
2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages**). **(5×5=25)**
 - a) Peritoneal dialysis.
 - b) Causes, symptoms and dietary management of colon cancer.
 - c) Irritable bowel syndrome.
 - d) Short term complications of diabetes mellitus.
 - e) Symptoms and causes of peptic ulcer.
 - f) Effect of alcohol on liver.
 - g) Classification and causes of constipation.
 - h) Sodium restriction in hypertensive diet.

3. Answer **any three** of the following (**not exceeding 5 pages each**). **(3×10=30)**
 - a) Discuss on the causes, symptoms and dietary management of chronic renal failure.
 - b) Explain the risk factors and symptoms of congestive heart failure.
 - c) Explain the etiology, symptoms and diagnosis of type II DM.
 - d) Describe the development of Atherosclerosis.
 - e) Elaborate on causes and dietary treatment of Hepatitis B.

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FNE 513



III Semester M.Sc. Degree (CBCS) Examination, April/May 2022
FOOD SCIENCE AND NUTRITION
Nutrition for Health (OE)

Time : 3 Hours

Max. Marks : 70

1. Write short notes on any five of the following (not exceeding 2 pages each) :
(5×3=15)
- a) Scurvy
 - b) Sources of Vitamin D and E
 - c) Iron deficiency
 - d) Monitoring of growth chart
 - e) Fluorosis
 - f) Eating disorders
 - g) Energy and protein requirement during lactation
 - h) Galactogogues.
2. Write explanatory notes on any five of the following (not exceeding 3 pages each) :
(5×5=25)
- a) Kwashiorkor.
 - b) Importance of calcium in the diet.
 - c) Causes of childhood obesity.
 - d) Paediatric formula preparation.
 - e) Dietary guidelines for adolescence.
 - f) Nutrition requirements during pregnancy.
 - g) Macro nutrients.
 - h) Dietary guidelines during infancy.
3. Answer any three of the following (not exceeding 5 pages each) : (3×10=30)
- a) Discuss Vitamin A deficiency and sources.
 - b) Describe the nutritional and dietary guidelines for school going children.
 - c) Discuss the nutritional needs of the elderly.
 - d) Give an account of the functions, sources and deficiency of protein.
 - e) Comment on the physiological changes during growth and maturation.

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FNH 551

IV Semester M.Sc. (CBCS) Degree Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Clinical Nutrition and Dietetics – II

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**). **(5×3=15)**
 - a) Bile juice.
 - b) Hyperlipoproteinemia.
 - c) Acute pancreatitis.
 - d) End stage kidney disease.
 - e) Maple syrup urine disease.
 - f) Glomerulus.
 - g) Proto-oncogenes.
 - h) Fructosomia.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**). **(5×5=25)**
 - a) Uremia.
 - b) Hepatitis B.
 - c) Hypercholesterolemia.
 - d) Nephritic syndrome.
 - e) Cholelithiasis.
 - f) Role of Minerals in Hypertension.
 - g) Fatty liver.
 - h) Role of diet in cancer prevention.

3. Answer **any three** of the following (**not exceeding 5 pages each**). **(3×10=30)**
 - a) Explain the etiology, symptoms and dietary intervention in liver disorder.
 - b) Give an overview on urinary tract infections and its management.
 - c) Describe the physiological changes and dietary management of AIDS
 - d) Elaborate on myocardial infarction.
 - e) Explain on nutritional problem of cancer therapy.

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FNH 552



IV Semester M.Sc. Degree (CBCS) Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Food Preservation

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**) :
(5×3=15)

- a) Cryogenic freezing
- b) Lyophilization
- c) Drying
- d) Pasteurization
- e) Dosimetry
- f) Natural antioxidants
- g) Squash versus syrups
- h) Gel.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**).
(5×5=25)

- a) Changes in food during freezing.
- b) Storing frozen foods.
- c) Shallow frying versus deep frying.
- d) Effect of heat on sensory and nutritive value.
- e) Types of radiation used in irradiation.
- f) Hurdle technology.
- g) Principles involved in the preparation of jams and jellies.
- h) Role of ingredients in the preparation of pickles.

3. Answer **any three** of the following (**not exceeding 5 pages each**). (3×10=30)

- a) Discuss the role of various food processing and preservation techniques and their relevance in the current scenario.
- b) Discuss the various types of freezers.
- c) Discuss high-temperature preservation under
 - 1) equipment used
 - 2) effect on nutritive value
- d) Discuss irradiation as a method of food preservation emphasizing its effect on health and various food constituents.
- e) Explain the mode of action of chemical preservatives with suitable examples.

Reg. No.

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FNS 554

IV Semester M.Sc. (CBCS) Degree Examination, September/October 2022
FOOD SCIENCE AND NUTRITION
Sports Nutrition

Time : 3 Hours

Max. Marks : 70

1. Write short notes on **any five** of the following (**not exceeding 2 pages each**). (5×3=15)
 - a) Management of fitness and health.
 - b) Nutrients supporting physical activity.
 - c) Carbohydrate loading.
 - d) Ergo genic aids.
 - e) Fluid and electrolyte balance in sports.
 - f) Exercise and physical fitness.
 - g) Ill effects of drugs.
 - h) Carbohydrate requirement for heavy weight lifters.

2. Write explanatory notes on **any five** of the following (**not exceeding 3 pages each**). (5×5=25)
 - a) Management of weight control regime.
 - b) Importance of pre and post-game meals.
 - c) Sports drinks and sports bars.
 - d) Nutritional guidelines for Ideal Body composition.
 - e) Guidelines for selection of Ergo genic aids.
 - f) Impact of alcohol and drug use on sports performance.
 - g) Commercial food supplements.
 - h) Diet for high energy requirements.

3. Answer **any three** of the following (**not exceeding 5 pages each**). (3×10=30)
 - a) Elaborate on ideal body composition for different sports events.
 - b) Explain the uses of different nutra genic and ergo genic aids in sports.
 - c) Explain the dietary requirement for stress, fractures and injuries.
 - d) Discuss on mobilization of fuel stores during exercise.
 - e) Discuss on drugs and rehabilitation techniques and nutrient requirement.