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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

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- 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.

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

- Explain microorganisms in natural food products.
- Discuss on microbial toxins.
- Describe microbial spoilage of milk and meat products.
- Explain on fermented and alcoholic beverages.
- 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)

- Choline.
- Niacin and Riboflavin.
- Deficiency and symptoms of niacin.
- Vitamins – D and K.
- Vitamin toxicity.
- Thiamine.
- Pangamate.
- Pseudovitamins.

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

(5×5=25)

- Toxicity and storage of Vitamin E.
- Changes during preparation and handling of vitamins.
- Write a brief note on riboflavin.
- Discuss the factors affecting the absorption of vitamins.
- Write a note on vitamin like compounds.
- Significance of vitamins in human health.
- Write short note on flavonoids.
- 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)

- Vitamins have different jobs to help keep the body working properly.  
– Justify the statement.
- Give a detailed account on Vitamin A and its deficiency disorder.
- With respect to Cobalamin, discuss the following : Sources, daily requirements, deficiencies and symptoms and treatment.
- Elaborate on the differences between natural and artificial vitamins with a suitable example.
- 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)
- a) Meal Planning.
  - b) Food groups.
  - c) Let Down Reflux.
  - d) Growth Spurt.
  - e) Food Frequency Questionnaire.
  - f) Food Exchange List.
  - g) Complimentary Feeding.
  - h) Weight Gain in Pregnancy.
2. Write short notes on **any five** of the following (**not exceeding 3 pages each**).  
(5×5=25)
- a) Factors contributing to Longevity.
  - b) The consequences of adolescent pregnancy ?
  - c) Write on the Physiological changes in elderly.
  - d) Significance of iron, folic acid and iodine during pregnancy.
  - e) The points to be considered while planning a diet for a lactating mother.
  - f) Breast feeding v/s bottle feeding.
  - g) Factors influencing dietary pattern of adolescents.
  - h) 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)**

- a) Mechanical soft diet
- b) Post-operative diet
- c) Dietitian
- d) Malaria
- 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.

P.T.O.



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

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

(5×5=25)

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

- 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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**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)**

- Elaborate on the principles and concepts of public health nutrition.
- Explain the nutrient deficiency prophylaxis programmes in India with respect to the deficiency of Vitamin A and Iodine.
- Write a detailed note on the contribution of Melinda and Bill Gates Foundation in nutrition education.
- Detail on the various tests used for analysing variance. Add a note on the techniques of interpretation.
- 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)

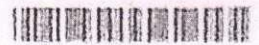
- a) Water activity
- b) Hot filling
- c) Cold point
- d) Foaming
- e) Thawing
- f) Food refining
- g) Aseptic packaging
- h) D Value.

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

P.T.O.



- 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)**

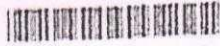
Time : 3 Hours

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.

Reg. No.

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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.

Reg. No.

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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**

Max. Marks : 70

Time : 3 Hours

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.

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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) Ergogenic 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 Ergogenic 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 nutrigenic and ergogenic 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.