D–8578

Sub. Code
36511

DISTANCE EDUCATION

M.Sc. (Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

First Semester

HUMAN PHYSIOLOGY

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is the function of tight junctions in epithelial cells?

2. What are the main types of muscular tissue?

3. What are the events of cardiac cycle?

4. Mention the function of lymph.

5. Define Parturition

6. List the composition of urine.

7. What is the role of rods and cones in vision?

8. What are endorphins?

9. Explain the term 'duct system' in relation to exocrine glands.

10. What is Reflex action?

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions choosing either (a) or (b).

11. (a) Explain the key structural differences between prokaryotic and Eukaryotic cells.

Or

(b) Explain the structure of type's epithelial tissues and its functions.

12. (a) Explain the various phases of cardiac cycle.

Or

(b) Give an account on structure and function of villi.

13. (a) Explain the different phases of menstrual cycle.

Or

(b) Explain the structure and function of eye with neat diagram.

14. (a) Why Glucagon is termed as an insulin antagonist?

Or

(b) How do mucous glands contribute to the protection of mucosal surfaces in the body?

15. (a) Give a brief account on electro diagnostic tests widely used to evaluate the brain function.

Or

(b) Describe the structure of mammary glands and their function in lactation.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Elaborate in detail the various types of muscles and the mechanism of muscle contraction.

17. Describe the structure of lungs and mechanism of respiration with neat illustration.

18. How is urine formed? Explain the role of kidney in regulating acid-base balance.

19. Elaborate in detail the synthesis, secretion and mechanism of action of thyroid hormones.

20. Discuss in detail structure of neuron and mechanism of transmission of nerve impulses.

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D–8580

Sub. Code
36513

DISTANCE EDUCATION

M.Sc. (Home Science) – (Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

First Semester

ADVANCED FOOD SCIENCE

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is the purpose of sautéing in cooking?

2. How does texture affect the evaluation of food quality?

3. What is the role of gums and carboxymethyl cellulose in food products?

4. Differentiate protein concentrate and protein isolate.

5. What is non-enzymatic browning?

6. What are the key nutrients found in shrimp?

7. What is rancidity in fats, and what causes it?

8. What is crystallization in sugar cookery?

9. What are the types of food additives?

10. What is genetically modified (GM) food?

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) How does fat emulsification influence the texture and stability of food products?

Or

(b) Explain the different types of sensory tests used in food evaluation.

12. (a) Explain the factors affecting the gluten formation in cereal cookery.

Or

(b) Briefly discuss the effect of heat on the pigment and texture of vegetables.

13. (a) Explain the nutritive values of pulses, nuts, and oilseeds.

Or

(b) How soy protein beneficial compared to animal protein?

14. (a) What is rancidity, and how does it affect the quality of fats and oils?

Or

(b) Briefly discuss nutritive value of milk powder.

15. (a) Explain the properties of sugar and its role in cookery.

Or

(b) Discuss in brief the health and environmental impact of genetically modified food.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss in detail the different cooking methods and its effect on the nutritional value and sensory characteristics of food.

17. Describe the structure and characteristics of starch granules. How does moist and dry heat affect the properties of starch in food preparation?

18. Explain the composition, physical and functional properties of paneer and cheese. Add a note on its nutritive benefits.

19. Discuss the various types of artificial sweeteners, their benefits, and their role in food products.

20. Describe in detail the techniques used in the production of genetically modified foods.

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D–8581	Sub. Code
	36523

DISTANCE EDUCATION

M.Sc.(Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Second Semester

FOOD SERVICE MANAGEMENT

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. List the types of food service organization.

2. Flooring facility of food service industry.

3. Menu.

4. What equipment is used for receiving food?

5. How will you maintain the food service equipment?

6. What is A la carte menu?

7. What are the roles of production management in food industry?

8. Define sanitation.

9. What is the selection of HRM?

10. Define dietary accounting.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Write about the organization structure.

Or

(b) Give a brief note on storage area.

12. (a) Explain about receiving and storing food material.

Or

(b) What are the role of manager in hospital food service management?

13. (a) Discuss the classification of food service equipment.

Or

(b) Distinguish between conventional and non-conventional sources of energy.

14. (a) Explain about Waiter-waitress service.

Or

(b) Write short notes on vending and mobile food service system.

15. (a) Write short note on laws governing food service establishment.

Or

(b) Distinguish the difference between purchase return book and sales return book.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the physical facilities and layout of kitchen. Give the sample layout of kitchen.

17. Enumerate the principles and techniques of effective management.

18. Enumerate about food service equipment.

19. Explain about sanitation and hygiene practices in food service industry.

20. Illustrate in detail about book of account.

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D–8582	Sub. Code
	36531

DISTANCE EDUCATION

M.Sc.(Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Third Semester

CLINICAL AND THERAPEUTIC NUTRITION

(CBCS 2018-19 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What is a soft diet, and when is it typically prescribed in hospitals?

2. Define enteral feeding.

3. Why is a light diet recommended during rheumatic fever?

4. What is the dietary recommendation for patients experiencing diarrhea?

5. How does pancreatitis impact digestion and nutritional absorption?

6. What is cholecystitis, and how is diet modified for its management?

7. Define food allergy.

8. Why is a ketogenic diet often used in managing epilepsy?

9. What is the role of protein in the diet of burn patients?

10. What are the key dietary components restricted in renal disorders?

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the key components of a full liquid diet and when it is recommended.

Or

(b) Comment on the common complications associated with parenteral nutrition, and how are they managed?

12. (a) How does nutrition play a role in boosting immunity and recovery in febrile conditions?

Or

(b) Discuss the importance of nutrition in managing patients with H1N1 influenza.

13. (a) Outline the dietary interventions for managing proteinuria in nephrotic syndrome.

Or

(b) Explain the role of fluid and electrolyte management in acute glomerulonephritis and how dietary changes support recovery.

14. (a) Describe the role of dietary modifications in managing Parkinson's disease symptoms.

Or

(b) Discuss how dietary management aids in the treatment of respiratory failure and prevents malnutrition in patients.

15. (a) Explain the importance of maintaining nutrient balance in ulcerative colitis patients.

Or

(b) Give an account on the common risk factors associated with carcinoma of the stomach.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the process of tube feeding, including the composition of feed, monitoring and management of complications.

17. Discuss the importance of energy-dense foods in the diet of patients with tuberculosis.

18. Compare the dietary interventions for metabolic disorders such as gout and lactose intolerance, focusing on the elimination of trigger foods.

19. Discuss the dietary interventions for patients with sepsis to support recovery.

20. Discuss the impact of colorectal surgery on nutritional needs in patients with colon cancer and the role of postoperative dietary adjustments.

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D–8583	Sub. Code
	36532

DISTANCE EDUCATION

M.Sc.(Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Third Semester

DIETETICS IN LIFE STYLE DISEASES

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. What is an anti-stress nutrient? Give one example.

2. How does stress affect gastrointestinal function?

3. Define gestational diabetes.

4. What are two common causes of underweight?

5. What are blood lipids?

6. Define dyslipidemia.

7. What is radiation therapy?

8. Name two environmental risk factors for cancer.

9. Define cancer cachexia.

10. What is oxidative stress?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Briefly explain the role of nutrition in stress management.

Or

(b) Discuss the relationship between stress and heart rate.

12. (a) Comment on the surgical techniques used in weight reduction management.

Or

(b) Explain the impact of dietary habits on the development of gestational diabetes.

13. (a) Discuss the clinical findings and symptoms of atherosclerosis.

Or

(b) Discuss the causes and symptoms of hypercholesterolemia.

14. (a) How does immunotherapy work in the treatment of cancer?

Or

(b) Discuss the role of hereditary factors in cancer risk.

15. (a) List the major immune-related changes that occur due to chronic stress.

Or

(b) Describe the process of bone marrow transplantation.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss in detail about the effect of stress on immune system.

17. Describe in detail the causes, complications and management of diabetes insipidus, including dietary and lifestyle modifications.

18. Elaborate on the dietary management of angina pectoris and how it impacts patient outcomes.

19. Describe cancer cachexia in detail, including its effects on metabolism, energy balance, and treatment approaches.

20. Explain in detail the various types of cancer therapies, including chemotherapy and immunotherapy.

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D–8584	Sub. Code
	36533

DISTANCE EDUCATION

M.Sc. (Home Science - Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Third Semester

COMMUNITY NUTRITION

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. List two direct methods of nutritional assessment.

2. List two common causes of protein-energy malnutrition.

3. Mention any three non-governmental organization working to reduce malnutrition in India.

4. Define undernutrition.

5. What is the role of UNICEF in global nutrition?

6. Who should teach nutrition in communities, and why is it important?

7. What is the blue revolution focused on?

8. Name two common agents causing food spoilage.

9. What is the role of post-harvest management in reducing food losses?

10. List two strategies to combat malnutrition in India.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the pathophysiology, clinical signs, and complications of protein-energy malnutrition in children.

Or

(b) Discuss the factors that contribute to nutritional problems in a community and the measures used to address them.

12. (a) Outline the strategies for improving maternal nutrition in India.

Or

(b) Elaborate the objectives of the integrated child development services program.

13. (a) Describe the role of the Central health education bureau in promoting nutrition education in detail.

Or

(b) Discuss the importance of nutrition education for improving public health in rural areas.

14. (a) Explain the role of the White revolution in improving milk production in India.

Or

(b) Discuss the agents causing food spoilage and the strategies to prevent food contamination during the post-harvest period.

15. (a) Explain the importance of SSWB concerned with food and nutrition.

Or

(b) Comment on the clinical significance of iron deficiency observed during a nutritional assessment.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss the clinical significance of vitamin A deficiency observed during a nutritional assessment.

17. Explain the link between malnutrition and morbidity and mortality rates in India, especially in children and pregnant women.

18. Explain the functions and contributions of the India council of Medical research in improving food production and nutritional security.

19. Discuss in detail about the main objectives of agricultural planning in relation to improving nutrition.

20. Detailed comment on the strategies to overcome malnutrition in India though integrated approach.

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D–8585

Sub. Code
36541

DISTANCE EDUCATION

M.Sc.(Home-Science-Nutrition and Dietitics) DEGREE EXAMINATION, MAY 2025.

Fourth Semester

PAEDIATRIC NUTRITION

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. Define physiological development in infants.

2. Name two biochemical parameters used to assess an infant's nutritional status.

3. Name four common newborn sicknesses related to nutrition.

4. Define neonatal seizures and mention one possible cause.

5. What is protein energy malnutrition?

6. What is the role of zinc in infant nutrition?

7. What is a test diet in clinical nutrition?

8. Name two symptoms of fat malabsorption in infants.

9. How is lactose intolrence test conducted in infants?

10. What is the most common cause of diaarhea in infants?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Describe the different anthropometric measurements used for infants and their significance.

Or

(b) Explain the importance of immunization during pregnancy and list the recommended vaccines.

12. (a) Explain the nutritional requirements of preterm and low birth weight infants.

Or

(b) How does malnutrition affect an infant's growth and development?

13. (a) List the key indicators used to assess under weight in infants.

Or

(b) Briefly explain the short term effects of under nutrition in infants.

14. (a) Discuss the nutritional challenges faced by HIV positive infants.

Or

(b) How can dehydration be managed in infants with ADH-related disorders?

15. (a) Explain the impact of bowel diseases on the growth and development of infants.

Or

(b) What is the role of probiotics and prebiotics in maintaining gut health in infants?

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the significance of anthropometric, biochemical, clinical, and dietary data in infant nutrition assessment.

17. Explain the role of breastfeeding and complementary feeding in preventing malnutrition and infections in infants.

18. Explain the nutritional management for children for Autism, ADH and AIDS.

19. Discuss the dietary management of common nutritional disorders in infants such as protein energy malnutrition (PEM) and rickets.

20. Discuss the short term and long-term consequences of under nutrition in infants.

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D–8586

Sub. Code
36542

DISTANCE EDUCATION

M.Sc.(Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Fourth Semester

FOOD MICROBIOLOGY AND SANITATION

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. Mention two cultural characteristics used to classify bacteria.
2. What is the significance of Louis Pasteur's Germ theory?
3. What is the role of drying in food preservation?
4. Define food asepsis.
5. What is the main cause of contamination in fish?
6. Name two types of biological spoilage in canned foods.
7. What is the significance of bar coding in food packaging?
8. What does AGMARK stands for and mention its importance in food standards?
9. Define the term "sanitation" in the context of food equipment.
10. Name two common household moulds found in food spoilage.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Discuss the physiology and reproductive processes of moulds.

Or

(b) Describe the historical development of microbiology.

12. (a) Discuss the chemical changes in food caused by microorganisms during spoilage.

Or

(b) Comment the role of food additives in the preservation of foods.

13. (a) Explain how the appearance of an unopened can indicate spoilage.

Or

(b) Discuss the spoilage mechanisms in fish and how they affect fish quality.

14. (a) Detailed note on the role of sanitation in food equipment and plant construction.

Or

(b) Explain the importance of nutrition labelling and the concept of nutrition claims in food products.

15. (a) Explain the major sources of contamination in poultry and their impact on food safety.

Or

(b) Illustrate the morphology and cultural characteristics of bacteria.

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe the discovery, morphology, and reproductive cycle of bacteriophages.

17. Explain in detail about the microbiological contamination and spoilage mechanisms in cereals and cereal products.

18. Discuss the microbiology of flesh foods, including sources of contamination, spoilage mechanisms and control methods.

19. Discuss the principles of food sanitation and the role of personal hygiene in food handling and processing.

20. Explain the significance of food borne illnesses caused by bacteria, detailing how they occur and preventive measures.

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D–8587	Sub. Code
	36543

DISTANCE EDUCATION

M.Sc.(Home Science-Nutrition and Dietetics) DEGREE EXAMINATION, MAY 2025.

Fourth Semester

FOOD BIOTECHNOLOGY AND BIOSTATISTICS

(CBCS 2018 – 2019 Academic Year Onwards)

Time : Three hours Maximum : 75 marks

PART A — ($10 \times 2 = 20$ marks)

Answer ALL the questions.

1. Explain the use of amylase in food industry.

2. Give the ideal conditions for a good antifoaming agent.

3. What are the differences between glucose syrup and high fructose corn syrup?

4. List out the sources of lead as a natural food toxicant.

5. What is fermented soya-based foods?

6. What is a random sample?

7. What are the main sources of bias in surveys?

8. Define percentile ranks.

9. Consider the dataset:
   5, 7, 9, 10, 12. Calculate the mean value.

10. State any two application of chi-square distribution.

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Briefly discuss the application of immobilized enzyme in food industries.

Or

(b) Explain the role of biosensors in quality control and food safety.

12. (a) Explain the primary methods used to eliminate lead and mercury from food.

Or

(b) Explain the production of gluconic acid and its applications in food processing.

13. (a) Explain briefly about the documentation of primary and secondary data.

Or

(b) What are cluster samples, and how do they differ from other sampling methods?

14. (a) Explain the characteristic features of line graph and its types.

Or

(b) Explain t test for testing the significance of correlation and regression coefficients.

15. (a) Explain the concept of convergence in probability with suitable example.

Or

(b) Find the median and mode for the following data.

105 110 115 120 125 130 125 135 140 150 160 170 200 180

PART C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe in detail the steps involved in the downstream processing method for the purification of enzyme with suitable examples.

17. Elaborate in detail the types of pesticides commonly found in food and their potential health risks.

18. Describe the traditional methods of meat fermentation, microbiological safety concerns associated with neat fermentation and its mitigative measures.

19. Elaborate in detail the different methods used for collection, classification and tabulation of data.

20. Discuss in detail the properties and significance of Bivariate and multivariate normal distribution.

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