

C-4976

Sub. Code

96313

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Nutrition and Dietetics

FOOD SCIENCE

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Potatoes, cereals, beans, and oats are rich in _____.
(a) Proteins (b) Vitamins
(c) Minerals (d) Carbohydrates
2. Which of the following statements is false about nutrients in milk?
(a) Milk is a good source of calcium
(b) Milk is a good source of protein
(c) Milk is a good source of vitamin C
(d) Milk is a good source of vitamin D
3. Which of the following has highest fat content?
(a) Rice (b) Bajra
(c) Maize (d) Oat

4. *Triticum aestivum* is known as
(a) Bread wheat (b) Macaroni wheat
(c) Club Wheat (d) None of these
5. _____ amino acids are commonly found in milk proteins, including the essential amino acids.
(a) 7 (b) 12
(c) 14 (d) 19
6. Cows with _____ have a higher incidence of mastitis because a physical injury is more likely.
(a) Sickled hocks (b) Horns
(c) Lower foot angles (d) Pendulous udders
7. What are the total soluble solids of fruit syrup?
(a) 65% (b) 75%
(c) 55% (d) 45%
8. What are the total soluble solids of fruit juices?
(a) 25% (b) 35%
(c) 55% (d) 45
9. The aromatic volatile components of spices are called _____.
(a) Spice Oil (b) Spice Fat
(c) Spice Gel (d) Spice Paste
10. Which of the following is true about turmeric?
(a) Green rhizomes are boiled in water till a froth comes out
(b) The softness of the cooked rhizomes
(c) After drying, the turmeric
(d) All of the mentioned

Part B**(5 × 5 = 25)**

Answer **all** questions choosing either (a) or (b)

11. (a) Give a thorough explanation of proteins.

Or

- (b) Distinguish between concealed and hollow hunger.

12. (a) Name the four major categories of essential elements.

Or

- (b) What are protective foods? Give examples.

13. (a) What is the nutritional value of ragi?

Or

- (b) Enumerate the benefits of blanching.

14. (a) How is milk pasteurized?

Or

- (b) How does food spoilage occur? Which are the various factors spoiling the food?

15. (a) What is the significance of herbs and spices in food preparation?

Or

- (b) Explain the distinction between plastic and polythene.

Part C**(5 × 8 = 40)**

Answer **all** questions choosing either (a) or (b)

16. (a) Name any three vitamins, their sources and deficiency diseases caused by them.

Or

- (b) What is dehydration and how can it be prevented?

17. (a) What is mineral nutrition? Name one essential element that is a component of energy.

Or

- (b) Briefly discuss the components of food.

18. (a) How do cereals and pulse grains differ from one another?

Or

- (b) Sketch the composition and functions of wheat.

19. (a) Explain the difference between a batter and a dough.

Or

- (b) How is 'dairy farming' beneficial for farmers besides getting milk?

20. (a) Explain the process of crystallization with steps.

Or

- (b) What is the Maillard Reaction? Mechanism with examples.
- _____

C-4977

Sub. Code

96314

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Nutrition and Dietetics

FOOD CHEMISTRY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Section A

(10 × 1 = 10)

Answer **all** the questions.

1. Which provides energy very slowly?
(a) Carbohydrates (b) Fats
(c) Proteins (d) Fibers
2. Which of the following monosaccharides is the majority found in the human body?
(a) D-type (b) L-type
(c) LD-types (d) None of the above
3. Which of the following is the smallest carbohydrate – triose?
(a) Ribose (b) Glucose
(c) Glyceraldehyde (d) Dihydroxyacetone
4. Which of the following is a reducing sugar?
(a) Dihydroxyacetone (b) Erythrose
(c) Glucose (d) All of the above

5. Which of the following is an example of Epimers?
- (a) Ribose
 - (b) Glucose and Galactose
 - (c) Mannose and Glucose
 - (d) Glucose, Ribose and Mannose
6. Which of the following does not have sulphuric acid groups?
- (a) Heparin
 - (b) Kerato sulfate
 - (c) Hyaluronic acid
 - (d) Chondroitin sulfate
7. Digitonin is a _____.
- (a) Lipid
 - (b) Protein
 - (c) Glycoside
 - (d) Alkaloid
8. Which of the following food products are high in protein content?
- (a) Tofu and eggs
 - (b) Grains and legumes
 - (c) Milk products
 - (d) All of the above
9. This is the function of dietary fat
- (a) Signals cells
 - (b) Cellular membranes
 - (c) Provides energy to the body
 - (d) All of these
10. Oleic acid is an example of
- (a) Inert fatty acids
 - (b) Neutral fatty acids
 - (c) Unsaturated fat
 - (d) Saturated fat

Section B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write about the changes occurs in milk during heat actions.

Or

- (b) Illustrate the decomposition of triglycerides.

12. (a) Summarize the types of hydrations in foods.

Or

- (b) Write about the shortening power of fats.

13. (a) Describe the major components of foods.

Or

- (b) Explain about the colloids and emulsions of foods.

14. (a) How to form the crystal formations with affecting factors?

Or

- (b) Write about the changes involved in fats and oils during heating.

15. (a) Describe the volatile compounds from cooked vegetables.

Or

- (b) Write about the chemistry of phenolic compounds in food chemistry.

Section C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Extend the properties and principles of spices and condiments.

Or

- (b) Outline the chemistry of sugars in food chemistry.

17. (a) Explain about the physio chemical properties of food.

Or

- (b) Discuss about the types of candies with action of enzymes.

18. (a) Overall functional activity of proteins with possible factors.

Or

- (b) Detail about different sources of the fats and oils.

19. (a) Outline the changes that takes place during cooking.

Or

- (b) Extend the health benefits of germinated pulses.

20. (a) Explain about the acid, alkali and surface-active agent on starch.

Or

- (b) Overall functional and chemical properties of pectin substances.

C-4978

Sub. Code

96315

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Nutrition and Dietetics

FOOD MICROBIOLOGY

(2023 onwards)

Duration : Three Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Which of this bacteria are resistant to penicillin as it lacks a cell wall?
(a) Spirochetes (b) Cyanobacteria
(c) Mycoplasmas (d) Bdellovibrios
2. What is a cluster of polar flagella called?
(a) Petritrichous (b) Montrichous
(c) Amphitrichous (d) Lophotrichous
3. The most spoilage bacteria grows at _____.
(a) Acidic pH (b) Neutral pH
(c) Alkaline PH (d) All of the above
4. What are the factors that contribute to microbial growth?
(a) pH (b) Moisture
(c) O-R potential (d) All of the above

5. The time-temperature combination for HTST pasteurization of 71.7C for 15 sec is selected———.
- (a) *E.coli* (b) *Coxiella burnetti*
(c) *C. botulinum* (d) *B.subtilis*
6. Which of the following statements are true regarding botulinum toxins.
- (a) A neurotoxin
(b) saprophytic bacteria
(c) Produced by *Clostridium botulinum*
(d) All of these
7. Which of the following is the process of converting sugar into alcohol?
- (a) Oxidation (b) Pasteurization
(c) Bleaching (d) Fermentation
8. The principal microorganisms for yogurt is ———.
- (a) *Streptococcus thermophiles*
(b) *Leuconostoc citrovorum*
(c) *Lactobacillus acidophilus*
(d) *Streptococcus lactis*
9. Aflatoxin is produced by
- (a) *Aspergillus sp.* (b) *Salmonella sp.*
(c) *Fusarium sp.* (d) *Streptococcal sp.*
10. The top contaminant in the canning industry is
- (a) *Lactobacillus* (b) *Clostridium botulinum*
(c) *Bacillus subtilis* (d) *Trichoderma*

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give an account of morphological characteristics of yeast.

Or

- (b) Write the general characteristics of virus.

12. (a) Mention the intrinsic factors affecting microbial growth in food.

Or

- (b) Describe the significance of gaseous atmosphere factor in food.

13. (a) Examine the cause of spoilage of egg.

Or

- (b) Give a short note on preservation of meat and meat products by use of preservative.

14. (a) Elucidate the spoilage of honey.

Or

- (b) Write in detail about spoilage of cakes and bakery products.

15. (a) Mention the transmission and clinical symptoms of Typhoid.

Or

- (b) List out the types and preparation of cheese.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Give a detailed account on the morphological and cultural characteristics and its importance in food bacteriology.

Or

- (b) Discuss in detail about scope of Microbiology.

17. (a) What is intrinsic factors? Mention the importance in food spoilage.

Or

- (b) Explain in detail about relative humidity and temperature in microbial growth on food.

18. (a) Rating in detail about preservation of poultry and poultry products.

Or

- (b) Discuss in detail about contamination, preservation and spoilage of vegetables and fruits.

19. (a) Write in detail about spoilage flora of confectionery products.

Or

- (b) Briefly explain about microbial spoilage of baked bread.

20. (a) Discuss in detail about the methodology of vinegar production.

Or

- (b) Illustrate the types, transmission and control measure of *Clostridium botulinum*.

C-4979

Sub. Code

96317

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Nutrition and Dietetics

FUNDAMENTALS OF BIOCHEMISTRY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Section A

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following is the general formula of Carbohydrates?
(a) $(C_4H_2O)_n$ (b) $(C_6H_2O)_n$
(c) $(CH_2O)_n$ (d) $(C_2H_2O)_n COOH$
2. Starch consists of _____.
(a) Branched amylose and branched amylopectin
(b) Unbranched amylose and branched amylopectin
(c) Unbranched amylose and unbranched amylopectin
(d) None of the above
3. Beta-oxidation of fatty acids occurs in
(a) Peroxisome
(b) Peroxisome and Mitochondria
(c) Mitochondria
(d) Peroxisome, Mitochondrial and ER

4. Structural poly saccharides include _____.
- (a) Cellulose, hemicellulose and chitin
 - (b) Cellulose, starch and chitin
 - (c) Cellulose, starch and glycogen
 - (d) Cellulose, glycogen and chitin
5. Which of the following proteins was first sequenced by Frederick Sanger?
- (a) Myosin (b) Insulin
 - (c) Myoglobin (d) Haemoglobin
6. Which of the following amino acids has to be supplemented in the diet?
- (a) Phenylalanine (b) Cysteine
 - (c) Glutamine (d) Asparagine
7. Which of the following amino acids is most compatible with an α -helical structure?
- (a) Tryptophan (b) Alanine
 - (c) Leucine (d) Proline
8. The sugar in RNA is _____, the sugar in DNA is _____
- (a) Deoxyribose, ribose
 - (b) Ribose, deoxyribose
 - (c) Ribose, phosphate
 - (d) Ribose uracil
9. The term enzyme are coined by
- (a) Pasteur (b) Buchner
 - (c) Urey Miller (d) Kuhne

10. Which of the following is produced with the combination of apoenzyme and coenzyme:
- (a) Holoenzyme
 - (b) Enzyme substrate complex
 - (c) Prosthetic group
 - (d) Enzyme product complex

Section B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write a note on physical and chemical properties common saturated fatty acids.

Or

- (b) Explain the difference between Acidic and Alkaline buffer with suitable example.

12. (a) Differentiate between monosaccharides and polysaccharides.

Or

- (b) Short notes on Triglycerides.

13. (a) Explain the protein structure.

Or

- (b) Write down the functions of essential and non-essential amino acids.

14. (a) Write about the structure and nomenclature of nucleosides and nucleotides.

Or

- (b) Describe the history and function of DNA and RNA.

15. (a) Explain the general mechanisms on substrate binding theory.

Or

- (b) Short notes on active site, specificity and properties of Enzyme.

Section C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain about the basic structure, function and classifications of carbohydrate.

Or

- (b) Distinguish between acids and bases buffer system.

17. (a) Describe the types of interaction :

- (i) Covalent bond
- (ii) Vander Waals' force.

Or

- (b) Give notes on β -oxidation saturated fatty acids.

18. (a) List out the essential and non-essentials amino acids with properties.

Or

- (b) Elaborate the four types of protein structure model.

19. (a) Overview on the Double helical model of DNA.

Or

- (b) Detail notes a Meselson and Stahl experiment, mode of action replication.

20. (a) Write about the types, structure, and catalytic properties of enzymes.

Or

- (b) Explain characteristics and mechanisms of enzyme catalyst reaction in biomolecules.

C-4980

Sub. Code

96323

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Nutrition and Dietetics

PRINCIPLES OF NUTRITION

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. In a cold climate more energy is required
 - (a) locomotion
 - (b) weight
 - (c) social relationships
 - (d) Body temperature
2. Which of the following is the general formula of Carbohydrates?
 - (a) $(C_4H_2O)_n$
 - (b) $(C_6H_2O)_n$
 - (c) $(CH_2O)_n$
 - (d) $(C_2H_2O)_n COOH$
3. Which of the following food components does not provide any nutrients?
 - (a) Milk
 - (b) Water
 - (c) Fruit Juice
 - (d) Vegetable soup

4. Dietary fibre is rich in _____
(a) Starch (b) Cellulose
(c) Collagen (d) Inulin
5. The nitrogen content in 50 gm of a typical dietary protein is most likely to be
(a) 5 gm (b) 8 gm
(c) 10 gm (d) 16 gm
6. Mercury rich condition in a slow setting amalgam alloy system in a restoration in _____
(a) Accelerated corrosion
(b) Fracture of the restoration
(c) Marginal damage
(d) All of the above
7. Which of these is not a lipid?
(a) Fats (b) Oils
(c) Proteins (d) Waxes
8. Which of the following minerals controls growth and body weight?
(a) Iodine (b) Calcium
(c) Phosphorous (d) All of the above
9. Excessive intake of calcium in our diet results in _____
(a) Stroke (b) Diarrhoea
(c) Constipation (d) Kidney stones
10. The highest levels of vitamin C are present in which of the following?
(a) Parsley (b) Broccoli
(c) Orange juice (d) Black currants

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b)

11. (a) Write down the, measurement and clinical significance, factors affecting BMR.

Or

- (b) Summary on recommend Dietary allowances.

12. (a) Describe the digestion, functions, glycemic index, of carbohydrate.

Or

- (b) Explain composition and its functions of protein.

13. (a) Detail about the nutritional classification and main source digestion in Lipids.

Or

- (b) Detailed notes on, requirements, and functions of water electrolytes?

14. (a) Summarizes the function of micro minerals with example disorder.

Or

- (b) Write down common minerals with definition and examples.

15. (a) Classify the water-soluble vitamins.

Or

- (b) Write down the deficiency of fat soluble vitamins.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b)

16. (a) Elaborates the factors affecting BMR.

Or

- (b) Write down the general principles, and factors affecting RDA.

17. (a) Brief on Nutritional classification carbohydrate.

Or

- (b) Write down the classification amino acids and its functions.

18. (a) Explain the composition, types and functions of Lipids.

Or

- (b) Briefly explain about digestion and absorption of fatty acids.

19. (a) Describe the classification of microminerals and its function.

Or

- (b) Explain the classification of macro minerals and its function.

20. (a) Explain the vitamin B₆, B₁₂ and folic acids, insufficient side effects.

Or

- (b) Explain the classification Vitamins.

C-4981

Sub. Code

96324

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Nutrition and Dietetics

NUTRITION THROUGH LIFE CYCLE

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Section A

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following components are major nutrients in our food?
 - (a) Carbohydrates
 - (b) Lipids and Proteins
 - (c) Vitamins and Minerals
 - (d) All of the above
2. Which of the following food components is required for the growth and maintenance of the human body?
 - (a) Proteins
 - (b) Vitamins
 - (c) Minerals
 - (d) Both (a) and (b)
3. Which of the following food components give energy to our body?
 - (a) Proteins
 - (b) Vitamins
 - (c) Minerals
 - (d) Carbohydrates

4. Which of the following food items provides dietary fibre?
- (a) Pulses
 - (b) Wholegrain
 - (c) Fruits and vegetables
 - (d) All of the above
5. Which of the following food products are the best sources of animal proteins?
- (a) Milk
 - (b) Egg
 - (c) Cheese
 - (d) All of the above
6. Which of the following mineral functions by building strong bones and teeth?
- (a) Iodine
 - (b) Calcium
 - (c) Iron
 - (d) Sodium
7. Egg is a rich source of _____
- (a) Proteins
 - (b) Vitamins
 - (c) Minerals
 - (d) All of the above
8. Which of the following food components does not provide any nutrients?
- (a) Milk
 - (b) Water
 - (c) Fruit Juice
 - (d) Vegetable soup
9. Which of the following food items is the best source of plant proteins?
- (a) Milk
 - (b) Egg
 - (c) Legumes
 - (d) Cheese
10. Which of the following food components is rich in fat?
- (a) Rice and Maize
 - (b) Milk, egg and beans
 - (c) Butter, cheese and oil
 - (d) None of the above

Section B

(5 × 5 = 25)

Answer **all** the questions, choosing either (a) or (b)

11. (a) List out the health benefits of meal planning.

Or

- (b) What is the nutritional requirement of children?

12. (a) Which factors can influence your nutrient requirements?

Or

- (b) Elaborate the stages of Growth Month-by-Month in Pregnancy.

13. (a) Illustrate the alternative Feeding Options for Infants.

Or

- (b) Describe the structure and function of mammary glands.

14. (a) Discuss the benefits and barriers related to breastfeeding.

Or

- (b) Explore the introduction of solid foods into a toddler's diet.

15. (a) What is the difference between human and cow milk?

Or

- (b) Explore the most important nutrition-related concerns during adolescence.

Section C

(5 × 8 = 40)

Answer **all** the questions, choosing either (a) or (b)

16. (a) Summarize prenatal nutritional requirements and dietary recommendations.

Or

- (b) Discuss the most important nutritional concerns during pregnancy.

17. (a) Enumerate the Composition and properties of milk.

Or

- (b) Discuss about the Common Causes of Lactation Failure.

18. (a) Explain how nutritional and lifestyle choices can affect current and future health.

Or

- (b) Discuss the most important nutrition-related concerns during middle and old age.

19. (a) How does nutrition and exercise affect your quality of life?

Or

- (b) Discuss the role of protein in exercise.

20. (a) Explain the nutritional requirements for physical activity.

Or

- (b) Discuss the most important nutrition-related concerns during middle and old age.

C-4982

Sub. Code

96326

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Nutrition and Dietetics

HUMAN PHYSIOLOGY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following is not involved in the process of digestion?
(a) Stomach (b) Salivary Glands
(c) Adrenal Gland (d) Liver
2. Which of the following WBCs is non-phagocytic?
(a) Neutrophil (b) Monocyte
(c) Macrophage (d) Basophil
3. Which form is the most frequently used to transport Carbon Dioxide?
(a) Carbon Dioxide (b) Carbaminohaemoglobin
(c) Bicarbonate (d) Urea

4. The LH hormone is secreted by which of the following organs.
- (a) Pancreas (b) Liver
(c) Duodenum (d) Pituitary gland
5. Which organ helps with insulin secretions?
- (a) Pancreas (b) Heart
(c) Kidney (d) Liver
6. _____ is secreted by stomach epithelial cells in the body.
- (a) HCl (b) The hormone Oxytocin
(c) Pepsin (d) Testosterone
7. The deficiency of which vitamin can lead to night blindness?
- (a) Vitamin K (b) Vitamin D
(c) Vitamin C (d) Vitamin A
8. Protein digestion occurs in
- (a) Rectum (b) Small intestine
(c) Liver (d) Ileum
9. Which one of the following can be found in pancreatic juice?
- (a) Trypsinogen (b) Proenzyme pepsinogen
(c) Lysozyme (d) Peptide
10. Carbon Monoxide poisoning happens due to
- (a) Carbonic acid (b) Carboxy haemoglobin
(c) Methane (d) Ethane

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Demonstrate the functional activities of the lymphatic system.

Or

- (b) Write about the importance of blood grouping and blood coagulation.

12. (a) Explain the structure of the olfactory and taste pathway.

Or

- (b) List out the structure of neurons with a neat diagram.

13. (a) Describe the function mechanism of the circulatory system.

Or

- (b) Examine the structure of endocrine glands.

14. (a) Write shortly about the function of the artery vein, and capillary.

Or

- (b) Describe the functional and physiological structure of the liver.

15. (a) Write about the function and structural activities of the kidney.

Or

- (b) Determine the process involved during the digestion of food.

Part C

(5 × 8 = 40)

Answer **all** questions choosing either (a) or (b).

16. (a) Outline the structure and function of RBC with a neat diagram.

Or

- (b) Explain briefly the structure and functions of the spinal cord.

17. (a) Illustrate the important enzymes involved in digestive systems.

Or

- (b) Details about the physiological functions of nerve cells with a diagram.

18. (a) Overall anatomy of the respiratory system.

Or

- (b) Summarize the organization of the digestive system.

19. (a) Explain briefly about the structure and function of spermatogenesis.

Or

- (b) Outline of the function and structure of the hypothalamus and cerebellum.

20. (a) Examine the overall properties of cardiac muscle.

Or

- (b) Discuss the mechanism of the Ovarian cycle.

C-4983

Sub. Code

96333

B.Sc. DEGREE EXAMINATION, APRIL 2025

Third Semester

Nutrition and Dietetics

BASIC FOOD PROCESSING AND PRESERVATION

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. The heat stability of milk is judged by
 - (a) Freezing point
 - (b) COB
 - (c) MBRT
 - (d) Lacto meter
2. Which of the following is not an indirect method of moisture determination in a food sample
 - (a) Karl fisher method
 - (b) NMR Spectroscopy
 - (c) NIR Spectroscopy
 - (d) Infrared absorption
3. What is the primary leavening agent in most bread and bakery products?
 - (a) Cream of Tartar
 - (b) Baking Soda
 - (c) Yeast
 - (d) Baking Powder
4. Which of the following test is used to determine the gluten strength of the dough in flour quality evaluation?
 - (a) Extensograph
 - (b) Viscoamylograph
 - (c) Alveograph
 - (d) Amylograph

5. Combination of which of the following is known as gluten
- (a) Gliadin + Glutelin
 - (b) Glitelin + lysin
 - (c) Glutelin + Glutelin
 - (d) lysin+ Glutelin
6. Triticum aestivum is know as
- (a) Bread wheat (b) Macaroni wheat
 - (c) Club wheat (d) None of these
7. The purpose of heat treatment on milk is —————
- (a) Kill pathogenic microorganism
 - (b) Heat milk
 - (c) Evaporation
 - (d) Taste enhancement
8. What is full form of LSU dryer?
- (a) Louisiana State University dryer
 - (b) Low simple universal dryer
 - (c) Low and slow unit dryer
 - (d) Level steady unit dryer
9. How the liquid does gets separated in freeze dryer?
- (a) Boiling
 - (b) Distillation
 - (c) Freezing and crystallization
 - (d) Evaporation
10. The crushed grapes used for wine manufacturing are also known as
- (a) wort (b) must
 - (c) hop (d) pilsener

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b) from each.

11. (a) Discuss about effect food processing nutritional.

Or

- (b) Write the notes on nature and properties of food.

12. (a) How to steps processing milling oats, sorghum in industry?

Or

- (b) Differentiate between blended flour and fortified flour in milling sectors.

13. (a) Different types of cheese.

Or

- (b) Explain any two milk products.

14. (a) Describe the mechanical preservation methods in spray drying and canning.

Or

- (b) Explain common types fermented food.

15. (a) Explain the importance FPO Specification in food industry.

Or

- (b) List of permitted food additives in preserve foods.

Part C

(5 × 8 = 40)

Answer **all** questions choosing either (a) or (b) from each.

16. (a) Describe notes on properties and viscoelastic characterization of selected food.

Or

- (b) Write about types of spoilage and basic method food preservation.

17. (a) Explain Shelf life and safety concern in physical and chemical spoilage of bakery products

Or

- (b) Briefly explain methods of paneer making process

18. (a) Description of History, process, steps involved in curd, cheese making

Or

- (b) Summary of probiotic milk products

19. (a) Drying method of Food Preservation types with example

Or

- (b) Differentiate between canning and sterilization

20. (a) Discuss about the general wine production process

Or

- (b) Elaborates notes on chemical preservatives with types, role in preserving food

C-4984

Sub. Code

96334

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Third Semester

Nutrition and Dietetics

FOOD STANDARDS AND QUALITY CONTROL

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. To identify defects in a developed product before its released is the goal of _____
 - (a) Quality Assurance
 - (b) Food Business Operator
 - (c) Food safety management system
 - (d) Quality control
2. Which one of the following is not in a quality checking?
 - (a) Sensory attributes
 - (b) Shelf-Life
 - (c) Both (a) and (b)
 - (d) None of the above
3. Colouring agent for butter and cheese
 - (a) Annatto
 - (b) Curcumin
 - (c) Lycopene
 - (d) Paprika

4. Which of the following products can be prepared using raw guava?
- (a) Jam
 - (b) Jelly
 - (c) Both Jam and Jelly
 - (d) None of the above
5. Which one is not the characteristic of sensory evaluation?
- (a) Appearance (b) Ingredient
 - (c) Flavour (d) Taste
6. Which of the following is objective evaluation?
- (a) Taste (b) Flavour
 - (c) Chemical Method (d) Texture
7. The capacity of a substance to produce harm or injury of any kind under any conditions
- (a) Toxicity (b) Hazard
 - (c) Adverse effects (d) Toxin
8. Substances which are used for making the food products unsafe for human consumption.
- (a) Contamination (b) Adulteration
 - (c) Adulterants (d) Hazard
9. Central AGMARK Laboratory is situated at
- (a) Mumbai (b) Delhi
 - (c) Nagpur (d) Kochi
10. Full form of PFA
- (a) Prevention of Food Adulteration
 - (b) Prevention of Food Adulteration Act
 - (c) Prevention of Food Adulterants Act
 - (d) Prevention of Food Adulterants

Part B

(5 × 5 = 25)

Answer **all** the questions, choosing either (a) or (b).

11. (a) Write about the quality checking of raw foods.

Or

- (b) Write about the quality features of foods.

12. (a) What are the specifications for fruit products?
Explain in detail.

Or

- (b) Elucidate the food specifications for milk and milk products.

13. (a) Write a short note on the procedure of sensory evaluation.

Or

- (b) Explain different tests involved in objective evaluation.

14. (a) State the toxic inorganic compounds in water.

Or

- (b) Write about the measures to control food adulteration.

15. (a) Explain about the prevention act of food adulteration.

Or

- (b) Discuss on BIS.

Part C

(5 × 8 = 40)

Answer **all** the questions, choosing either (a) or (b).

16. (a) What are the simple techniques used to quality checking of non-vegetarian raw materials? Explain in detail.

Or

- (b) Give an account on the simple techniques used to quality checking of milk and milk products.
17. (a) Give an account on the quality control measures.

Or

- (b) Elucidate about the food additives and their specifications.
18. (a) Elaborate the organs involved in subjective assessment.

Or

- (b) Enumerate about objective evaluation.
19. (a) List the naturally occurring toxin in foods? Explain in detail.

Or

- (b) Discuss the toxic minerals and inorganic compounds in food.
20. (a) Describe about the food laws.

Or

- (b) Discuss the HACCP.

C-4985

Sub. Code

96336

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Third Semester

Nutrition and Dietetics

NUTRITION FOR HEALTH AND FITNESS

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. _____ helps in the regulation of blood volume and blood pressure.
(a) Iron (b) Iodine
(c) Sodium (d) Phosphorous
2. Which of the following are examples of macro minerals?
(a) Sodium (b) Calcium
(c) Chloride (d) All of the above
3. Excessive intake of calcium in our diet results in _____
(a) Stroke (b) Diarrhoea
(c) Constipation (d) Kidney stones
4. Which of the following vitamins are called fat-soluble vitamins?
(a) vitamin B (b) vitamin E
(c) vitamin C (d) vitamin B2

5. Onions, broccoli, fresh fruits, milk, eggs, and iodized salt are good sources of _____
- (a) Phosphorus (b) Sodium
(c) Iodine (d) Both (b) and (c)
6. Passion fruit and pomegranate are rich in which mineral?
- (a) Phosphorous (b) Calcium
(c) Manganese (d) None of the above
7. What is the percentage error in the measurement of the kinetic energy of a body, if there is a positive error of 50% in the speed of the body?
- (a) 125% (b) 30%
(c) 50% (d) 100%
8. Which of the following food components give energy to our body?
- (a) Proteins (b) Vitamins
(c) Mineral (d) Carbohydrates
9. A compound that inhibits oxidation is known as
- (a) Oxidising agent (b) Antioxidant
(c) Reductant (d) All of the above
10. Which element plays a significant role in human cell-mediated immunity and is also an antioxidant and anti-inflammatory agent?
- (a) Zinc (b) Magnesium
(c) Calcium (d) None of the above

Part B

(5 × 5 = 25)

Answer **all** the questions, choosing either (a) or (b).

11. (a) List out the components of the FITT Principle.

Or

- (b) How are the food groups related to creating a healthy nutrition plan?

12. (a) What are vitamins? Name the types of vitamins.

Or

- (b) Mention the uses of any two minerals in our diet.

13. (a) Write briefly about protein as an essential component of diet.

Or

- (b) Discuss the role of fats on the performance of sports persons.

14. (a) Explain about any two components of diet in brief.

Or

- (b) What are the effects of good nutrition on an individual?

15. (a) What is balanced diet? Elaborate the important nutrients/elements of balanced diet.

Or

- (b) Discuss the role of diet on the performance of a sportsperson.

Part C

(5 × 8 = 40)

Answer **all** the questions, choosing either (a) or (b).

16. (a) Summarize the benefits of choosing nutritious food during mealtime and for snacks.

Or

- (b) Discuss the functions and sources of fats.

17. (a) What is balanced diet? Elaborate the important nutrients/elements of balanced diet.

Or

- (b) In sports such as boxing and wrestling, the players tend to lose weight sharply. Explain the pitfalls of dieting.

18. (a) Explain in detail the different elements of diet.

Or

- (b) What is the major goal of a pre-competition meal? When should it be taken and why?

19. (a) Diet for a sportsperson is important. What should be the aims of preparing diet for sportsperson?

Or

- (b) Explain the use of dietary supplements in heavy dose for longer duration. Justify your answer with two suitable examples.

20. (a) What could happen to a person's body as a result of unhealthy eating and sedentary lifestyle?

Or

- (b) How does oxidative stress affect athletic performance?

C-4986

Sub. Code

96343

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Nutrition and Dietetics

DIETETICS – I

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Which mineral enhances insulin activity?
(a) Hb (b) Myoglobin
(c) Iron (d) None of these
2. Liver enlargement is _____.
(a) Hepatomegaly (b) Hepatitis
(c) Fatty liver (d) None of the above
3. An extra amount of fluid in feet, ankles, and leg tissues is termed as _____.
(a) Edema (b) Swelling
(c) Plaque (d) All of the above
4. IDDM is called _____.
(a) Type 1 diabetes
(b) Type 2 diabetes
(c) Insulin resistance
(d) Gastrointestinal diabetes

5. Pickwickian syndrome is a complication of:
 (a) Gastrointestinal (b) Cardiovascular
 (c) Respiratory (d) Endocrine
6. How to measure body frame without any instrument?
 (a) From shoulder (b) From abdomen
 (c) From wrist (d) From head
7. The RDA of Vitamin A in pregnant females is:
 (a) 750-1000 µg/day (b) 750 µg/day
 (c) 1000 µg/day (d) 750-1200 µg/day
8. _____ is the abnormal permanent enlargement of air spaces.
 (a) Aspiration (b) Emphysema
 (c) COPD (d) Asthma
9. Vitamin C serves as _____.
 (a) Co-enzyme (b) Antagonist
 (c) Antioxidant (d) Intrinsic
10. For hypertensive patients _____ diet is recommended.
 (a) Brat (b) DASH
 (c) Low protein (d) High fat

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe about the Nutrition Care Process.

Or

- (b) Explain about the condition of hepatic coma and its causes.

12. (a) Write about the objectives of diet therapy.

Or

- (b) Illustrate the causes of hemorrhoidal conditions.

13. (a) Determine the fever of long duration and short duration.

Or

- (b) Mention the nutritional diet care for the children with autism conditions.

14. (a) List out the hospital routine semi-liquid and light diet.

Or

- (b) Summarize the iron deficiency and their related disease.

15. (a) Mention the causes and diet for peptic ulcers.

Or

- (b) Write about the basic concept of oral feeding.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Write the different types of feedings and their benefit conditions.

Or

- (b) Discuss the diet planning and preventive measures for PEM.

17. (a) Explain the importance of tube feeding and IV feed conditions.

Or

- (b) Mention the causes and risk factors of the pancreatitis with their diet plan.

18. (a) Write about the importance of a diet plan for Down's syndrome.

Or

- (b) Explain the prevention measures for gastrointestinal diseases.

19. (a) Detail about attention deficit hyperactivity.

Or

- (b) Write about the condition of galactosemia and their diet plan.

20. (a) Summarize the causes and risk factors for febrile.

Or

- (b) Write about cerebral palsy and the nutritional needs of special children.
-

C-4987

Sub. Code

96344

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Nutrition and Dietetics

FOOD SERVICE MANAGEMENT

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. This foodservice system is also known as the central kitchen or food factory.
(a) ready-prepared (b) conventional
(c) centralized (d) assembly-service
2. The type of menu in which the dishes are repeated from time to time every week/month is called?
(a) A' la carte (b) Table d'hote
(c) Foxed menu (d) Cyclic menu
3. As manager, when receiving your products, you should:
(a) Be the only one supervising the transaction
(b) Be sure you have plenty of trained staff available to receive, inspect, and store
(c) Let the delivery staff do it without any supervision
(d) Have new, not trained staff with you monitoring the transaction

4. Which group of equipment below is a bakery equipment?
- (a) Sneeze guard, soft service ice-cream maker & retarder
 - (b) Storage bins, grill and non-stick pan
 - (c) Proofer, rounder and retarder
 - (d) Dough sheeter, mixer and blender
5. What are the good qualities of good leader?
- (a) Honesty (b) Integrity
 - (c) Courage (d) All of the above
6. Which of the following is not a step in Fielder's contingency model of leadership?
- (a) Become an authoritative leader
 - (b) Identify leadership
 - (c) Assess the situation
 - (d) Select best leadership mode
7. Which of this performance appraisal method is subjective and time consuming?
- (a) Rating scales
 - (b) Essay method
 - (c) Critical incident method
 - (d) Tests and observations
8. What is the basic premise of cost concept?
- (a) Cost ascertainment
 - (b) Tax compliance
 - (c) Financial audit
 - (d) Profit analysis

9. _____are protocols for safely handling food to prevent contamination
- (a) GHP (b) HACCP
(c) GMP (d) PRP
10. _____ are code of good practices that comprises the fundamental principles, procedures and means needed for safe food production
- (a) GMP
(b) Pre-Requisite Programmes
(c) HACCP
(d) None of these

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Distinguish between conventional and commissary food service system.

Or

- (b) Explain the importance of menu planning with example.

12. (a) Discuss the methods of purchasing.

Or

- (b) Elucidate the types of store records.

13. (a) Write about the principles of management.

Or

- (b) State the types of organization.

14. (a) Explain about the criteria for selection of personnel.

Or

- (b) Describe the methods of pricing items.

15. (a) Explain about pest control.

Or

- (b) Discuss about GHP.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Classification of food service according to the methods of processing.

Or

- (b) Give an account on styles of services.

17. (a) Write in details on purchasing.

Or

- (b) Elucidate about the storing and issuing in detail.

18. (a) Elaborate the types and theories of management.

Or

- (b) Enumerate the legal responsibilities of a food service manager.

19. (a) Explain about personnel management.

Or

- (b) Discuss the accounting system of book keeping.

20. (a) Describe about the sanitation of plant and kitchen hygiene.

Or

- (b) Details on first aid principles and practices.

C-4988

Sub. Code

96345

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Nutrition and Dietetics

**FOOD PRODUCT DEVELOPMENT AND MARKETING
STRATEGY**

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following are the components of the scheme National mission on food processing?
 - (a) Entrepreneurship Development Programme (EDP)
 - (b) Food Processing Training centres (FPTC)
 - (c) Training at recognized institutions at State/ National level
 - (d) All of the above
2. Strategy is _____
 - (a) Completely Proactive and Completely Reactive
 - (b) Partly Proactive and Partly Reactive
 - (c) Neither Proactive Nor Reactive
 - (d) Proactive Only

3. The traditional view of marketing begins with a first step called _____
- (a) Strategic marketing
 - (b) Financial planning
 - (c) Business planning
 - (d) Operational plan
4. Which of the following food items is the best source of plant proteins?
- (a) Milk
 - (b) Egg
 - (c) Legumes
 - (d) Cheese
5. Which of the following food components does not provide any nutrients?
- (a) Coconut water
 - (b) Water
 - (c) Fruit Juice
 - (d) Vegetable soup
6. Food processing in India is concentrated in which sector, maximum?
- (a) Organized Sector
 - (b) Unorganized sector
 - (c) Small Scale
 - (d) None of the mentioned
7. What is the function of Polyethylene in Tetrapak?
- (a) Mechanical rigidity
 - (b) Gas barrier
 - (c) Abrasion resistance
 - (d) Liquid barrier
8. _____ process is used in aseptic packaging.
- (a) Autoclaving
 - (b) Sterilization
 - (c) Disinfection
 - (d) Heating

9. Which of the following SWOT elements are internal factors for a business?
- (a) Strengths and Weaknesses
 - (b) Opportunities and Threats
 - (c) Strengths and Opportunities
 - (d) Weaknesses and Threats
10. Which of the following could be a threat?
- (a) Changes in technology
 - (b) A market vacated by an ineffective competitor
 - (c) Location of your business
 - (d) Lack of marketing expertise

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Briefly explain about the economical dimensions of food consumption patterns.
Or
(b) Write the basic principles and concept of food product development.
12. (a) Categories the types of food processing.
Or
(b) Describe the principles of new product development.
13. (a) Briefly explain about RTE and RTS.
Or
(b) Compare the difference between functional foods and Nutraceuticals.
14. (a) Describe the analysis of nutrients in food sample.
Or
(b) Categories the types of packaging materials for different foods.

15. (a) Explain about the institutional support for entrepreneurship development.

Or

- (b) State importance of product license.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail food consumption pattern and its importance.

Or

- (b) Describe about food habit alteration, availability and its importance.

17. (a) Give an elaborate account of the scope of growth and principles of new product development.

Or

- (b) Discuss the role of different research and development departments in food.

18. (a) Give an elaborate account of the following traditional foods, extruded foods and IMF foods.

Or

- (b) Write a note on the interactions between functional foods and nutraceuticals.

19. (a) Elaborate the shelf life evaluation of processed foods.

Or

- (b) Write about testing, evaluation and packaging of food products.

20. (a) Describe the funding agencies for marketing food products.

Or

- (b) Elaborate the role of advertisement and technologies in promotion of new products.

C-4989

Sub. Code

96347

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Nutrition and Dietetics

BAKERY AND CONFECTIONARY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. Name of the Colouring matter present in wheat?
(a) Gluten (b) Testa
(c) Epicarp (d) Bran
2. When hot water is added to starch, the cells swell and burst. What is the process known as?
(a) Hydrogenation (b) Polymerization
(c) Gelatinization (d) Water absorption
3. What is Glucose also known as?
(a) Maple syrup (b) Malt syrup
(c) Corn syrup (d) Chocolate syrup

4. Which are the insoluble proteins that are present in flour which give strength and elasticity to the dough?
- (a) Gladin and Glutenin
 - (b) Gluten and Gladin
 - (c) Gluten and Gladin
 - (d) Glutenin and Gladin
5. What are concentrated flavors of fruits, nuts, spices and other plants, in a solution of alcohol known as?
- (a) Extracts (b) Essences
 - (c) Pulps (d) Syrups
6. Which of the following ingredient causes Maillard reaction in bread?
- (a) Starch (b) Sugar
 - (c) Enzymes (d) Yeast
7. Another name for bubble bread.
- (a) Panettone (b) Epi bread
 - (c) Monkey bread (d) Stollen
8. What is yeast termed as?
- (a) Bug (b) Virus
 - (c) Bacteria (d) Fungi
9. What is Dutch processed cocoa treated with?
- (a) Cream of tartar (b) Acid
 - (c) Alkali (d) Alcohol
10. Which confectioner's chocolate does not contain cocoa liquor in it?
- (a) Milk chocolate (b) White chocolate
 - (c) Dark chocolate (d) semi-sweet chocolate

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Highlight the steps and byproduct of wheat Milling.

Or

- (b) Write shortly about the baking industry in India.

12. (a) List out the advantage and disadvantage of packaging materials.

Or

- (b) Describe properties and types of flour.

13. (a) Write the classification of major and minor equipment in bakery unit.

Or

- (b) Summarize the hygiene and sanitation in bakery unit.

14. (a) Mention the types of cakes and methods of cake mixing.

Or

- (b) Explain the types and techniques of icing.

15. (a) Detail about the process of chocolate raw materials.

Or

- (b) Explain about the making of toffee.

Part C

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Build a methodology of making batters and doughs.

Or

- (b) Explain in detail about classification of baked foods.

17. (a) Illustrate the importance of yeast and milk in baking ingredients.

Or

- (b) Explain briefly about the fruits and nuts in baking industry.

18. (a) Elaborate on ovens in bakery.

Or

- (b) Write in detail about maintenance of equipment's and tools.

19. (a) Elaborate the stages of pastry making.

Or

- (b) Explain the types and techniques of icing.

20. (a) Enumerate the process of hard-boiled candies.

Or

- (b) State about the role of major components in confectionery.
-

C-4990

Sub. Code

96348A

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Nutrition and Dietetics

COMPUTERS IN FOOD SCIENCE

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. Analytical Engine invented during the first generation of computer used which memory unit?
(a) RAM (b) Floppies
(c) Counter wheels (d) Cards
2. Who is the father of Computers?
(a) James Gosling
(b) Charles Babbage
(c) Dennis Ritchie
(d) Bjarne Stroustrup
3. Which of the following is considered an output peripheral in a computer system?
(a) Monitor (b) Mouse
(c) Hard drive (d) Keyboard

4. Which of the following is the part of system software?
(a) Operating system (b) Utility software
(c) Browser software (d) Both (a) and (b)
5. Microsoft Word, Microsoft Excel, and Google Docs are the examples of
(a) An operating software
(b) System software
(c) Utility software
(d) Application software
6. _____ type of chart is good for a single series of data.
(a) Column chart (b) Cone chart
(c) Line chart (d) Pie chart
7. What is Trend Micro”?
(a) It is anti-virus software
(b) It is just a program
(c) It is virus program
(d) None of the above
8. Digital signature cannot provide _____ for the message.
(a) Authentication (b) Nonrepudiation
(c) Confidentiality (d) Integrity
9. DM stands for _____
(a) Delta Modulation
(b) Direction Medium
(c) Digital Method
(d) Digital Medium

10. _____ are used to show how data flows through a sequence of processing steps.
- (a) Data Flow Model
 - (b) Semantic data models
 - (c) Classification data Model
 - (d) Process Model

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the advantages of computers.
- Or
- (b) Explain the generations of computer.
12. (a) Describe the classification of Hardware and software.
- Or
- (b) Write the basic concept of MS-Window.
13. (a) Write the features of word processing.
- Or
- (b) Describe the basic concepts of MS Excel.
14. (a) Write the history of Internet.
- Or
- (b) Discuss the types of Networks.
15. (a) What are the software used in the food industry?
- Or
- (b) Describe the computer based technology in the medical field.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the types of computers.

Or

- (b) Elaborate the architecture of computer.

17. (a) Write the peripheral devices and their functions.

Or

- (b) Explain the classification of operating system.

18. (a) Elaborate MS office and MS word .

Or

- (b) Describe the concepts, animations and transition of MS powerpoint.

19. (a) Elaborate the concept, topologies and data communication of Networks.

Or

- (b) Discuss the types and prevention of virus Infection.

20. (a) Explain the applications and software used in the health assessment.

Or

- (b) Elaborate the application of artificial intelligence in the food industry.

C-4991

Sub. Code

96348B

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Nutrition and Dietetics

SPORTS NUTRITION

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. This provides the greatest energy value per gram of nutrient
 - (a) Protein
 - (b) Fat
 - (c) Carbohydrate
 - (d) Water
2. The everyday dietary requirement of an average adult active moderately is approximately
 - (a) 1000 kcal
 - (b) 2500 kcal
 - (c) 4000 kcal
 - (d) 8000 kcal
3. Which of the following is a measurement of how quickly carbohydrates raise blood sugar levels?
 - (a) Glycemic index
 - (b) Glucose tolerance
 - (c) Insulin sensitivity
 - (d) None of the above

4. _____ has an athletic type of body
(a) Endomorphs (b) Ectomorphs
(c) Mesomorphs (d) None of these
5. An ergogenic aid that is used in order to control lactate build-up in muscle is:
(a) Caffeine (b) Bicarbonate
(c) Anabolic steroid (d) Growth hormone
6. Sports drinks are especially helpful when exercising for minutes or more.
(a) 10 (b) 20
(c) 30 (d) 60
7. _____ helps in the regulation of blood volume and blood pressure.
(a) Iron (b) Iodine
(c) Sodium (d) Phosphorous
8. A pattern of repeated weight loss and weight gain of more than 5% of body weight by dehydration carries some risk of
(a) Kidney malfunction
(b) Reduced blood volume
(c) Increased body temperature
(d) All of the above
9. Extracellular fluid in the human body is composed of all the following except
(a) Lymph and interstitial fluid
(b) Blood plasma
(c) Cerebrospinal fluid
(d) Glucose

10. Which of the following hormones is important in the regulation of sodium ion concentrations in the extracellular fluid?
- (a) Antidiuretic hormone
 - (b) Erythropoietin
 - (c) Aldosterone
 - (d) Renin

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the History of sports Nutrition.

Or

- (b) Write the importance of sports Nutrition.

12. (a) Explain the types of Exercise.

Or

- (b) Write the major nutrition for Post-competition.

13. (a) Describe the diet supplements for sports person.

Or

- (b) Write the uses and adverse effect on ergogenic aids.

14. (a) Write the Nutritional problems of athletes with osteoporosis condition.

Or

- (b) Discuss the food allergi related disorders.

15. (a) Write the functions of water in exercise.

Or

- (b) Describe the role of electrolytes during exercise.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe the relationship between diet and performance in sports Nutrition.

Or

- (b) Write the meaning and introduction to sports Nutrition.

17. (a) Explain the body metabolism during exercise.

Or

- (b) Prepare a diet plan for different sports athletes.

18. (a) Explain the types of Ergogenic aids.

Or

- (b) Write the legal consequences on Ergogenic aids.

19. (a) Elaborate the nutrition related disorders of athletic person with diabetes.

Or

- (b) Write the dehydration problems for athletic person.

20. (a) Describe the water requirements during exercise.

Or

- (b) Explain the fluid and electrolyte replacements.

C-4996

Sub. Code

96342

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Nutrition and Dietetics

DIETETICS – I

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Bland diet.
2. What is High Calorie Diet?
3. Expand TPN.
4. Expand PEM.
5. Write note on peptic ulcer.
6. State the condition of dysentery.
7. Explain hepatitis.
8. What is pancreatitis?
9. Expand attention deficit hyperactivity disorder.
10. Define cerebral palsy.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b)

11. (a) Write a short note on therapeutic adoptions of the normal diet.

Or

- (b) Explain about high and low residue diets.

12. (a) Describe about the infusion techniques.

Or

- (b) Describe about Vitamin A deficiency.

13. (a) Evaluate the counseling measures for underweight people.

Or

- (b) Classify diarrhea. What is the importance of electrolyte balance?

14. (a) Examine the nutrition therapy of an adult patients suffering from cirrhosis of liver.

Or

- (b) What are the metabolic imbalances found gradually due to chronic renal failure?

15. (a) Give a brief account on nutritional care for special children

Or

- (b) Give a brief note on

(i) Autism

(ii) Down's syndrome.

Part C

(3 × 10 = 30)

Answer **all** questions choosing either (a) or (b)

16. (a) Elaborate the responsibilities, qualification and professional ethics of dietitians.

Or

- (b) Discuss the pathophysiology of fever. Explain its causes, symptoms and nutritional requirement during long term fever.

17. (a) What do you mean by enteral nutrition and parenteral nutrition? Discuss the conditions.

Or

- (b) Discuss the role of dietary fibre in the prevention of constipation.

18. (a) What is Hepatitis? Discuss the basic dietary management of commonly happened hepatitis.

Or

- (b) Give a detailed account on disability and nutritional care in the condition of attention deficit hyperactivity disorder

C-5000

Sub. Code

96351

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Nutrition and Dietetics

DIETETICS — II

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** ten questions.

1. How diabetes mellitus is caused?
2. Define – IDF.
3. Define – IDDM.
4. What is the medical terminology for renal failure?
5. What is the cause of Nephrosis?
6. How to avoid arthritis?
7. What is normal allergy Level?
8. What are the four goals of HIV nutrition care?
9. What are three ways to reduce obesity?
10. What is the role of client in consultancy?

Part B

(5 × 5 = 25)

Answer **all** the questions choosing either (a) or (b).

11. (a) Properties of IDDM/NIDDM.

Or

- (b) Comment on the cardiovascular system.

12. (a) Write significant role in dialysis for kidney disease.

Or

- (b) Explain detailed notes on renal physiology.

13. (a) Brief notes test allergy-food allergy and intolerance effect.

Or

- (b) Explain nutritional care disease in arthritis and dental caries.

14. (a) How improve nutritional care for cancer patients, nutritional requirement in cancer therapy?

Or

- (b) Construct the stages HIV and ART infection.

15. (a) Simplify the prevention and treatment of Obesity and diabetes.

Or

- (b) Describe the steps in counselling process and dietary guidelines.

Part C

(3 × 10 = 30)

Answer **all** the questions choosing either (a) or (b).

16. (a) Explain the Mechanism of coronary atherosclerosis in type two diabetes.

Or

- (b) Differentiate between insulin dependent and non-insulin dependent diabetes mellitus.

17. (a) Write about the factors, symptoms, test, nutritional care for allergies.

Or

- (b) Explain pathogenesis, symptoms, causes Nephrosis, and Nephritis.

18. (a) Write prevention treatment types, diabetes mellitus.

Or

- (b) Illustrate Dietary counselling client and counsellors.

C-5001

Sub. Code

96352

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Nutrition and Dietetics

FOOD SERVICE MANAGEMENT – II

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define - Menu.
2. Spell out any four styles of service.
3. Describe – Purchase.
4. What are the duties of purchasing officer?
5. What is food cost?
6. Define-Labour cost.
7. State the selection of equipment.
8. List the materials used for finishes.
9. Define – Work flow.
10. Write the optimum working height.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b)

11. (a) Explain the types of food service systems.

Or

- (b) What are the principles involved in menu planning? Explain.

12. (a) Elucidate the aspects involve in selection of supplier.

Or

- (b) Write the objectives of store records and store issues.

13. (a) Write a short note on Elements of Cost.

Or

- (b) Explain the methods involved in controlling of food cost.

14. (a) Distinguish the Classification of Equipment.

Or

- (b) What are the base materials used in the manufacture of equipment? Explain in detail.

15. (a) How do you allocate space for receiving area?

Or

- (b) Discuss the arrangements of equipment in work centers.

Part C

(3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Explain the classification of food services.

Or

- (b) Explain any two quantity food production and service.

17. (a) Enumerate the types of store records and issues?

Or

- (b) Elaborate the factors responsible for losses in a food service industry.

18. (a) Discuss the care and maintenance of equipment.

Or

- (b) Enumerate the characteristics of a typical food service layout.

C-5002

Sub. Code

96353

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Nutrition and Dietetics

COMMUNITY NUTRITION

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Write the importance of proteins and fats for health aspect.
2. What are the principles of planning?
3. What is the impact of malnutrition during adolescence?
4. How will you prepare ORS at home?
5. What is nutrition policy?
6. What is malnutrition and its importance?
7. Define CFTRI.
8. What is PEM?
9. What factors influence national nutrition policy?
10. Write about major duties of WHO.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b)

11. (a) How to overcome the malnutrition for infants?

Or

- (b) Write about the regulations ICMR NIN.

12. (a) Describes about the environmental sanitation and health.

Or

- (b) Explain shortly about the National food security.

13. (a) List out the importance goiter control programme.

Or

- (b) Write about the impact of Nation Nutrition policy.

14. (a) Write the TINP organized by government for vulnerable section.

Or

- (b) Mention the uses of computers to impart nutrition education.

15. (a) Write about the problems of nutrition education programme.

Or

- (b) Mention about the major role of world bank.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b)

16. (a) Describe in detail about the iodine deficiency disorders.

Or

- (b) Illustrate about the factors of synergism between malnutrition and infection.

17. (a) Explain about the importance of School lunch programme.

Or

- (b) Describe the international organization concern with food and nutrition.

18. (a) Mention briefly about the importance of national nutrition policy.

Or

- (b) Write the empowering women towards nutritional status of family.

C-5003

Sub. Code

96354

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Nutrition and Dietetics

TRADITIONAL HERBES IN FOOD SCIENCE

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What are the types of herbal medicine?
2. What is the composition and structure of alkaloids?
3. Who is the father of pharmacognosy?
4. What are the four types of palynology?
5. Write Tannin poisoning symptoms.
6. Define: dichloromethane.
7. Write its Horticulture and types.
8. What are the grains in beer?
9. Define the term Biopiracy.
10. How many types of drying are there?

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Give a descriptive note on clinical application and impact herbal drug.

Or

- (b) Write importance and effectiveness of herbal medicines

12. (a) Differentiate between Nutraceutical and Cosmeceuticals.

Or

- (b) Taxonomic Evidence: Structural and Biochemical Characters of any one herbal plant.

13. (a) What are the identification tests of glycosides? Also mention the properties of glycosides.

Or

- (b) Give a detailed account on the various biological effects of nutraceuticals.

14. (a) Describe following methods used for cultivating of crude drugs.

Or

- (b) Describe drying and preserving the flowers herbal plant.

15. (a) List out Indian species each one draw structure.

Or

- (b) Discuss on Kombucha health benefits, risks, and how to make it at home.

Part C

(3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) How are coconut oil and neem oil medicinally important? Discuss their properties.

Or

- (b) Writes short notes on quality control of herbal drug preparation.
17. (a) Write an essay on cultivation practice of five important medicinal plants India along their harvesting, storage, Marketing and demand.

Or

- (b) Discuss about Taxonomic evidence of herbal plants.
18. (a) Phytochemical compound extract colour extract test using TLC.

Or

- (b) How plant parts used as powder? Write the notes on medicinal importance of following plants.
- (i) Amla
 - (ii) Fenugreek
 - (iii) Cinnamon
 - (iv) Black Pepper.
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C-5004

Sub. Code

96361

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Nutrition and Dietetics

BIOPROCESS TECHNOLOGY

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What are the objectives of bioprocess technology?
2. List out the applications of bioprocess technology.
3. Write the importance of fermentation.
4. How does pH affect fermentation?
5. What is enzymatic bioconversion?
6. What are the components of bioconversion?
7. What is the kinetics of an enzyme?
8. What is the difference between thermodynamic and kinetic stability?
9. What is the principle of fermentation?
10. Define yield coefficient.

Part B

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Distinguish between upstream and downstream unit operations involved in bioprocess.

Or

- (b) Short notes on metabolic stoichiometry in bioprocess technology.

12. (a) What is the reduction of carbon dioxide to sugar?

Or

- (b) Elaborate the fed batch culture in bioprocess technology.

13. (a) Illustrate the strain selection in fermentation.

Or

- (b) How is the rDNA technique used in strain improvement?

14. (a) Discuss the methods of strain improvement.

Or

- (b) Describe about the Fluidized bed reactor.

15. (a) Mention briefly about three different processes for bioconversion.

Or

- (b) Describe about the difference between a bioreactor and a fermenter.

Part C

(3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Explain the composition and design of the fermentation medium.

Or

- (b) Describe the process of fermentation in plants and animals cell bioreactors.

17. (a) Enumerate the design and configuration of bioreactors.

Or

- (b) Elaborate in detail about Bread making.

18. (a) Elaborate in detail about production of fermented beverages

Or

- (b) Discuss in detail about single cell protein production.

C-5005

Sub. Code

96362

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Nutrition and Dietetics

FOOD SAFETY, SECURITY AND ETHICS

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is the food hygiene rate in India?
2. Give examples of under cooked food items.
3. Write the dangerous food safety mistakes.
4. Common physical and chemical hazards and sources.
5. List out the sanitizing agents.
6. Give two examples of biogenic amines.
7. What is Risk assessment?
8. What is the campylobacter infection?
9. Define-Dehydration.
10. FSSAI-Expand.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the uses of microorganisms in food industries with the suitable examples.

Or

- (b) Write a note about the principles of HACCP with the flowchart.

12. (a) Explain the requirements and guidelines to be followed during food labelling.

Or

- (b) Elaborate notes on characteristics features of primary sources in food safety hazards.

13. (a) Briefly explain the principles of risk assessment in food safety.

Or

- (b) Write short notes on Actual and perception of risk in food safety.

14. (a) Differentiate between FSSAI and AGMARK.

Or

- (b) Explain the World trade organization (WTO).

15. (a) Summarize about food preservation and food storage.

Or

- (b) Elucidate the Most common methods food preservation.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Differentiate between the FASSI licence and FASSI registration.

Or

- (b) Mention in detail about between Food additives VS Food fortifications with the suitable examples.

17. (a) Briefly Explain food safety standards ISI, ISO, AGMARK.

Or

- (b) Write about Four primary food safety hazards and preventing methods.

18. (a) Illustrate the application of risk analysis to food safety standards.

Or

- (b) Explain the legal and ethical issue related patients' rights in food safety.

C-5006

Sub. Code

96363

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Nutrition and Dietetics

GENDER STUDIES

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. How was the concept of gender developed?
2. Mention the concepts of Gender Studies.
3. How do you promote women's rights?
4. List out the measures taken by the Government to improve women's status.
5. Mention the main issues of gender discrimination.
6. Describe gender issues in society.
7. List out the main aim of women's movement.
8. State the women's empowerment programs.
9. Describe the feminist movement in India.
10. What did the women's movement accomplish?

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give an account on post modernism theory.

Or

- (b) Highlight the importance of Psychoanalytic theory.

12. (a) What can we do to promote gender equality in detail?

Or

- (b) Mention the efforts does the government make for women's empowerment.

13. (a) Elucidate the challenges of gender equality.

Or

- (b) Highlight the importance of women's political empowerment.

14. (a) Explain the current women's issues in detail.

Or

- (b) Write a short note on benefits of women's participation in development.

15. (a) Explain the three achievements of the women's movement.

Or

- (b) Write an account of feminism in India.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail about concept of gender studies.

Or

- (b) Describe about female development.

17. (a) Criticize in detail gender issues in development.

Or

- (b) Write in detail on gender discrimination in society.

18. (a) Explain in detail on importance women's liberation movement.

Or

- (b) What are laws protecting women's rights in India and explain its detail?
