C–0499	Sub. Code
	96323

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Second Semester

Nutrition and Dietetics

PRINCIPLES OF NUTRITION

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Write any two hormones that regulate blood sugar.
2. List out the best function of carbohydrates.
3. How do you calculate net protein utilization?
4. Differentiate between protein and amino acids.
5. Short notes on respiratory coefficient food stuffs.
6. Definition- Unit of energy.
7. Write the important minerals iodine deficiency.
8. Which foods are rich in thiamine?
9. Write function vitamin A.
10. What are source of vitamin B12?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the general principle and factors of RDA.

Or

(b) What is the role and uses of dietary fibre to our body?

12. (a) Explain the function and deficiency of essential fatty acids.

Or

(b) How to measure protein quality? Explain briefly.

13. (a) Elaborate in detail about the method for the determination of the energy.

Or

(b) What are physiological factors affecting BMR/RMR?

14. (a) Write the any two function of macro minerals.

Or

(b) Explain in detail about the effect deficiency and imbalance minerals.

15. (a) Explain briefly about the function and deficiency fat soluble vitamin.

Or

(b) List out the importance of folic acid and riboflavin.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Mention briefly about the classification of the carbohydrates.

Or

(b) Describe the biological function of lipids with suitable example.

17. (a) Explain in detail about the calorimetric method energy value foods.

Or

(b) Elaborate in detail about the TCA cycle.

18. (a) Illustrate the deficiency of Vitamin K.

Or

(b) Describe in detail about the functions of minerals.

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C–0502

Sub. Code
96332

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

Nutrition and Dietetics

HUMAN PHYSIOLOGY

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. State the types of blood cells found in human blood.

2. Write the functions of WBC.

3. Define-Haemoglobin.

4. What is the structure of a blood vessel?

5. What are the main heart arteries?

6. How the liver used in the digestive system?

7. What are the functions of hormones?

8. State the early warning signs of thyroid problems.

9. What are the types of reproductive system?

10. Why do type two diabetics take insulin?

Part B $(5 \times 5 = 25)$

Answer **all** the questions.

11. (a) Describe about the structure and types of RBC.

Or

(b) Mention briefly about the process of blood coagulation.

12. (a) Elaborate in detail about properties of Cardiac muscle.

Or

(b) Explain the detail about the role of Pancreas.

13. (a) Describe the mechanism of Urine Formation.

Or

(b) Discuss about the structure and functions of Thyroid.

14. (a) Elaborate the mechanism of Respiration.

Or

(b) Outline the histology of lung and trachea.

15. (a) Illustrate the structure and function of pituitary gland.

Or

(b) Write the structure and function of Uterus.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Outline briefly about the types and functions of WBC.

Or

(b) Elaborate in detail about Hemolytic Anemia.

17. (a) Explain in detail about Coronary artery diseases.

Or

(b) Describe the structure and functions of Skin and how does the skin help to regulate body temperature.

18. (a) Discuss about the structure and functions of female reproductive organ.

Or

(b) Write about Composition. Functions, Transfusion of Blood Group.

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C–0503	Sub. Code
	96333

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

Nutrition and Dietetics

BASIC FOOD PROCESSING AND PRESERVATION

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Food preservation?

2. Write a comment on Spoilage.

3. List out cereals.

4. Define whole wheat atta.

5. What is cheese?

6. What are indigenous milk products? Explain any one of indigenous milk products.

7. Describe briefly about Refrigeration.

8. Compare the sun drying and dehydration process.

9. List out chemical preservatives.

10. Define fermentation.

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Distinguish the visco elastic behavior of foods.

Or

(b) Classify the types of spoilage.

12. (a) Write a brief note on (i) blended flour (ii) fortified flour.

Or

(b) Discuss about the processed foods.

13. (a) Evaluate the manufacturing of different types of milk.

Or

(b) Interpret the probiotic milk products

14. (a) Discuss about freeze drying.

Or

(b) Give a short note on pasteurization.

15. (a) Determine the principle of gel formation.

Or

(b) List out the permitted preservatives.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Illustrate the effect of food processing on nutritional properties of food.

Or

(b) Categorize the processing of cereals and millets.

17. (a) Give an account on processing of milk and milk products.

Or

(b) Summarize the preservation by the use of high temperature.

18. (a) Describe about the preservation by using sugar concentrates.

Or

(b) Define fermentation. Elucidate the types of fermentation.

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C–0504	Sub. Code
	96334

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

Nutrition and Dietetics

NUTRITION FOR HEALTH AND FITNESS

(2016 onwards)

Duration: 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define - Exercise physiology.

2. How are the functions of the cardiovascular system regulated?

3. Why polysaccharides are called non sugar?

4. How does nutrition and hydration contribute to good health?

5. List out the four types of physical activity.

6. What exercises use multiple muscle groups?

7. Label the life style related diseases.

8. How can we solve the problem of physical inactivity?

9. Exercise affects stress - Justify.

10. Why is exercise important for pulmonary rehabilitation?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Analyze the benefits of fitness training.

Or

(b) Write a note on optimum nutrition.

12. (a) Highlight the role of macro and micro nutrients.

Or

(b) Select a note on the importance of food groups.

13. (a) Examine the pathogenesis of Diabetes mellitus.

Or

(b) Estimate the importance on fitness training.

14. (a) Compose the significance of Elliptical bicycle.

Or

(b) What are the ways physical inactivity responsible for cardiovascular disease?

15. (a) Brief out the overweight and obesity.

Or

(b) Describe the effects on exercise at medium and high altitudes.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Build on carbohydrates for physical activity.

Or

(b) Elaborate on aerobic and anaerobic training.

17. (a) Explain in detail about optimum nutrition and hydration for health.

Or

(b) Obesity is due to faulty food habits and physical inactivity - Justify.

18. (a) Discuss in detail about stress assessment and management techniques.

Or

(b) Write in detail on Cardiovascular and Pulmonary rehabilitation.

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C–0505	Sub. Code 96335

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

Nutrition and Dietetics

FOOD STANDARDS AND QUALITY CONTROL

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is mean by quality checking?

2. Define baked products.

3. State the food specifications of oils.

4. Define preservatives.

5. Who are panel members for quality control?

6. What is objective evaluation?

7. Define Mycotoxins.

8. What is food adulteration?

9. Define AGMARK.

10. State the purpose of Codex Alimentarius.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How quality checking will be done in processed foods?

Or

(b) Explain the techniques of quality checking of catering establishment foods.

12. (a) Elaborate the quality specification of fruit products.

Or

(b) Write the specifications of food additives.

13. (a) Elaborate on requirements to conduct sensory evaluation.

Or

(b) What are the instruments utilized for objective evaluation?

14. (a) Illustrate the food poisoning due to aflatoxins and aspergillus.

Or

(b) Write about lathyrogens and goilrogens.

15. (a) Elaborate the food safety measures initiated by FSSAI.

Or

(b) Write about the role of BIS.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain the techniques of quality checking of milk products and spices and condiments.

Or

(b) Write the objectives and advantages of food specifications.

17. (a) Elaborate the usage and optimum recommended level of food colours and leavening agents.

Or

(b) Explain the advantages and limitations of objective evaluation.

18. (a) Elaborate on sea food toxins.

Or

(b) Explain in detail about the common adulterant and test to detect adulterants.

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C–0506	Sub. Code
	96342

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Fourth Semester

Nutrition and Dietetics

DIETETICS — I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Who is the father of dietetics?

2. Define-CoC

3. How do calculate the calories?

4. Define Rickets.

5. List out the Symptoms of Paralysis.

6. What is the simple test for Carbohydrate?

7. Define- Iron deficiency syndrome.

8. Short notes on gastritis.

9. What is Amoebiasis?

10. Why autism is called a developmental disorder?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Contrast between a nutritionist and dietitian.

Or

(b) Mention briefly about therapeutic adaptation of normal diet.

12. (a) List out the diet plans for diabetes.

Or

(b) Describe about the function exocrine pancreas.

13. (a) Mention briefly about citric acid cycle.

Or

(b) Write the functions of prostaglandins.

14. (a) Describe about the functions of gall bladder.

Or

(b) Mention briefly about biological value of proteins.

15. (a) Summarize about low residue diet.

Or

(b) Describe about the vitamin deficiency syndrome.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe about the specially modified therapeutic diets.

Or

(b) Illustrate about the Important Nutrients in Food.

17. (a) Explain in detail about functions and biochemical role of Vitamins.

Or

(b) Elaborate the Structure and function of proteins.

18. (a) Discuss the mechanism of protein metabolism.

Or

(b) Summarize the methods of biofortification.

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C–0507	Sub. Code 96343

B.Sc., DEGREE EXAMINATION, NOVEMBER 2023.

Fourth Semester

Nutrition and Dietetics

FOOD SERVICE MANAGEMENT – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all the** questions.

1. What is General Market?
2. Mention the different types of food service
3. List the features of a Good Leader
4. What is Food service organization?
5. Define “Financial management”.
6. Describe the terms of “Book keeping”.
7. Name the fuels used in cookery.
8. What is safety procedure?
9. Define “Hygiene”
10. How will you store the food properly?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How will you classify institutional food service operation?

Or

(b) Describe the salient features of volume feeding.

12. (a) Explain "art of delegation".

Or

(b) What are the different tools of management?

13. (a) What are the processes of recruiting employee selection and orientation?

Or

(b) Write a short note on "Labour legislation".

14. (a) Why is it important to use energy conservation in the foodservice business?

Or

(b) What are the common accidents that occur in the food service establishment?

15. (a) Discuss the safeguard measures to maintain environmental hygiene.

Or

(b) Describe importance of pest and rodent control in food services.

Part C

$(3 \times 10 = 30)$

Answer **all three** questions.

16. (a) Explain the principles of Commercial and Non-commercial Food Service operations.

Or

(b) What do you mean by ICDS? Explain functions of ICDS.

17. (a) Enumerate the tools of management.

Or

(b) Describe "bookkeeping systems". Explain types of bookkeeping systems.

18. (a) Discuss the importance of fuel in food service institutions.

Or

(b) Discuss the types of storages to be adopted for different food groups.

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C–0508	Sub. Code 96346

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fourth Semester

Nutrition and Dietetics

FOOD PRODUCT DEVELOPMENT AND MARKETING STRATEGY

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. State the concept of food product development.

2. Mention about regional variations in development of dietary pattern.

3. What do you mean by market demand?

4. Define portion size.

5. Define old age.

6. List the ‘ole of advertisements.

7. State the concept of market.

8. Define market promotion.

9. What is quality processing?

10. Define marketing status.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the factors involved in food habit alteration?

Or

(b) Write about the role of language and linguistic in development of dietary pattern.

12. (a) Explain the material resources based on market demand.

Or

(b) How effectively portion control can be carried out?

13. (a) Write the steps involved in formulation of new food products for preschool children.

Or

(b) Illustrate the methods involved in the development of Score Card and analysis of data.

14. (a) Write about marketing functions.

Or

(b) Elaborate on marketing efficiency and market integration.

15. (a) Explain the quality processing in product development.

Or

(b) How to study the global market status?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Illustrate the role of different research and development departments in food production.

Or

(b) How to calculate cost of production in food product?

17. (a) Write the steps involved in formulation of new food products for adolescents and sports Persons.

Or

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

18. (a) Elaborate on Market promotion and positioning of food products.

Or

(b) Explain the role of export promoting agencies in product development.

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C–0509	Sub. Code 96351

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fifth Semester

Nutrition and Dietetics

DIETETICS II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Explain Atherosclerosis.
2. Expand NIDDM.
3. What is Nephritis?
4. State the condition of urinary calculi.
5. Mention the nutritional care in arthritis.
6. What is food allergy?
7. Compare normal cell and cancer cell.
8. Expand ART.
9. What is Nutraceuticals?
10. Briefly explain cancer.

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Write an outline about cardiovascular system.

Or

(b) Explain about acute cardiac diseases.

12. (a) Write an brief account on nutrition modification of Nephorosis.

Or

(b) What is renal failure? Give a brief note on renal failure.

13. (a) Discuss about osteoporosis.

Or

(b) Examine the food allergy and intolerance.

14. (a) Discuss about the nutritional care in HIV.

Or

(b) Describe the opportunistic infections.

15. (a) Give a brief account on diabetes mellitus.

Or

(b) Explain the steps in counseling process.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the diet planning for the disease of the endocrine pancreas.

Or

(b) Explain the pathogenesis an dietary modification of cardiovascular system.

17. (a) Give an account on diet planning and dialysis for kidney diseases.

Or

(b) Discuss about the nutritional care for patients with dental caries.

18. (a) Describe about the nutritional management for patients with cancer.

Or

(b) What is dietary counseling? Explain in detail about clients and client responsibility.

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C–0510	Sub. Code
	96352

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fifth Semester

Nutrition and Dietetics

FOOD SERVICE MANAGEMENT – II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What do you mean by commissary system?

2. Define menu.

3. How suppliers can be selected?

4. Define Portion control.

5. Why cost control is important?

6. Define profit.

7. Mention few major equipment.

8. List dining room furnishings.

9. State about flow of work.

10. Define work centres.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write about assembly food service.

Or

(b) Explain about techniques involved in menu card writing.

12. (a) Describe about purchasing Procedure.

Or

(b) Write a note on Standardization of recipes.

13. (a) Explain the Factors responsible for losses in food service industry.

Or

(b) What are the methods involved in pricing Food items?

14. (a) Review on care and maintenance needed for equipment.

Or

(b) Write about furniture finishing materials.

15. (a) Explain the role and layout of dishwashing area.

Or

(b) Illustrate about optimum working heights.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Illustrate the Waiter – Waitress and portable food service.

Or

(b) Write in detail about principles involved in Indian menu and Western menu planning.

17. (a) Elaborate the ways and means of creating good Interior decoration in food service units.

Or

(b) How costing can be done for dishes, meals and events?

18. (a) Illustrate the materials used in manufacture of equipment.

Or

(b) How space allocation done for preparation and service areas in food plant layout?

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C–0511	Sub. Code
	96353

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

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. Why is nutrition important for development?

2. Name the different factors affecting malnutrition.

3. Write the causes of malnutrition.

4. Define MMR.

5. List out the importance of environment sanitation.

6. Impact of Vitamin A deficiency.

7. Define TINP.

8. Write the examples of food policies.

9. Outline the important features of national nutrition policy.

10. What technologies are used in the food industry?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain in detail about the different consequences of malnutrition.

Or

(b) Contrast between the malnutrition and infection.

12. (a) Mention briefly about the methods of food enrichment.

Or

(b) List out the benefits of nutrition.

13. (a) How can we improve the nutrition education program?

Or

(b) Describe about Fluorosis ecological factor in malnutrition.

14. (a) Illustrate about the methods of food enrichment.

Or

(b) Summarize in about the School lunch programme.

15. (a) Elaborate in detail about FAO.

Or

(b) Discuss about the agriculture development consequences of malnutrition.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Illustrate about Greenhouse gas emission.

Or

(b) Explain in detail about three stages of wastewater management.

17. (a) List out the different types of Women Empowerment.

Or

(b) Elaborate about Goitre control programme.

18. (a) Summarize about the national agencies are working in the field of nutrition in India.

Or

(b) Discuss about the different Methods of Nutrition Education.

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C–0512	Sub. Code
	96354

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fifth Semester

Nutrition and Dietetics

TRADITIONAL HERBS IN FOOD SCIENCE

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What are nutraceuticals?

2. Write any two scopes of herbal plants.

3. List any two taxonomic evidences of herbal plants.

4. What do you mean by the palynological study of medicinal herbs?

5. How will you screen the phytochemicals present in herbs?

6. Expand TLC.

7. What are the various conventional methods of cultivation of herbs?

8. What are the principles involved in drying the medicinal plants?

9. Name any four herbs and grains used in the brewing industry.

10. What is the role of an herbal product as colouring agent?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write a short note on the scope of herbal plants.

Or

(b) Explain the various methods of herbal preparation.

12. (a) What are the endomorphic characteristics of herbal plants?

Or

(b) What is a taxonomical study in medicinal herbs?

13. (a) How will you detect alkaloids and tannins?

Or

(b) Describe the extraction method of volatile compounds.

14. (a) Explain the vegetative cultivation method of herbs.

Or

(b) What are the points to be considered in preserving the herbs?

15. (a) Describe the uses of spice for flavouring the beverages.

Or

(b) Explain the uses of herbs and spices in the food industry.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail on the traditional medicine and herbs.

Or

(b) Briefly explain the endomorphic and exomorphic characteristics of herbs.

17. (a) Briefly explain the phytochemicals in TLC.

Or

(b) Explain about the protocols involved in the cultivation of herbs.

18. (a) Describe the uses of herbs and grains in the brewery industry.

Or

(b) Explain the process involved in herbal extraction.

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C–0513	Sub. Code
	96361

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Sixth Semester

Nutrition and Dietetics

BIO-PROCESS TECHNOLOGY

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is upstream parts of a bioprocess?

2. What is ideal bioreactor?

3. Where does fermentation occur?

4. What affects fermentation?

5. What happens to enzymes at low temperatures?

6. Where is chemical kinetics used?

7. What is entropy with example?

8. What are benefits of biomass?

9. What are the side effects of milk?

10. What are fermented and non fermented beverages?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Enumerate the modern applications of biotechnological process.

Or

(b) What are bioreactor and its types?

12. (a) Name the parameters to be monitor and controlled in fermentation process.

Or

(b) Describe about Fluidized bed reactor.

13. (a) Specify the media design and sterilization for fermentation process.

Or

(b) How do enzymes catalyze reactions thermodynamically?

14. (a) Write the Stoichiometry of Microbial Growth and Product Formation.

Or

(b) Outline the Elemental balancing of biomass.

15. (a) How is yogurt different from other dairy products?

Or

(b) What are the steps of bread making?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about Downstream bioprocessing.

Or

(b) Write the Aerobic and anaerobic fermentation process and their application in Nutraceutical Industry.

17. (a) Discuss about Plant and animal cell bioreactors.

Or

(b) Enumerate about Kinetics and thermodynamics of enzyme.

18. (a) Elaborate the process of mushroom cultivation.

Or

(b) What microorganism are used in Single cell protein production? Write the basic steps used for SCP.

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C–1270	Sub. Code
	96313

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Nutrition and Dietetics

FOOD SCIENCE

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. A substances needed by the body for growth, energy, repair and maintenance is called a ————

   (a) Carbohydrate (b) Nutrient

   (c) Calorie (d) Fatty acid

2. This is a moist heat method

   (a) Steaming (b) Sauteing

   (c) Baking (d) Pressure cooking

3. When starch granules are mixed with water and cooked the grains absorb water Swell. This process is called

   (a) Dextrinisation (b) Gelatinisation

   (c) Gluten formation (d) Hydrogenation

4. Pulses are a good sources of ————

   (a) Carbohydrate (b) Protein

   (c) Fats (d) Vitamins

5. This is an appetising beverages

(a) Soup (b) Milk shakes

(c) Coffee (d) Juice

6. Lycopene present in ————

(a) Citrus (b) Mango

(c) Tomato (d) Cucumber

7. Milk is a good source of all water soluble vitamins except for ————

(a) Cynocobalamin (b) Riboflavin

(c) Thiamine (d) Ascorbic acid

8. Egg is used in cookery ————

(a) Clarifier (b) Emulsifier

(c) Tenderiser (d) Both (a) and (b)

9. The melting point of fat is ———— and melting point of oil is

(a) Higher, higher (b) Lower, lower

(c) Higher, lower (d) Lower, higher

10. Piperine is a compound found in ————

(a) Turmeric (b) Pepper

(c) Cardamom (d) Cloves

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain the Nutritional status of Malnutrition.

Or

(b) Write the short notes on Moist heat cooking methods.

12. (a) Draw and explain the structure of wheat.

Or

(b) What are the factors affecting the cooking quality of pulses?

13. (a) Describe fat soluble and water soluble pigments.

Or

(b) Write the classification of vegetables.

14. (a) Describe the different types of milk.

Or

(b) Write the post mortem changes in meat

15. (a) Explain the role of fat in cookery.

Or

(b) Discuss the factors affecting crystallization

Part C $(5 \times 8 = 40)$

Answer **all** questions.

16. (a) Explain the different types cooking methods.

Or

(b) Elaborate the eleven food groups with major nutrients.

17. (a) Describe the nutritive value and nutritional importance of Millets.

Or

(b) Discuss the germination process and advantages.

18. (a) Write the selection of vegetables and the changes during cooking.

Or

(b) Write the preparation of carbonated non alcoholic beverages.

19. (a) Elaborate the structure and nutritive value of Egg.

Or

(b) Explain the composition and classification of poultry.

20. (a) Discuss smoking point and factors that lower smoking point.

Or

(b) Discuss the types and uses spices in Indian cookery and mention their Medicinal values.

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C–1271	Sub. Code
	96314

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

First Semester

Nutrition and Dietetics

FOOD CHEMISTRY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which one of the following is not a colloid?

   (a) Milk (b) Mud

   (c) Buffer (d) Boric acid

2. Sol-gel method is _____ chemical process.

   (a) Dry (b) Wet

   (c) Semi liquid (d) Semi solid

3. Retrogradation can lead to _____ to expel water from polymer network.

   (a) Gelling (b) Syneresis

   (c) Dextrinization (d) Annealing

4. Which Sugar found in milk?

   (a) Sucrose (b) Glucose

   (c) Fructose (d) Lactose

5. Which part of egg is richest in protein and fat

(a) Egg white (b) Egg yolk

(c) Egg shell (d) Whole egg

6. _____ is the milk protein

(a) Albumin (b) Casein

(c) Keratin (d) Globuin

7. Spoilage of fat is called

(a) Emulsion (b) Winterisation

(c) Rancidity (d) Plasticity

8. Which of the following is an example of fats?

(a) Vegetable ghee (b) Glyceryltrioleate

(c) Coconut oil (d) Groundnut oil

9. Which of the following parts of a plant are spices NOT made from?

(a) Bark (b) Leaf

(c) Root (d) Cell

10. A substance which gives colors to the fruits and vegetables is called

(a) Anti-oxidants (b) Pigments

(c) Flavonoid (d) Oxidants

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain about "Vander Waal's bond".

Or

(b) Write a short note On "Gels.

12. (a) Discuss the non-enzymatic browning.

Or

(b) Elucidate the effect of fat and surface active agents on starch.

13. (a) Write a short notes on Gluten formation.

Or

(b) Explain chemical properties of egg protein.

14. (a) State the properties of fats and oils.

Or

(b) Write short notes on Winterization.

15. (a) Explain about the active principles of condiments.

Or

(b) Discuss the change of fat soluble pigments in cooking.

Part C $(5 \times 8 = 40)$

Answer **all** questions.

16. (a) Explain the determination of moisture content in foods.

Or

(b) Give an account on water activity in foods.

17. (a) Give an account on the process of Gel formation and Retrogradation.

Or

(b) Elucidate about the metabolism and utilisation of carbohydrate.

18. (a) Elaborate the action of acid and alkalis on both vegetable and animal proteins.

Or

(b) Enumerate the fermentanon and germination process and its effect on pulse protein.

19. (a) What are the steps involved in decomposition of triglycerides? Explain in detail.

Or

(b) Discuss the factors affecting fat absorption in food.

20. (a) Describe the process of enzymatic browning in fruits and vegetables.

Or

(b) Discuss the different properties of spices.

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C–1272	Sub. Code
	96315

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Nutrition and Dietetics

FOOD MICROBIOLOGY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. The alpha helical structure of DNA was discovered by

   (a) Edward Tatum (b) Eile Metchnikoff

   (c) Watson and Crick (d) Paul Ehrlich

2. Small pox vaccine was first discovered by

   (a) Robert Koch (b) Louis Pasteur

   (c) Lister (d) Edward Jenner

3. Which of the following is not an intrinsic factor in food spoilage?

   (a) pH (b) moisture

   (c) temperature (d) none

4. Water activity (aw) is closely related to

   (a) relative humidity (b) moisture

   (c) water content (d) humidity

5. Residues of Aflatoxin M1 would be found in

(a) dried fruits

(b) cereals

(c) honey

(d) milk and dairy products

6. Laminar air flow bench contain

(a) Cellulose filter (b) Nitrocellulose filter

(c) MEGA filter (d) HEPA filter

7. Which of the following produced citric acid?

(a) Aspergillus (b) Pseudomonas

(c) Saccharomyces (d) Clostridium

8. Which alga can be used as food for the human being?

(a) Chlorella (b) Polysiphonia

(c) Ulothrix (d) Spirogyra

9. Botulism prevention involves

(a) Proper heat sterilization before food canning

(b) Addition of chemical preservatives

(c) Proper low-temperature treatment before food canning

(d) All of the above

10. Probiotics are used in the prevention of ————————.

(a) Cardiac disease

(b) Hypertension

(c) Digestive tract disease

(d) Lungs infection

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe Koch's postulates and why are they so important in microbiology?

Or

(b) Write the general properties of virues.

12. (a) Explain the role of pH on the growth of microorganisms.

Or

(b) List out the effect of gaseous atmosphere on food microorganisms.

13. (a) Milk is an excellent bacteriological culture medium. Justify.

Or

(b) Mention the three types of spoilage seen in canned foods.

14. (a) Briefly discuss the role of rennet in separation of curd and whey.

Or

(b) Enlist the symptoms of food borne botulism.

15. (a) Why cereal is considered as good microbial substrate?

Or

(b) How Kefir is different from yoghurt?

Part C (5 × 8 = 40)

Answer **all** questions.

16. (a) List out the difference between Gram positive and Gram negative bacteria.

Or

(b) Draw a neat diagram of virus structure with parts.

17. (a) Elaborate on factors affecting microbial growth on food.

Or

(b) Discuss in detail about preservation of food by the use of high temperature.

18. (a) Write in detail about spoilage of vegetables.

Or

(b) Illustrate the methods of preservation of meat and meat products.

19. (a) Explain in detail about spoilage of sugar products.

Or

(b) Write in detail on preservatives and fermentation.

20. (a) Elaborate the production steps about vinegar.

Or

(b) Write in detail about shigellosis.

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C–1273	Sub. Code 96317

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

First Semester

Nutrition and Dietetics

FUNDAMENTALS OF BIOCHEMISTRY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Section A $(10 \times 1 = 10)$

Answer **all** questions.

1. ———————— is an example of derived lipids.

   (a) Terpenes (b) Steroids

   (c) Carotenoids (d) All of the above

2. Nucleic acids are a polymer of nucleotide consists of

   (a) Base-sugar-OH

   (b) Sugar-Phosphate

   (c) Base-sugar-phosphate

   (d) Base-OH

3. Which of the following is the simplest form of carbohydrates?

   (a) Carboxyl

   (b) Aldehyde and ketone

   (c) Hydroxyl

   (d) Hydrogen group

4. Peptide bond formed by the enzymes is known as
   (a) Carbonic anhydrase
   (b) Peptidase
   (c) Carbohydrate
   (d) Peptidyl transferase

5. 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

6. The proteins are synthesized at
   (a) Centrosomes (b) Ribosomes
   (c) Golgi bodies (d) Mitochondria

7. Which of the following are the major functions of carbohydrates?
   (a) Storage
   (b) Structural framework
   (c) Transport materials
   (d) Storage and structural framework

8. Which of the following RNA structure is similar to clover leaf?
   (a) tRNA (b) rRNA
   (c) mRNA (d) hnRNA

9. Anticodon is present in
   (a) DNA (b) tRNA
   (c) rRNA (d) mRNA

10. Which of the following is an example of epimers?
   (a) Glucose
   (b) Glucose and Galactose
   (c) Glucose and Ribose
   (d) Ribose

Section B (5 × 5 = 25)

Answer **all** questions.

11. (a) Give the difference between the DNA and RNA.

Or

(b) Mention about the major functions of ribosomal subunits.

12. (a) Give the various structure of amino acids and its functions.

Or

(b) Write about the Arrhenius theory of acids and bases.

13. (a) Mention about the various functions of carbohydrates.

Or

(b) Describe shortly the ionic bond and hydrogen bond.

14. (a) Explain shortly about the RNA splicing with diagram.

Or

(b) Give notes about substrate binding theories.

15. (a) List out the applications of enzymes in food industry.

Or

(b) Write about the translational synthesis of amino acids chain.

Section C (5 × 8 = 40)

Answer **all** questions.

16. (a) Detail about the strong and weak acids with suitable examples.

Or

(b) Briefly explain the structure and functional activity of biomolecules.

17. (a) Explain in detail on the structure and functional activity of DNA.

Or

(b) Describe the introduction and classification of carbohydrates.

18. (a) Write about the specificity and active sites of enzyme.

Or

(b) Mention about the types of restriction enzyme with its specific functions.

19. (a) Detail information of the properties of water.

Or

(b) Write elaborately the central dogma with neat diagram.

20. (a) List out the factors affecting the enzyme activity.

Or

(b) Write the classification and functional properties of protein.

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