

C-1871

Sub. Code

96342

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Nutrition and Dietetics

DIETETICS I

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is the scope of dietitians?
2. Define- Dietetics.
3. What are the best sources of protein?
4. What is term to describe the relationship between galactose and mannose.
5. Write the importance of diet modification?
6. Phenylketonuria.
7. Short notes on PEM.
8. Source of Vitamins.
9. Define- osteomalacia.
10. Find out the chromosomal disorders.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the goals of nutrition therapy for diabetes?

Or

- (b) Summarize about the types of therapeutic Diets.

12. (a) List out the different types of jejunostomy feeding?

Or

- (b) Explain in detail about Functions of Nutrients.

13. (a) Describe in detail about the Classification of Proteins.

Or

- (b) Out line the amino acid degradation pathway.

14. (a) Mention briefly about Mineral deficiency syndrome.

Or

- (b) Give short notes on Down's syndrome.

15. (a) Discuss about the role of hormone insulin.

Or

- (b) Write the symptoms of hepatic coma.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Illustrate detail about routine hospital diets.

Or

- (b) Explain in detail about Special Feeding Methods.

17. (a) List out detail about the importance and objectives of balanced diet.

Or

- (b) Illustrate detail about Signs and symptoms of ADHD.

18. (a) Elaborate in detail about types and process of inborn errors of metabolism.

Or

- (b) Summarize in detail about the programs for disabled in India.
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B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Nutrition and Dietetics

FOOD SERVICE MANAGEMENT – I

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Catering Industry.
2. Food Service organization.
3. Balance Sheet.
4. Fuel Economy.
5. Sanitation.
6. Consumer.
7. Activity-Based Budgeting (ABB).
8. Commodity Purchase.
9. Food service distributors.
10. Customer Relationship Management (CRM).

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the types of catering services.

Or

- (b) Write the different types of institutional food service.

12. (a) Describe the salient features of volume feeding.

Or

- (b) What are the activities involved in food service operation?

13. (a) Give short notes on “Labour legislation”.

Or

- (b) List out the elements of personnel management.

14. (a) Mention the types of fuels.

Or

- (b) Why is it important to follow safety procedure in preparing and cooking food?

15. (a) Select the safeguard measures will you suggest to maintain personal hygiene?

Or

- (b) Explain the Importance of environmental hygiene.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate the objectives and needs of school meal program.

Or

- (b) Describe in detail about classification of institutional food service based on function.

17. (a) Explain in brief about the rise of organization development.

Or

- (b) Discuss in detail the labour policies and legislation of personal management.

18. (a) Mention in detail about the control of food spoilage and safety of leftover foods.

Or

- (b) Enumerate the importance of pest and rodent control in food services.

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96344

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Nutrition and Dietetics

BAKERY AND CONFECTIONARY

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Wheat kernel.
2. Enrichment of Flour.
3. Yeast.
4. Leavening agents.
5. Recipe balance.
6. Sterilization.
7. Sanitation.
8. Cookie.
9. Sensory evaluation.
10. Special confectionery foods.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the role of various food components involved in baking and confectionery?

Or

- (b) List out the steps and by products of wheat milling.

12. (a) Classify different types of candies prepared in confectionary.

Or

- (b) Why is food colors used in baking? Explain.

13. (a) Tell the factors to be considered for setting up a bakery unit.

Or

- (b) Mention the types of cakes.

14. (a) Give the types and techniques of icing.

Or

- (b) List the different ingredients used in bread making.

15. (a) Write the processing steps for fruit drops.

Or

- (b) Explain the factors affecting quality of the product.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about the classification of Baked foods.

Or

- (b) Compile the sensory evaluation method of baked products.

17. (a) Build the classification and maintenance of major and minor equipments.

Or

- (b) Discuss in detail the factors to consider becoming a successful baker.

18. (a) Elaborate the processing methods and decoration of making biscuits.

Or

- (b) Categorize the raw materials for making toffee and explain the preparation methodology.
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96346

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Nutrition and Dietetics

**FOOD PRODUCT DEVELOPMENT AND MARKETING
STRATEGY**

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Acid Foods.
2. Business Strategy.
3. Material resources.
4. Nutritive value.
5. Formulation of products.
6. Nursing mothers.
7. Market integration.
8. Global market status.
9. Sanitation.
10. Quality control.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the cultural approach of dietary pattern.

Or

- (b) Add a short note on development of dietary pattern based on regional.

12. (a) Build various methods in food product development.

Or

- (b) Describe the calculation of nutritive value of food products.

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

Or

- (b) Mention briefly about parameters that affect the packaging materials used.

14. (a) Briefly explain about uses of therapeutic diet.

Or

- (b) List out the main types of market structures.

15. (a) What is the best promotional scheme for food products?

Or

- (b) Write short notes on storage and sanitation.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write in brief about factors involved in food availability.

Or

- (b) How will you formulate new food products for infants?

17. (a) Write the standardization methods involved in food product development.

Or

- (b) Discuss about conditions for sale and licenses of new food products.

18. (a) Evaluate the importance and purpose of score card and analysis of data.

Or

- (b) Briefly explain about the various forms of market efficiency.
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C-1875

Sub. Code

96353

B.Sc. DEGREE EXAMINATION, APRIL 2024

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. Name the building blocks of carbohydrates, proteins and fats.
2. Write the different types of malnutrition.
3. What is the impact of malnutrition during pregnancy?
4. What is ORS? How will you prepare it at home?
5. List out the importance of environment sanitation.
6. What are the different ways to overcome malnutrition?
7. Define CMNMP.
8. What are the signs and symptoms of iron deficiency?
9. What factors influence national nutrition policy?
10. What are the 3 main goals of WHO?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) List out the main consequences of malnutrition.

Or

- (b) What factors would you keep in mind with regards to the following?

- (i) Economy in food budgeting
- (ii) Meal planning.

12. (a) Explain the different factors that influence our dietary patterns.

Or

- (b) Write the important methods of food fortification.

13. (a) Briefly explain the influence of processing food on nutritive value.

Or

- (b) How can we prevent and control malnutrition and micronutrient deficiencies?

14. (a) What are the factors affecting food and nutrition?

Or

- (b) Summarize the scope of nutrition education.

15. (a) Describe the main objectives of nutrition education.

Or

- (b) Mention briefly about Biological value of proteins.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe in detail about the vitamin A deficiency diseases.

Or

- (b) Illustrate about the three methods for the disposal of solid waste.
17. (a) What are the physiological changes seen during pregnancy? How do they influence nutrient requirement? Write the RDA for pregnancy.

Or

- (b) What is PEM? Classifications of PEM.
18. (a) Mention briefly about the features of national nutrition policy.

Or

- (b) Write short notes on the following
- (i) Risk factors of obesity
 - (ii) Steps involved in planning balanced diets.
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C-1876

Sub. Code

96354

B.Sc. DEGREE EXAMINATION, APRIL 2024

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 Herbs?
2. Which of the following represents a pair of fiber crop and a medicinal plant?
3. What are the different types of herbal formulations?
4. Who is the first pharmacist?
5. Explain Phylogenetic system.
6. What is Brewing?
7. Define Soxhlet method.
8. Which beverage is naturally fermented?
9. What are herbs and spices?
10. Short notes on Cloves.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) List out the Classification of Herbaceous Plants.

Or

- (b) Which method is used for making of herbal preparations? Explain Briefly.

12. (a) What are the roles of pharmacognosy?

Or

- (b) How taxonomic evidence from photochemistry is useful in plant taxonomy?

13. (a) Briefly explain the preservation of herbs.

Or

- (b) Illustrate in detail about the stabilization of herbs.

14. (a) What grains can be used in brewing?

Or

- (b) Summarize the scope of fermentation.

15. (a) Describe the glycolysis pathway.

Or

- (b) What is the Difference between seasoning and flavoring?

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Name any ten medicinal plants and explain their uses.

Or

- (b) Illustrate the six systems of Indian medicine.

17. (a) Differentiate between the exomorphic characters and endomorphic characters.

Or

- (b) What is Maceration? Explain in detail.

18. (a) Mention briefly about the detection methods of alkaloids, glycosidase and tannins in herbal plants.

Or

- (b) Describe in detail about the conventional methods of cultivation of herbs.
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C-1877

Sub. Code

96361

B.Sc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Nutrition Dietetics

BIO – PROCESS TECHNOLOGY

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. How does a bioprocess work?
2. How do biofuels help the environment?
3. What are the types of bioprocess?
4. Define fermentation.
5. What is bubble column bioreactor?
6. Short notes on enzyme immobilization.
7. Define first law of thermodynamics.
8. Which vitamin is rich in milk?
9. How do you calculate yield coefficient?
10. Is Mushroom a protein or vitamin?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) What are the modern applications of biotechnology?

Or

- (b) Mention briefly about Types of Fermentation

12. (a) List out the stages of alcoholic fermentation.

Or

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

13. (a) What are the main types of control systems in bioprocessing engineering?

Or

- (b) What are the principal components of a fermenter and their function?

14. (a) Describe about the Fluidized bed reactor.

Or

- (b) Mention briefly about three different processes for bioconversion.

15. (a) Summarize about Medium formulation for fermentation process.

Or

- (b) Describe about the elemental balances

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe in detail about the upstream process in fermentation industry?

Or

- (b) Illustrate about the Aerobic and Anaerobic Fermentation.

17. (a) Explain in detail about types of Fermentors.

Or

- (b) Elaborate about the plant cell bioreactor.

18. (a) Discuss the mechanism of Mushroom cultivation.

Or

- (b) Elaborate in detail about Bread making.

C-1878

Sub. Code

96362

B.Sc. DEGREE EXAMINATION, APRIL 2024

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 do you mean by Food hygiene?
2. Describe the radiation preservation of meat.
3. Write a short note on the process of fermentation.
4. Food borne diseases caused by bacteria – Explain.
5. How do you conduct a food safety risk assessment?
6. Brief the strategies of risk analysis.
7. What are the scopecodex alimenterius?
8. What is ISI?
9. Write any five rights of a patients.
10. Define the terms of “Ethics”.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the importance of food safety and hygiene.

Or

- (b) Explain the purpose of food hygiene and safety control.

12. (a) Give details about the preventive measures to control Chemical food hazards.

Or

- (b) Explain the characteristics of food safety hazards.

13. (a) What is perceived risk and explain its types?

Or

- (b) Explain the principle steps HACCP.

14. (a) What is the role of FSSAI in food standard?

Or

- (b) Write a short notes on :

(i) AGMARK

(ii) ISO

15. (a) Define – Food adulteration, Explain about the different food adulterants.

Or

- (b) Write a note about the code of ethics.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe the importance of optimal temperature control for food safety and hygiene.

Or

- (b) Distinguish the nature of raw and cooked food items.

17. (a) Enumerate the important difference between a hazard characterisation and a risk assessment.

Or

- (b) Explain the regulations of food safety standards.

18. (a) Describe – Food preservation. Explain about the different food preservatives and its merits and demerits.

Or

- (b) Elaborate on the criteria for evaluation of National food safety programme.
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96363

B.Sc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Nutrition and Dietetics

GENDER STUDIES

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List the importance of gender concepts.
2. How was the concept of gender developed?
3. How do you promote women's rights?
4. What are the measures taken by the Government to improve women's status?
5. Mention the main issues of gender discrimination.
6. What are gender issues in society?
7. Why women's development is important?
8. Tell woman's role in public life.
9. Who started Indian women's movement?
10. Find the main aim of women's movement.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write a note on Feminist psychoanalytic theory.

Or

- (b) Give an account on post modernism theory.

12. (a) Explain in steps taken by the Government to reduce gender inequality.

Or

- (b) What efforts does the government make for women's empowerment?

13. (a) Examine on the strengths of gender equality.

Or

- (b) Simplify the benefits of gender roles.

14. (a) Write the benefits of women's participation in development.

Or

- (b) Elucidate the challenging role of a woman in the home.

15. (a) Compile on women's movement history.

Or

- (b) Elaborate the three achievements of the women's movement.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about female development.

Or

(b) Discuss in detail on areas of gender discrimination.

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

Or

(b) Elaborate in detail women's psychological empowerment.

18. (a) Theme on women's movement changed society.

Or

(b) Predict the laws protecting women's rights in India and explain its detail.

C-2455

Sub. Code

96313

B.Sc. DEGREE EXAMINATION, APRIL 2024.

First Semester

Nutrition and Dietetics

FOOD SCIENCE

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following food components does not provide any nutrients?
 - (a) Milk
 - (b) Water
 - (c) Fruit juice
 - (d) Vegetable soup

2. Cooking in a minimum amount of liquid at a temperature of 80° – 85°C is called as
 - (a) Steaming
 - (b) Simmering
 - (c) Poaching
 - (d) Stewing

3. Combination of which of the following known as gluten?
 - (a) Gliadin + Glutelin
 - (b) Gliadin + Lysine
 - (c) Glutelin + glutelin
 - (d) Gluhelin + Lysine

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 these fruits and vegetables contain highest percentage of water?
- (a) Cucumber (b) Watermelon
(c) Lettuce (d) Celery
6. Stimulating effect of coffee is due to
- (a) Caffeol (b) Caffeone
(c) Caffeine (d) Tanin
7. _____ is a milk process that makes milk more easily digested by the those with a Sensitive digestive system.
- (a) Ionisation (b) Evaporation
(c) Pasteurization (d) Homogenization
8. Oil/lemon/vinegar + spices applied to meat is called
- (a) Marinating (b) Emulsifying
(c) Fermenting (d) Coating
9. The queen of spices is _____.
- (a) Pepper (b) Cardamom
(c) Ginger (d) Chilly
10. Vegetable ghee is manufactured by _____
- (a) Saponification
(b) Hydrogenation
(c) Oxidation polymerisation
(d) Reduction polymerisation

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the Hunger.

Or

(b) Write the nutritional and functional classification of foods.

12. (a) Write the parboiling process of rice.

Or

(b) Write nutritive value of pulses and nuts.

13. (a) Describe the botanical classification of vegetables.

Or

(b) Discuss enzymatic browning reaction and prevention.

14. (a) Explain the role of egg in cookery.

Or

(b) Write the different types of meat.

15. (a) Explain the plasticity and hydrogenation process.

Or

(b) Discuss the sugar related products.

Part C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Define balanced diet. Explain the different steps in planning menus.

Or

- (b) Elaborate the fat and air is used medium of cooking.

17. (a) Discuss the enrichment and Fortification of cereals and flours.

Or

- (b) Discuss the germination process and advantages.

18. (a) Elaborate pigments and effect of cooking on the pigments.

Or

- (b) Explain the classification, nutritive value and milk based beverages.

19. (a) Describe the composition and different types of milk products.

Or

- (b) Draw the structure and describe nutritive value and selection of fish.

20. (a) Explain the process and refining of fats and oils.

Or

- (b) Discuss the stages of sugar cookery.

C-2456

Sub. Code

96314

B.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Nutrition and Dietetics

FOOD CHEMISTRY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the questions.

1. This provides the greatest energy value per gram of nutrient
 - (a) water
 - (b) protein
 - (c) fat
 - (d) carbohydrate

2. What is Dehydration?
 - (a) loss of water in the body
 - (b) too much water in the body
 - (c) not enough salt in the body
 - (d) too much blood in the body

3. Monosaccharide found widely in fruits and honey
 - (a) Sucrose
 - (b) Glucose
 - (c) Fructose
 - (d) Lactose

4. _____ is the residue that remains after sugar crystals have been removed from conc.sugar cane juice.
- (a) Molasses (b) Bagasse
(c) Ash (d) Concrete
5. Which of the following is wheat protein?
- (a) Gluten (b) Casein
(c) Keratin (d) Globuin
6. Which of the following food items is the best source of plant proteins?
- (a) Milk (b) Egg
(c) Legumes (d) Cheese
7. Vegetable ghee is manufactured by _____
- (a) Saponification
(b) Hydrogenation
(c) Oxidation polymerisation
(d) Reduction polymerisation
8. _____ is a characteristic feature of epithelial cells of the intestine to absorb nutrient
- (a) Glottis (b) Pilus
(c) Bolus (d) Microvilli
9. The key enzymes involved in enzymatic browning of fruits and vegetables.
- (a) Peroxidase (b) Polyphenol Oxidase
(c) Catalase (d) Cholesterol Oxidase
10. Which is the group that mainly consists of fat-soluble pigments
- (a) Chlorophyll (b) Carotenoids
(c) Anthocyanins (d) Both (a) and (b)

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the concept of bound Water.

Or

- (b) Derive Henderson- Hasselbalch equation.

12. (a) Illuminate the process of candies.

Or

- (b) Explain about the chemistry of milk sugar.

13. (a) Explain the component and structure of wheat protein.

Or

- (b) What are the changes occur in meat protein during heating action? Explain in detail.

14. (a) Explain the shortening power of fat.

Or

- (b) Describe the changes occur in Fats and Oils during Heating.

15. (a) Discuss about the volatile compounds from cooked vegetables.

Or

- (b) Explain about the water soluble plant pigments.

Part C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Enumerate the process of colloids and emulsions

Or

- (b) How will you determine the energy value of food? Explain in detail.

17. (a) Elaborate the stages of sugar cookery.

Or

- (b) State about the digestion and absorption of carbohydrate.

18. (a) Draw the structure of egg and discuss the properties of egg protein in detail.

Or

- (b) Illuminate about the metabolism and utilization of proteins.

19. (a) What are the factors involved in the process of rancidity? Explain.

Or

- (b) Explain the process of digestion and absorption of fat.

20. (a) Distinguish the different types of plant pigments.

Or

- (b) Discuss the Active principles of spices and condiments.

C-2457

Sub. Code

96315

B.Sc. DEGREE EXAMINATION, APRIL 2024.

First Semester

Nutrition and Dietetics

FOOD MICROBIOLOGY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Bacterial cell wall is made up of
 - (a) Chitin
 - (b) Cellulose
 - (c) Dextrose
 - (d) Peptidoglycan
2. Which are the most primitive group of algae?
 - (a) Blue green algae
 - (b) Red algae
 - (c) Brown algae
 - (d) Green algae
3. Which of the following is not a method of food preservation?
 - (a) Canning
 - (b) Freezing
 - (c) Fermentation
 - (d) Cooking
4. What is the primary cause of spoilage in fruits and vegetables?
 - (a) Yeast
 - (b) Mold
 - (c) Bacteria
 - (d) Virus

5. Which of the following bacteria is commonly associated with raw meat?
- (a) *Listeria monocytogenes*
 - (b) *Salmonella enterica*
 - (c) *E. coli*
 - (d) *Vibrio cholerae*
6. What is the ideal temperature range for most foodborne pathogens to grow?
- (a) 0 – 10°C
 - (b) 10 – 20°C
 - (c) 20 – 30°C
 - (d) 30 – 40°C
7. What is the primary cause of botulism?
- (a) A virus
 - (b) A parasite
 - (c) A fungus
 - (d) A bacterium
8. Which of the following is not the property of the fermented food?
- (a) Highly Nutritious
 - (b) Toxic
 - (c) Antitoxicity
 - (d) Antinutrient
9. The partial fermentation of green tea results in the formation of _____.
- (a) Yogurt
 - (b) Sauerkraut
 - (c) Kombucha
 - (d) Kefir
10. Salmonellosis involves
- (a) An enterotoxin and exotoxin
 - (b) An enterotoxin and cytotoxin
 - (c) An exotoxin
 - (d) A cytotoxin only

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the spontaneous generation theory.
Or
(b) Write the general properties of bacteria.
12. (a) Explain the role of temperature on the growth of microorganisms.
Or
(b) Mention the effect of antimicrobial barrier on food microorganisms.
13. (a) List out the five types of spoilage seen in egg.
Or
(b) Cite the difference between yoghurt and buttermilk.
14. (a) What are the types of Soy sauce based on physical properties?
Or
(b) State three types of spoilage seen in sugar products.
15. (a) Briefly describe the mechanism of action of diarrhoeogenic toxin of salmonella.
Or
(b) Classify the cheese on the basis of curdling.

Part C

(5 × 8 = 40)

Answer **all** questions.

16. (a) List out the difference between prokaryotic and Eukaryotic organisms.
Or
(b) Draw a neat diagram of bacterial structure with parts.

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

Or

(b) Write in detail about preservation of food by relative humidity and temperature.

18. (a) Discuss in detail about spoilage of fruits.

Or

(b) Build the contamination, preservation and spoilage of canned foods.

19. (a) Explain in detail about preservation of cereal products.

Or

(b) Write in detail on spoilage of sugar products.

20. (a) Elaborate the production process of any two alcoholic beverages.

Or

(b) Briefly explain about types, mode of transmission, and symptoms of Clostridium botulinum.

C-2458

Sub. Code

96317

B.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Nutrition and Dietetics

FUNDAMENTALS OF BIOCHEMISTRY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following is the correct classification of Dolomite?
(a) Acid salt (b) Mixed Salt
(c) Normal salt (d) Double salt
2. Nucleic acids combine with which biomolecule?
(a) Fats (b) Lipids
(c) Carbohydrates (d) Proteins
3. Acetic acid is weak acid because
(a) solution is acidic
(b) highly ionised
(c) weakly ionised
(d) COOH group

4. Which of the following enzymes is non- proteinaceous?
- (a) Deoxyribonuclease
 - (b) Ligase
 - (c) Ribozyme
 - (d) Lysozyme
5. Identify the basic salt from the following.
- (a) Na_2CO_3
 - (b) NaNO_3
 - (c) KCL
 - (d) NH_4Cl
6. Phosphate group is attached to which carbon of pentose sugar.
- (a) C-1
 - (b) C-2
 - (c) C-4
 - (d) C-5
7. Which of the following salt do not contain water of crystallisation?
- (a) Baking soda
 - (b) Gypsum
 - (c) Red vitriol
 - (d) Copper sulphate
8. Left-handed helix contained nucleic acid is _____.
- (a) mRNA
 - (b) tRNA
 - (c) A-DNA
 - (d) Z-DNA.
9. This molecule acts as molecular chaperones to assist the folding of proteins
- (a) Vitamins
 - (b) Carbohydrates
 - (c) Amides
 - (d) Lipids
10. Beta-oxidation of fatty acids occurs in
- (a) Peroxisome
 - (b) ER
 - (c) Mitochondria
 - (d) Chloroplast.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write about the classification of enzymes.

Or

- (b) Mention about the importance of carbohydrates.

12. (a) Explain shortly about the importance of water.

Or

- (b) Give the difference between the acids and bases.

13. (a) List out various types of DNA with diagram.

Or

- (b) Explain shortly the structure and function of tRNA.

14. (a) Describe about the Vander wall's forces.

Or

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

15. (a) Mention about the functions of fatty acids.

Or

- (b) Write about the basic structures of protein with diagram.

Part C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Detail in classifications of triglycerides and phospholipids.

Or

- (b) Explain the basic structure of nucleotides and nucleosides.

17. (a) Explain about the DNA mutation and its effects.

Or

- (b) Briefly explain the principle of pH meter and its applications.

18. (a) Explain about the lock and key. induced fit hypothesis.

Or

- (b) Briefly explain the DNA replication with neat diagram.

19. (a) Detail in Properties and classification of enzymes.

Or

- (b) Write about the essential and non-essential amino acid.

20. (a) Explain short notes about types RNA and its functions.

Or

- (b) Write about the overview of carbohydrate Structures.

C-2459

Sub. Code

96323

B.Sc. DEGREE EXAMINATION, APRIL 2024

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. The energy balance in nutrition refers to the
 - (a) equilibrium between energy intake and energy expenditure
 - (b) equilibrium of rate of reduction
 - (c) equation of rate of oxidation
 - (d) amount of starch in take

2. What are the factors that influence the BMR[Basal Metabolic Rate)
 - (a) Sex
 - (b) Climate
 - (c) Habit
 - (d) All of the above

3. Which of the following Biomolecules simply refers to as "Staff of life"?
 - (a) Lipids
 - (b) Proteins
 - (c) Vitamins
 - (d) Carbohydrates

4. What is a bond between amino acids called?
(a) Ionic bond (b) Acidic bond
(c) Peptide bond (d) Hydrogen bond
5. Which organ plays a significant role in both synthesizing and catabolizing lipids in the body?
(a) Kidneys (b) Liver
(c) Lungs (d) Stomach
6. Water moves back and forth across the plasma membrane by the process of _____.
(a) Osmosis
(b) Filtration
(c) Facilitated diffusion
(d) Active transport
7. Which of the following are examples of macro minerals?
(a) Sodium (b) Calcium
(c) Chloride (d) All of the above
8. Which of the following minerals controls growth and body weight?
(a) Iodine (b) Calcium
(c) Phosphorous (d) All of the above
9. Which of the following vitamins is called a water-soluble vitamin?
(a) vitamin A (b) vitamin D
(c) vitamin C (d) vitamin K
10. Deficiency of which vitamin causes Beri-Beri?
(a) Vitamin B12 (b) Vitamin B2
(c) Vitamin B6 (d) Vitamin B1

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the factors affecting BMR.

Or

- (b) Write the general principles of deriving RDA.

12. (a) Explain the glycemic index of food.

Or

- (b) Write the classification of dietary fibre.

13. (a) Describe the functions of Essential fatty acid.

Or

- (b) Explain the water and electrolyte balance.

14. (a) Write the classification and general function of Minerals.

Or

- (b) Discuss the deficiency of Micro minerals.

15. (a) Explain about the Vitamin-A.

Or

- (b) Discuss the functions requirement and sources of vitamin-B1 and B2

Part C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Discuss the factorial method and energy requirements of physical activity.

Or

- (b) Explain the RDA values of Indian people and factors affecting RDA.

17. (a) Explain the role of fibre in preventing disease and sources.

Or

- (b) Write the functions and nutritional classification of Protein and amino acids.

18. (a) Elaborate the functions, sources and the effect of Essential fatty acids.

Or

- (b) Describe the functions, requirements and sources of water and electrolytes

19. (a) Explain the functions, sources and deficiency effect of sodium, potassium and chloride

Or

- (b) Write the functions, requirements and sources of Iodine and Zinc.

20. (a) Explain the types, functions and sources of vitamin D and E.

Or

- (b) Elaborate the Vitamin-C.

C-2460

Sub. Code

96324

B.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Nutrition and Dietetics

NUTRITION THROUGH LIFE CYCLE

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Section A

(10 × 1 = 10)

Answer **all** 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. Requirement of protein for pregnant women is _____ g/kg body weight:
 - (a) 25
 - (b) 1.1
 - (c) 0.8
 - (d) 1.5

3. Colostrum is
 - (a) Milk of first day
 - (b) Milk of initial few hours
 - (c) Milk of initial few days
 - (d) Milk of lactation period

4. When does lactation start?
 - (a) during pregnancy
 - (b) at the end of first trimester
 - (c) before parturition
 - (d) at the end of pregnancy

5. What is the recommended dietary intake of protein for infant (0-6 months)?
 - (a) 2.05 gm per kg IBW
 - (b) 2.35 gm per kg IBW
 - (c) 1.65 gm per kg IBW
 - (d) 1.05 gm per kg IBW

6. What is the common nutritional problem observed in pre school children?
 - (a) Osteoporosis (b) Goitre
 - (c) PEM (d) Pellagra

7. Which of the following is a consequence of inadequate protein intake in school age Children
 - (a) Rickets (b) Scurvy
 - (c) Kwashiorkor (d) Osteoporosis

8. What is the most common age range for the onset of eating disorder in adolescent?
 - (a) 6-10 Years old (b) 16-20 Years old
 - (c) 20-30 Years old (d) 1-6 Years old

9. Which of the following method is commonly used to asses body composition in Adulthood?
 - (a) BMI
 - (b) Air displacement method
 - (c) Hydrostatic weighing
 - (d) None of these

10. Which of the following is a common sensory changes In the elderly?
- (a) Improved vision
 - (b) Increase taste sensitivity
 - (c) Decreased hearing ability
 - (d) Nerve problem

Section B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write the basic principles of meal planning.

Or

- (b) Describe the stages of Pregnancy.

12. (a) Write the composition of breast milk.

Or

- (b) List out the factors are responsible for lactation failure.

13. (a) Describe the Immunization schedule.

Or

- (b) Write the Nutritional related problems in childhood.

14. (a) Write the sample menu for school going children.

Or

- (b) Elaborate the Puberty.

15. (a) Describe the nutrition and health issues in adulthood.

Or

- (b) Explain the Geriatrics.

Section C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Describe the food allowance for different age group by using RDA.

Or

- (b) Explain the Nutritional requirements and diet planning for pregnant Women.

17. (a) Write the physiological changes and hormonal control during lactation period.

Or

- (b) Elaborate the Nutritional requirements and diet planning for lactating women.

18. (a) Describe the advantages and disadvantages of breast feeding and artificial feeding.

Or

- (b) Explain the growth and development and diet planning for preschool child.

19. (a) Write the feeding problems and diet plan for school children.

Or

- (b) Explain the nutritional problems and eating disorders for adolescence.

20. (a) Describe the diet planning to suitable for different income levels.

Or

- (b) Explain the nutritional requirements and modification of diet in old age.

C-2461

Sub. Code

96326

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Nutrition and Dietetics

HUMAN PHYSIOLOGY

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Section A

(10 × 1 = 10)

Answer **all** the questions.

1. If the stool of a person is whitish-grey, which organ is responsible for it?
 - (a) Kidney
 - (b) Cerebellum
 - (c) Spleen
 - (d) Liver

2. Fat digestion occurs in?
 - (a) Small intestine
 - (b) Stomach
 - (c) Duodenum
 - (d) Spleen

3. Respiratory centre is located in?
 - (a) Cerebellum
 - (b) Spleen
 - (c) Cerebrum
 - (d) Medulla oblongata

4. The internal lining in the trachea is made up of?
- (a) Cuboidal epithelium
 - (b) Pseudostratified epithelium
 - (c) Circular epithelium
 - (d) All of the above
5. Kidneys ability to produce concentrated urine depends on?
- (a) Diffusion (b) Active transport
 - (c) Direct interaction (d) Counter mechanism
6. When an individual consumes a large amount of protein?
- (a) More urea and uric acid
 - (b) Glucose
 - (c) Salt
 - (d) Ammonia
7. The life span of red blood cells is?
- (a) 100 days (b) 110 days
 - (c) 120 days (d) 160 days

8. What is the ratio of WBC to RBC in the body?
- (a) 1 : 60 (b) 1 : 7000
- (c) 1 : 6000 (d) 1 : 600
9. Which of the following is responsible for the red colour of blood?
- (a) Hemocyanin
- (b) Myoglobin
- (c) Myoglobin and Hemocyanin
- (d) Haemoglobin
10. Which is a skull bone?
- (a) Arytenoid (b) Cricoid
- (c) Pterygoid (d) Tibia

Section B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Summarize the structure and function of the skin barrier.

Or

- (b) Examine the structure and functions of spleen with neat diagram.

12. (a) Summarize the functional activities of large intestine.

Or

- (b) Compare the function and structural basis of RBC and WBC.

13. (a) Explain the structure of auditory and visual pathway.

Or

- (b) Write shortly about the gaseous exchange in lungs.

14. (a) Determine the mechanism involved in fertilization with neat diagram.

Or

- (b) Examine the structure and functions of thyroid gland.

15. (a) List out the hormones which are secreted by the regulation of pancreas.

Or

- (b) Determine the mechanism of excretory system for urine formations.

Section C

(5 × 8 = 40)

Answer **all** questions.

16. (a) Extend the structure and functions of sensory organs.

Or

- (b) Detail about the process of female reproductive organ.

17. (a) Outline the structure and functions of lungs with functional test.

Or

- (b) Explain briefly about the structure and functions of heart.

18. (a) Illustrate the importance of dialysis process and ECG.

Or

- (b) Details about the functions and importance of salivary gland.

19. (a) Overall functional and structural mechanism of neuron.

Or

- (b) Summarize the functions of LH and FSH.

20. (a) Explain briefly about the composition of blood.

Or

(b) Outline of the structure and functions of nose and eye.
