R1094

Sub. Code
558201

M.Sc. DEGREE EXAMINATION, APRIL – 2024

Second Semester

Nutrition and Dietetics

NUTRITIONAL BIOCHEMISTRY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. ———————— is a disaccharide of glucose and fructose. (CO1, K1)

   (a) Sucrose (b) Lactose

   (c) Maltose (d) Trehalose

2. ———————— is the spatial configuration with respect to the first carbon atom in aldoses and second carbon atom in ketoses. (CO1, K1)

   (a) Isomerism (b) Annomerism

   (c) Stereoisomerism (d) Diastereoisomerism

3. ———————— are esters of fatty acids and glycerol. (CO2, K1)

   (a) Fats (b) Waxes

   (c) Glycolipids (d) Lipoproteins

4. ———————— is a cofactor in transamination. (CO2, K1)

(a) Pyridoxal-5-Phosphate

(b) Pyridoine-5-Phosphate

(c) Pyridoxine-6-Phosphate

(d) Pyrimidine-5-Phosphate

5. Deficiency of vitamin ———————— increases blood coagulation time. (CO3, K1)

(a) A (b) D

(c) E (d) K

6. Hypogeusia appear in ———————— deficiency. (CO3, K2)

(a) Iron (b) Selenium

(c) Zinc (d) Fluorine

7. Purine base found in RNA is ————————. (CO4, K2)

(a) Guanine (b) Cytosine

(c) Thymine (d) Uracil

8. ———————— is used to produce coenzymes FAD and FMN. (CO4, K1)

(a) Thiamine (b) Riboflavin

(c) Niacin (d) Biotin

9. ———————— is the chief cation of extracellular fluid. (CO5, K1)

(a) Sodium (b) Potassium

(c) Phosphorus (d) Magnesium

10. Fight or flight response is triggered by ———————— hormone. (CO5, K1)

(a) Parathormone (b) Adrenaline

(c) Insulin (d) Glucagon

Part B (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Summarize the inborn errors of carbohydrate metabolism. (CO1, K2)

Or

(b) Explain gluconeogenesis. (CO1, K2)

12. (a) Classify proteins. (CO2, K2)

Or

(b) Interpret the nutritional aspects of lipids. (CO2, K2)

13. (a) Simplify the effects of calcium deficiency. (CO3, K3)

Or

(b) Examine the role of B vitamins in metabolism. (CO3, K3)

14. (a) Summarize the genetic disorders of nucleic acids in humans. (CO4, K3)

Or

(b) Classify enzymes and discuss mechanism of enzyme action. (CO4, K3)

15. (a) Explain acid base balance. (CO5, K4)

Or

(b) Assess the diseases of electrolyte imbalance. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Illustrate the steps in glycolytic pathway with ATP generation. (CO1, K3)

Or

(b) Illustrate the steps in TCA cycle with ATP generation. (CO1, K3)

17. (a) Interpret the steps in protein synthesis. (CO2, K3)

Or

(b) Explain in detail the process of β-oxidation. (CO2, K3)

18. (a) Examine the impact of Vitamin A deficiency and excess in humans. (CO3, K4)

Or

(b) Examine the impact of iron deficiency and excess in humans. (CO3, K4)

19. (a) Summarize the steps in nucleic acid metabolism. (CO4, K4)

Or

(b) Outline the structure and functions of DNA. (CO4, K4)

20. (a) Determine the role of hormones in bodily functions. (CO5, K5)

Or

(b) Interpret the role of nutrients in maintenance of water and electrolyte balance. (CO5, K5)

R1095

Sub. Code
558202

M.Sc. DEGREE EXAMINATION, APRIL – 2024

Second Semester

Nutrition and Dietetics

COMMUNITY NUTRITION

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. _____ is an indirect method of assessing nutritional status. (CO1, K1)
   (a) Anthropometry
   (b) Vital health statistics
   (c) Clinical examination
   (d) Lab estimation

2. Serum transferrin level helps to assess the status of _____. (CO1, K1)
   (a) Iron (b) Iodine
   (c) Vitamin D (d) Vitamin E

3. _____ is absent in Marasmus. (CO2, K1)
   (a) Dehydration (b) Irritability
   (c) Apathy (d) Oedema

4. _____ manifests as dry patches of non-wettable conjunctiva. (CO2, K1)
   (a) Conjunctival xerosis
   (b) Bitot spots
   (c) Keratomalacia
   (d) Corneal xerosis

5. _____ was launched in 2000 by the Government of India. for the poorest of the poor, to ensure hunger free India. (CO3, K1)

(a) Mid Day Meal
(b) Special Nutrition Programme
(c) Annapurna
(d) Antodaya Anna Yojana

6. Kishori Shakti Yojana Scheme covers _____. (CO3, K1)

(a) Preschoolers (b) Adolescent Girls
(c) Adult women (d) Elderly

7. UNICEF stands for _____. (CO4, K1)

(a) United Nations International Children Emergency Fund
(b) United Nations International Children Education Fund
(c) United Nations International Child Emergency Fee
(d) United Nations Inter Children Emergency Fund

8. The objective of WHO is _____. (CO4, K2)

(a) Let there be bread
(b) The attainment of highest level of health by all
(c) Let there be food
(d) The attainment of highest level of education by all

9. _____ revolution aims to achieve self-reliance in the production of oil seeds (CO5, K2)

(a) Yellow (b) Blue
(c) Green (d) White

10. _____ is an individual method of nutrition education. (CO5, K1)

(a) Symposium (b) Workshop
(c) Home visit (d) Role play

Part B (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Predict the nutritional problems in the community. (CO1, K3)

Or

(b) Identify and explain the role of clinical signs in examining the nutritional status. (CO1, K3)

12. (a) Explain the symptoms of PEM. (CO2, K2)

Or

(b) Interpret the strategies to overcome malnutrition. (CO2, K2)

13. (a) Simplify the role of environmental sanitation in nutrition intervention. (CO3, K3)

Or

(b) Examine the need for nutrition intervention programmes. (CO3, K3)

14. (a) Summarize the role of FAO. (CO4, K3)

Or

(b) Summarize the importance of nutrition education to the community. (CO4, K3)

15. (a) Compile how to evaluate nutrition education programmes. (CO5, K4)

Or

(b) Discuss the phases of white revolution. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Identify the anthropometric methods used to assess the nutritional status of the community. (CO1, K5)

Or

(b) Discover the significance of indirect assessment methods in assessment of nutritional status.(CO1, K5)

17. (a) Explain Vitamin A deficiency and preventive measures for Vitamin A deficiency. (CO2, K4)

Or

(b) Explain anaemia in detail. (CO2, K4)

18. (a) Examine the progran1mes organized by governmental agencies for the vulnerable sections of the population. (CO3, K4)

Or

(b) Examine the programmes organized by non-governmental agencies for the vulnerable sections of the population. (CO3, K4)

19. (a) Explain the national organizations concerned with food and nutrition. (CO4, K4)

Or

(b) Outline the nature of nutrition education. (CO4, K4)

20. (a) Elaborate the principles of planning nutrition education programme. (CO5, K5)

Or

(b) Discuss the function and outcome of green revolution and blue revolution in detail. (CO5, K5)

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R1096

Sub. Code
558203

M.Sc. DEGREE EXAMINATION, APRIL – 2024

Second Semester

Nutrition and Dietetics

SPORTS NUTRITION

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Metabolically ———— work is performed without the use of oxygen. (CO1, K3)

   (a) Aerobic (b) Anaerobic

   (c) Endurance (d) Both (b) and (c)

2. The term hypertrophy means ————. (CO1, K3)

   (a) Increase in the size

   (b) Decrease in the size

   (c) Normal in size

   (d) Abnormal in size

3. Ectomorphs are described as having a slight build with ———— amounts of fat and muscle. (CO2, K2)

(a) Small (b) Large

(c) Not a bit (d) Very high

4. Body physique refers to the ———— of body. (CO2, K2)

(a) Shape (b) Fitness

(c) Performance (d) Movements

5. The trained muscles burn ———— fat and ———— glucose. (CO3, K2)

(a) More and More (b) Less and Less

(c) Less and More (d) More and Less

6. The three necessary amino acids ———— are found in branched chain amino acids. (CO3, K2)

(a) Leucine, Isoleucine, Valine

(b) Alanine, Histidine, Threonine

(c) Lysine, Proline, Serine

(d) Glutamine, Methionine, Phenylalanine

7. The evaporation of 1 g of water from the skin surface removes slightly less than ———— kcal of heat. (CO4, K2)

(a) 0.2 (b) 0.6

(c) 1.2 (d) 1.6

8. ———— phase is the forty five minutes window following a workout in nutrient timing principles. (CO4, K2)

(a) Energy (b) Growth

(c) Anabolic (d) Transition

9. The term ———— indicates changing directions rapidly. (CO5, K4)

(a) Power (b) Agility

(c) Flexibility (d) Balance

10. Calisthenic test are most commonly used to assess muscle ————. (CO5, K4)

(a) Strength (b) Power

(c) Flexibility (d) Endurance

Part B (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Summaries the introduction of fitness and write its benefits. (CO1, K3)

Or

(b) Write about the difference between muscular and hormonal adaptation in endurance exercise. (CO1, K3)

12. (a) How the body composition can help athletes? Explain. (CO2, K2)

Or

(b) Explain in detail about the safe sports performance in athlete. (CO2, K2)

13. (a) Show the metabolism of fats and performance of sports person. (CO3, K2)

Or

(b) Express the importance of vitamins for athletes. (CO3, K2)

14. (a) Assess the importance of nutrition in power athlete. (CO4, K2)

Or

(b) Briefly explain the fluid requirements of young athletes. (CO4, K2)

15. (a) Summaries the importance of work capacity of sports person. (CO5, K4)

Or

(b) What is physical fitness? Simplify the types of physical fitness. (CO5, K4)

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

Answer **all** questions not more than 1000 words each.

16. (a) Explain in detail about the muscular adaptations during endurance exercise. (CO1, K3)

Or

(b) Express the role of nutrition in fracture and injury. (CO1, K3)

17. (a) Write about the various methods of measuring body composition of athlete. (CO2, K2)

Or

(b) Explain the nutritional and food requirements for weight gain of athletes. (CO2, K2)

18. (a) Write about the carbohydrate intake and performance of the endurance athletes. (CO3, K2)

Or

(b) Illustrate the fluid and electrolyte loss of athletes in exercise. (CO3, K2)

19. (a) Explain the pre-event meals and its importance for sports person. (CO4, K2)

Or

(b) Evaluate the electrolyte balance for athletes. (CO4, K2)

20. (a) Examine the different types of ergogenic aids in sports nutrition. (CO5, K4)

Or

(b) Write in detail about the fitness testing for sport and exercise. (CO5, K4)

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R1097

Sub. Code
558503

M.Sc. DEGREE EXAMINATION, APRIL – 2024

Second Semester

Nutrition and Dietetics

Elective — FOOD MICROBIOLOGY AND SANITATION

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. ———— is a broad term that encompasses the study of all different types of microorganisms. (CO1, K2)

   (a) Parasitology (b) Bacteriology

   (c) Microbiology (d) Protozoology

2. Microscopic fungi include ———— (CO1, K2)

   (a) Bacteria and Viruses

   (b) Molds and yeasts

   (c) Archaea and bacteria

   (d) None of these

3. What is/are the intrinsic factors involved in microbial growth? (CO2, K1)

(a) Redox potential

(b) Oxidation-Reduction Potential

(c) pH

(d) All of these

4. ———— is the member of lactic acid producing bacteria which produces D-lactate and ethanol. (CO2, K1)

(a) Leuconostoc

(b) Pseudomonas

(c) Corynebacterium

(d) Listeria

5. Bread can be mostly contaminated by ———— (CO3, K2)

(a) Bacteria (b) Virus

(c) Molds (d) Algae

6. Which of the following foods is NOT made by fermentation? (CO3, K2)

(a) Beer (b) Bread

(c) Cheese (d) Orange juice

7. In meat Brochothrix thermosphacta is able to grow under ———————— conditions. (CO4, K1)

(a) Dry

(b) Aerobic

(c) Anaerobic

(d) Both aerobic and anaerobic

8. Mesophiles are microorganisms which grow at moderate temperatures between ———————— (CO4, K1)

(a) 15°C and 45°C (b) 20°C and 45°C

(c) 30°C and 45°C (d) 40°C and 45°C

9. Universal Product Code (UPC) is known as ———————— (CO5, K1)

(a) Nutrition labeling

(b) Coding of food products

(c) Nutrition claims

(d) Bar code

10. ———————— licensing covers every food item, whether agricultural or non-agricultural? (CO5, K1)

(a) AGMARK (b) FSSAI

(c) BIS (d) MMPO

Part B (5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Briefly explain about the history and development of microbiology. (CO1, K3)

Or

(b) Write in detailed account on classification of Yeast. (CO1, K3)

12. (a) Describe the general principles of food preservation. (CO2, K4)

Or

(b) Explain the preservation and control of microorganisms in vegetables spoilage. (CO2, K4)

13. (a) Describe the contamination and spoilage of microbes in cereals and cereal products. (CO3, K3)

Or

(b) Elucidate the preservation and control of microorganisms in nuts and oil seeds. (CO3, K3)

14. (a) What are the foodborne diseases caused by fish? Explain. (CO4, K5)

Or

(b) Categories the grouping of canned foods on the basis of acidity. (CO4, K5)

15. (a) Explain about the water supplies and sewage disposal in the food industries. (CO5, K2)

Or

(b) Summaries the packaging laws and regulations of food safety. (CO5, K2)

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

Answer **all** the questions not more than 1000 words each.

16. (a) Write a detailed account of bacteria morphology and cultural characteristics. (CO1, K3)

Or

(b) Describe the bacteriophages discovery, morphology and reproduction. (CO1, K3)

17. (a) Write about the general principles underlying spoilage and chemical changes by microorganisms. (CO2, K4)

Or

(b) Explain about the role of food additives and write its advantages and disadvantages. (CO2, K4)

18. (a) Identify the pulses contamination, spoilage, preservation, and control of microorganisms. (CO3, K3)

Or

(b) Elaborate the milk and milk products contamination, spoilage, preservation, and control of microorganisms. (CO3, K3)

19. (a) Explain the spoilage of canned foods, causes of spoilage, appearance of the unopened container. (CO4, K5)

Or

(b) Give an elaborate account of the following food borne diseases-food borne illness and food borne poisoning. (CO4, K5)

20. (a) Write a note on the interactions between packaging and food toxicity hazards. (CO5, K2)

Or

(b) Give an account of the food laws and standards: BIS and AGMARK. (CO5, K2)

———————