

Instructions: Illustrate your answers with neat diagrams wherever necessary.

Q. 1 Write the following

- (i) Write a brief note on the role of carbohydrate consumption in various health outcomes, as per recent scientific findings? (7 Marks)
- (ii) What are the recent findings of carbohydrate consumption in metabolic disorders such as obesity, metabolic syndrome, cancer, and cardiovascular disease? (7 Marks)

OR

- (i) "The nature of the carbohydrate rather than the amount is the key factor in human health and disease. "Explain the statement with suitable examples/research findings? (7 Marks)
- (ii) Discuss in detail the role of carbohydrates in allergies and mental health disorders. (7 Marks)

Q. 2 Write the following

- (i) Explain functions and metabolism of protein in detail with a suitable diagram. (7 Marks)
- (ii) Define protein quality. Enlist the methods of assessing it. Describe any two methods in detail. (7 Marks)

OR

- (i) Explain the use of microbial assays in assessing protein quality in detail. (7 Marks)
- (ii) Why PDCAAS index is considered as the most appropriate method of protein quality evaluation? (7 Marks)

Q. 3 Write the following

- (i) Write a note on Desi Ghee. Discuss its nutrient profile and role in health outcomes. (7 Marks)

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- (ii) Discuss the role of omega-fatty acids in human growth and development. (7 Marks)

OR

- (i) Write a detailed note on the various biological roles of lipid. (7 Marks)
- (ii) Write a note on the classification and functions of lipids. Why is lipid critical in neurodegenerative disease development. (7 Marks)

Q. 4 Write the following

- (i) Describe the current diet and nutrition scenario of children in India. (7 Marks)
- (ii) Write a detailed note on Microgreens. (7 Marks)

OR

- (i) Write a detailed note on Protein supplements (7 Marks)
- (ii) What are the current dietary recommendations regarding salt intake? (7 Marks)

Q 5. Attempt any seven out of twelve

(14 Marks)

- (i) What is leaky gut syndrome?
- (ii) Define PER
- (iii) Write a short note on Omega 3 fatty acid.
- (iv) What is the Warburg effect? How do refined carbohydrates support tumour growth?
- (v) What is the safe range of carbohydrate consumption? Why is high carbohydrate consumption linked to increase cardiovascular risk?
- (vi) Give two examples of derived lipids with their biological significance.
- (vii) What are omega fats? Give two sources of omega fats.
- (viii) What is the nutrient profile of Desi ghee?
- (ix) What is visceral fat? Why is high visceral fat level linked to metabolic disease risk?
- (x) How do carbohydrates affect the serotonergic activity of the nervous system?
- (xi) Physical activity recommendations.
- (xii) RDA 2023

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