2021
FOOD & NUTRITION
[HONOURS]
Paper : I

Full Marks : 75 Time : 4 Hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions.

1. Answer the following questions (any **five**): 1×5=5

   i) What is 'hyponatremia'?

   ii) Name two essential fatty acids.

   iii) Name one medium chain fatty acid.

   iv) Give example of a water insoluble non-carbohydrate dietary fibre.

   v) Which edible oil is rich in saturated fatty acid?

   vi) Name one non-haem iron source.

   vii) What is isoelectric point?

2. Answer the following questions (any **six**) : 2×6=12

   i) Why milk is called a 'complete food'?

   ii) What is hypoglycaemia?

   iii) State the biological significance of colostrums present in breast milk.

   iv) Why daily allowances of folic acid and vitamin B_{12} are necessary for pregnant women?

   v) What are the physiological functions of Zn?

   vi) What is the role of Glucose 6P dehydrogenase in carbohydrate metabolism?

   vii) Mention the importance of vitamin D in the diet.

   viii) What is MUFA?

3. Answer any **three** of the following: 6×3=18

   i) What are symptoms of PEM?

   ii) Discuss the physiological role of calcium (Ca) in the body.

   iii) Compare the clinical features that are common in deficiency of vitamin D in children and in adult.

iv) What is the role of probiotics in maintenance of human health?

v) Explain the deficiency effects of the following vitamins– vitamin E and vitamin B_{12}.

4. Answer any **four** from the following : 10×4=40

i) Discuss the factors affecting absorption of calcium and iron present in food. Mention the physiological function of zinc in our body. What do you mean by carotinoids? 3+3+3+1

ii) Describe the primary, secondary and tertiary structure of protein. How does animal protein differ from vegetable protein? What is protein efficiency ratio? 6+3+1=10

iii) a) Describe β-oxidation of fatty acids.

b) Mention the sources and importance of essential fatty acids with two examples.

c) What are eicosanoids and mention the biological functions of two such eicosanoids? 4+3+3=10

iv) a) Mention briefly the reaction sequence of glycolytic pathway. What is the role of fluoride in this pathway?

b) Vitamins play a key role in the citric acid cycle – Explain. (4+2)+4=10

v) a) What is function of water in the body?

b) What is insensible losses of water in human body?

c) What is dehydration and what is the effect of salt depletion in dehydration?

d) Mention important functions of sodium in the body. 2+2+3+3=10

vi) a) What are the changes observed in fat metabolism during starvation?

b) Mention the differences in Marusmus and Kwarshiorkar. 5+5=10

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