B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)

Subject : Nutrition

Course : CC-V

(Nutritional Biochemistry)

Time: 2 Hours **Full Marks: 40**

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

1. Answer *any five* questions: 2×5=10

(a) What are derived lipids?

(b) What do you mean by 'monomeric' enzymes?

(c) What are 'sugars'?

(d) Give examples of two aromatic amino acids.

(e) Mention one biochemical test that distinguishes between monosaccharide and reducing disaccharide.

(f) How is a peptide bond formed?

(g) What do you mean by rancidity of fats?

(h) What are glycogenic amino acids? Give an example. 1+1

2. Answer *any two* questions: 5×2=10

(a) What are heteropolysaccharides? Give two examples. Define gluconeogenesis. (2+1)+2

(b) How are saturated fatty acids classified? State the differences between saturated and un-saturated fatty acids. 3+2

(c) What are 'zwitterions'? State the differences between oxidative and non-oxidative deamination. 2+3

(d) What are cofactors? Discuss the effect of substrate concentration on enzyme activity. 2+3

3. Answer *any two* questions: 10×2=20

(a) Define isoelectric pH of a protein. Write a short note on different types of secondary structure of protein molecules. 2+8

(b) What do you mean by competitive and non-competitive inhibition of enzyme action? Discuss briefly about the Lineweaver Burk plot. 6+4

(c) Describe the process of ketogenesis. What does the saponification number of lipid indicate? Write the health benefits of PUFA. 5+3+2

(d) Write the importance of TCA cycle in cellular metabolism. Describe the enzymatic steps of the TCA cycle. 2+8
