



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY

Question Paper

B.Sc. Honours Examinations 2021

(Under CBCS Pattern)

Semester - II

Subject: NUTRITION

Paper : C 3-T & P

Nutritional Biophysics and Biochemistry

Full Marks : 60(Theory-40 + Practical-20)

Time : 3 Hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

[THEORY]

A. Answer *any two* of the following: 2×15=30

1. Classify lipoproteins and state their role in cardiovascular diseases. State the 1st law and 2nd law of thermodynamics. Mention the biological importance of protein. What are salting in and salting out properties of protein? 4+4+4+3
2. What is isoenzyme-state with example? Between “Lock and Key” model and “Induce Fit model” which one is better-give justification? What are the factors affecting the activity of enzymes? 3+5+7

3. Phosphofructokinase is the rate limiting enzyme or pacemaker of Glycolysis-explain it. Describe the pathway of Glycogenolysis. Why Krebs cycle is known as TCA cycle?

4+6+5

4. Why mitochondria is called power house of cell? Write the names of ketone bodies. Discuss the different steps of beta oxidation. Give the energetics of beta oxidation of 16 carbon fatty acids.

3+2+5+5

B. Answer *any one* of the following:

1×10=10

5. Write briefly the structure of DNA. How does Z DNA differ from other forms of DNA? Briefly describe the structure of tRNA.

4+2+4=10

6. Differentiate osmosis and diffusion. Write the different steps of ketone body formation with diagram.

4+6=10

[PRACTICAL]

Answer *any one* of the following:

1×20=20

7. Write down the recipe of buffer solution of 0.1 M PBS (pH 7.4) and 0.5M Tris HCl (pH 6.8).

8. Explain the principle and procedure of Agarose Gel Electrophoresis.
