SECTION 'C' **12 × 4 = 48**

(Long Answer Type Questions)

Note : *Answer the following questions in 500 words.*

1. Explain Backbone model of DNA.

Or

Explain structure and function of Membrane lipids.

2. Give structure and classification of amino acids.

Or

Explain methods of Protein sequencing with suitable example.

3. Explain structure and mechanism of any one multienzyme complex.

Or

Explain what is the effect of increasing concentration of substrate on enzyme catalyzed reaction.

4. Explain structure, synthesis and degradation of heme.

Or

Explain structure and functions of steroidal hormones.

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G-1/102/21 **Roll No.....**

I Semester Examination, April-2021

M.Sc.

BIOCHEMISTRY

Paper II

(Bio-Molecules)

Time : 3 Hours] [Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections.* ***Section A*** *is objective type/Multiple Choice questions with no internal choice.* ***Section B*** *is short answer type with internal choice.* ***Section C*** *is long answer type with internal choice.*

SECTION 'A'

(Multiple Choice Questions)

Choose the correct answer : **8×1 = 8**

1. Sucrose is not a reducing monosaccharide. Which of the following is a correct reason to explain it ?

(a) Sucrose has 1→ 2 bond between glucose and fructose units.

(b) Sucrose has 1→ 4 bond between glucose and fructose units.

(c) Sucrose has 1→ 6 bond between glucose and fructose unit

(d) All of the above.

2. Which of the following factor responseble to rotate DNA double helix right handed ?

(a) Hydrophobic force within the helix

(b) Ion strength inside and outside of the helix

(c) Both

(d) None of the above

3. Which of the following factor responsible to form Zwitter ion of amino acid ?

(a) Amine group of amino acid is act as strong base

(b) Carboxylic group of amino acid is act as strong acid

(c) R group has no charge

(d) Amino group and acid group has same strength

4. Rotation of C_α—C bond and N— C_α bond is restricted due to :

(a) Nature of R group (b) Nature of peptide bond

(c) Both (d) None

5. Which of the following statement is correct about K_M and enzyme substrate binding :

(a) Enzyme with greater value of K_M bind more strongly with substrate

(b) Enzyme with lower value of K_M bind less strongly with their substrate

(c) There is no relation between K_M and strength of Enzyme substrate binding. K_M state only the concentration of substrate of which Enzyme recognize and bind with their substrate

(d) All of the above are true.

6. Isoenzymes are :

(a) Catalyzes same reaction but present in different sites

(b) Present in same sites but catalyses different reactions

(c) Both are true

(d) All of the above are not true

7. Which of the following is a derivative of vitamin Riboflavine :

(a) FAD (b) NAD

(c) Biocytine (d) Heme

8. Which of the following compound present in cytochrome and haemoglobin ?

(a) Heme

(b) Iron-sulphur Protein

(c) Iron centre without Heme

(d) All of the above

SECTION 'B' **6 × 4 = 24**

(Short Answer Type Questions)

Note : *Answer the following questions in 250 words.*

Write short notes on :

1. Reducing Property of carbohydrates.

Or

Chemical and physical properties of Fatty acids.

2. Zwitter ion and Isoelectro Focussing.

Or

Ramchandran Plot.

3. Enzyme Specificity constant.

Or

Enzyme inhibition.

4. Importance of Porphyrins in biology.

Or

Proteinecious hormones.