Or

Write a note on allosteric enzymes with example.

4. Compare Insulin and Glucagon hormone in context with their structure, function and medical conditions due to imbalance in these harmones.

Or

Describe structure and function of chlorophyll pigment.

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G-1/137/21 **Roll No.……...**

I Semester Examination, April-2021

M.Sc.

MICROBIOLOGY

Paper III

(Biomolecules and Enzymology)

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'

(Objective Choice Questions)

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

1. Which of the following are example of Epimers :

(a) Glucose and Ribose

(b) Glucose and Galactose

(c) Glucose and Fructose

(d) Ribose and Ribulose

2. In DNA the phosphate group of one nucleotides joins to which group of another nucleotide :

(a) Phosphate group (b) Nitrogenous base

(c) Sugar (d) None of the above

3. Which of the following amino acids has two identical group attached to its α carbon :

(a) Alanine (b) Valine

(c) Serine (d) Glycine

4. Which of the following amino acid favours occurrence of a turn :

(a) Alanine (b) Valine

(c) Proline (d) Glutamic acid

5. In competitive inhibition, inhibitor bears a close similarity with :

(a) Prosthetic group (b) Cofactor

(c) Substrate (d) Coenzyme

6. Which of the following enzyme inhibition show increased K_m values :

(a) Competitive inhibition

(b) Non-competitive inhibition

(c) Un-competitive inhibition

(d) Feedback inhibition

7. Side chain of porphyrin are :

(a) Methyl and vinyl (b) Propionyl and Acetyl

(c) Ethene (d) (a) and (b) both

8. Which of the following vitamin helps in blood clotting :

(a) Vitamin A (b) Vitamin C

(c) Vitamin E (d) Vitamin K

SECTION'B' **6 × 4 = 24**

(Short Answer Type Questions)

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

1. Distinguish glycerophospholipids and sphingophospholipids.

Or

Describe structure and function of Nucleotides.

2. Classify amino acids on the basis of polarity of R group.

Or

Write a short note on Quaternary structure of proteins.

3. Write a short notes on rules of nomenclature of enzymes.

Or

How pH and temperature affects the rate of enzyme catalysed reaction ?

4. Enlist three animal hormones and their biological functions.

Or

Write a short note on fat soluble vitamin D and its biological importance.

SECTION'C' **12 × 4 = 48**

(Long Answer Type Questions)

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

1. Describe in detail about polysaccharides, their structure and biological functions.

Or

Describe structure and function of complex lipids.

2. Classify protin on the basis of composition and solubility and biological functions.

Or

Describe in detail structure of Myoglobin.

3. Describe in detail different types of enzymes inhibition and their practical implication.