

G-1/106/21

Roll No.....

I Semester Examination, April-2021

M.Sc.

BIOTECHNOLOGY

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. As the pKa of an acid increases, the acid will be :
(a) more weaker (b) more stronger
(c) converted to neutral solution
(d) converted to basic solution
2. Normal pH of blood is :
(a) 7·0 (b) 7·2
(c) 7·3 (d) 7·4
3. The pathway for glucose synthesis by non-carbohydrate precursors is :
(a) Glycogenesis (b) Glycolysis
(c) Gluconeogenesis (d) Glycogenolysis
4. The linkage found in maltose is :
(a) Glucose (α 1–2 β) Fructose

P.T.O.

[2]

- (b) Glucose (α 1–4) Glucose
 (c) Galactose (β 1–4) Glucose
 (d) Glucose (β 1–4) Glucose
5. Fat storing cells of vertebrates are called :
 (a) Hepatocytes (b) Astrocytes
 (c) Adipocytes (d) Melanocytes
6. Biosynthetic source of all steroid hormones is :
 (a) Cholesterol (b) Ketone bodies
 (c) Carbohydrate (d) Protein
7. The following are the example of nucleosides except :
 (a) Adenosine (b) Cytidine
 (c) Cytosine (d) Uridine
8. Which of the following is a component of the coenzyme A ?
 (a) Retinol (b) Panthothenic acid
 (c) Pyridoxine (d) Retinoic acid

SECTION 'B'

6 × 4 = 24

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.

1. Write a note on importance of water in metabolism.

Or

Write a note on significance of principle of thermodynamics in living system.

2. Write a note on classification of carbohydrates.

Or

Describe HMP pathway.

[3]

3. Describe structure and function of triglycerides.

Or

Discuss the pathway of phospholipids.

4. Write a note on biosynthesis of Purines.

Or

Describe structure and function of water soluble vitamins.

SECTION 'C'

12 × 4 = 48

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.

1. Describe the mechanism of hydrolysis of ATP and other organophosphates.

Or

Describe the different types of bonds present in biomolecules and their significance.

2. Describe the process of glycogenesis and glycogenolysis.

Or

Discuss the process of Regulation of blood glucose.

3. Discuss of metabolism of triglycerides.

Or

Discuss classification, structure and functions of lipids.

4. Describe biosynthetic pathway of pyrimidines.

Or

Describe structure and functions of nucleoproteins.

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