

No. of Printed Pages : 03

Roll No.

32097

B.Sc. EXAMINATION, 2025

(Second Semester)

(Re-appear Only)

BIOTECHNOLOGY

Paper-IV

Biochemistry-II

Time : 3 Hours]

[Maximum Marks : 40

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. Answer the following : $2 \times 4 = 8$

- (i) Fat soluble vitamins
- (ii) Beta oxidation of fatty acids
- (iii) Glycolysis
- (iv) K_m and V_{max} .

Unit I

2. (a) Explain the various characteristics of enzymes.

(b) Write about lock and key hypothesis of enzyme action. $4 \times 2 = 8$

3. Describe the regulation of enzyme activity in detail. 8

4. Write about structure and functions of steroid hormones. 8

Unit II

5. Write short notes on the following : $4 \times 2 = 8$

- (a) Tricarboxylic acid cycle
- (b) Urea cycle.

6. (a) Discuss the Gluconeogenesis and Glycogenolysis.

(b) Explain the Ketogenic amino acids.

$4 \times 2 = 8$

7. Elaborate the amino acid metabolism specifically focusing on transamination, oxidative deamination and decarboxylation. 8

