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NB—05—2023

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New Pattern)

BIOTECHNOLOGY

(Basics of Enzymology)

(Thursday, 30-11-2023)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :- (i) All questions are compulsory.

(ii) All questions carry equal marks.

1. Discuss general characteristics and classification of enzyme with examples. 15

Or

(a) Explain metal activated enzymes with example. 8

(b) Discuss coenzymes and cofactor. 7

2. Define enzyme inhibition. Discuss various types of enzyme inhibition. 15

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Or

- (a) Describe in detail mechanism of enzyme active site. 8
- (b) Discuss mechanism of enzyme catalysis 7
3. Describe in detail immobilization of enzyme and its application in medicine. 15
- Or
- (a) Discuss purification of enzyme using ion exchange chromatography. 8
- (b) Discuss in detail isolation of enzymes. 7
4. Describe in detail various factors affecting the enzyme activity. 15
- Or
- (a) Discuss Michealis-Menten-equation. 8
- (b) Explain significance of K_m and V_{max} and LB plot. 7
5. Write short notes on (any *three*) 5×3=15
- (a) Ultrafiltration
- (b) Allosteric enzymes
- (c) Transition State Hypotheses
- (d) Enzyme unit
- (e) Holoenzyme.

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