

AQ-914

M.Sc. Semester—II (CBCS Scheme) Examination

MICROBIOLOGY

(Enzyme Technology)

Paper—VI

Time : Three Hours]

[Maximum Marks : 80

Note :—ALL questions are compulsory and carry equal marks.

1. (a) What are the biochemical reactions catalyzed by Pyridoxal Phosphate. 8
- (b) Write note on metalloenzyme. 8

OR

Explain the concept of enzyme and substrate specificity. 16

2. Explain the role of pyruvate dehydrogenase complex as a multienzyme complex. 16

OR

- (a) Explain the regulation of glycogen phosphorylase activity by covalent modification. 8
- (b) Explain feedback control mechanism in metabolic regulations. 8

3. What are allosteric enzymes ? How do they differ from other enzymes ? Explain with suitable examples. 16

OR

Explain the mechanism of Lac operon in detail. 16

4. (a) How does mitochondria function as a host for providing compartment to enzymes ? 8
(b) Explain how the kinetics of immobilized enzymes differ from that of the Soluble enzymes ? 8

OR

Why are enzymes and substrates compartmented ? Explain with suitable examples, how shuttle system operates for transfer of metabolites in and out of the cellular compartments. 16

5. Describe the various methods for enzyme immobilization. Explain different types of enzyme reactors. 16

OR

What are enzyme sensors ? Explain its use for clinical and environmental analysis. 16