

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012****Subject code: 170401****Date: 26/12/2012****Subject Name: Enzymes and Proteins****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Define term enzyme inhibition. Enlist and explain various enzyme inhibitions. **07**
(b) Enlist various methods of purification of enzymes. Discuss any one in detail. **07**
- Q.2 (a)** Explain the term enzyme. Write in detail different classes of enzyme. **07**
(b) What do you understand by term protein folding? Explain the significance of protein folding in biological systems. **07**
- OR**
- (b)** Describe in detail any one hypothesis in depicting the specificity of Enzyme-Substrate reactions. **07**
- Q.3 (a)** Discuss in detail Gro EL- Gro ES mechanism for protein folding. **07**
(b) Give brief introduction to protein structure. **07**
- OR**
- Q.3 (a)** Explain the effect of denaturants on rates of folding and unfolding with chevron plots. **07**
(b) Explain multi-subunit proteins and protein-DNA interactions **07**
- Q.4 (a)** Classification of protein folding patterns **07**
(b) Derive the Michelis – Menten equation. **07**
- OR**
- Q.4 (a)** Define the term chromatography. Explain any one chromatography technique in detail. **07**
Q.4 (b) Discuss in detail the principle of electrophoretic techniques for purification of protein. **07**
- Q.5 (a)** Explain in detail allosteric regulation of enzymes with suitable example. **07**
(b) What do you mean by term enzyme immobilization? Discuss the techniques of immobilization of enzymes in brief. **07**
- Q.5 (a)** Write a note on commercial application of enzymes in food and pharmaceutical industries. **07**
(b) Describe in detail how amino sequence determines protein structure. **07**
