Seat No.: _____ Enrolment No._____

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**

****