Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – WINTER 2013

Subject Code: 170401 **Date: 26-11-2013**

Subject Name: Enzymes and Proteins

Time: 10:30 TO 01:00 **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Write a detail description on Classification of Enzymes with suitable example.	**07**
	(b)	Discuss the mechanism of enzyme action as catalyst.	**07**
Q.2	**(a)**	Derive the Michalis – Menton equation.	**07**
	(b)	What are the effects of temperature and pH on activity of enzyme?	**07**
		OR	
	(b)	Explain various methods to determine protein structure.	**07**
Q.3	**(a)**	Define the term enzyme immobilization. Discuss physical and chemical techniques for enzyme immobilization.	**10**
	(b)	Write a note on advantages and disadvantages of enzyme immobilization.	**04**
		OR	
Q.3	**(a)**	Discuss in detail various types of inhibition with suitable example.	
	(b)	Define the term cooperativity. Discuss the Monod changeux wyman model for allosteric regulation of enzyme.	
Q.4	**(a)**	Give significances of enzyme purification. Enlist and explain how one can go for selection of purification technique depending upon enzyme properties?	**07**
	(b)	Describe in detail about strategies can be adopted for purification and characterization of any enzyme.	**07**
		OR	
Q.4	**(a)**	What do you mean by molecular chaperones? How Gro EL and Gro ES mediate the function of protein folding at cellular level?	**07**
	(b)	Describe about classification of protein folding pattern.	**07**
Q.5	**(a)**	Write in detail about protein expression pattern in space and time.	**07**
	(b)	Write a note on computing in protein science.	**07**
		OR	
Q.5	**(a)**	Define the term chromatographic techniques. Discuss the principle of it. Enlist various chromatographic techniques with its characteristics features.	**07**
	(b)	Enlist and explain the uses of enzyme in pharmaceuticals and food industry.	**07**

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