

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIIth SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 170401****Date: 24/05/2012****Subject Name: Enzymes & Proteins****Time: 02:30 pm – 05:00 pm****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) What is protein folding? Comment on the protein modular structure and protein evolution. **07**

(b) Describe different levels of protein organization. **07**

Q.2 (a) How base sequence in the DNA determines the amino acid sequence in protein? **07**

(b) What is protein structure? How native state of protein structure is stabilized? **07**

OR

(b) How can you determine the structures of different proteins? **07**

Q.3 (a) Compare and contrast the physical and chemical techniques used for the immobilization of enzymes. **07**

(b) How protein functions are integrated? Can the functions of different proteins be controlled? **07**

OR

Q.3 (a) Explain the principle, procedure and applications of thin layer chromatography. **07**

(b) Explain the principle, procedure and applications of affinity chromatography. **07**

Q.4 (a) Discuss the use of computer in the field of protein science. Explain the expression pattern of proteins in space and time. **07**

(b) Describe the interaction of protein with ligand and comment on the catalysis by enzymes. **07**

OR

Q.4 (a) What are homologous proteins? Describe the evolution of globins and NAD binding domains of dehydrogenases. **07**

(b) Discuss competitive, non-competitive and uncompetitive methods of enzyme inhibition. **07**

Q.5 (a) Explain the “Lock and Key” hypothesis of enzyme action. Enlist different classes of enzymes with suitable example. **07**

(b) Comment on the specificity of enzyme with suitable example. **07**

OR

Q.5 (a) Explain the principle and procedure of electrophoresis technique used for the purification of proteins. **07**

(b) What are molecular chaperons? Give classification of molecular chaperons and describe their roles in protein folding. **07**
