(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 154653 **Roll No.** □□□□□□□□□□□

B.Tech.

(SEM. VI) THEORY EXAMINATION 2013-14
ENZYME AND PROTEIN ENGINEERING

Time : 2 Hours 　　　　　　　　　　　　　*Total Marks : 50*

Note :– Attempt **all** questions. Question No. 1 is compulsory.

1.　Attempt any **two** parts of the following : 　　　　(7×2=14)

　　(a)　What is enzyme engineering ? Discuss the role of genetic engineering in stabilizing an enzyme.

　　(b)　What are the functional classes of enzyme ? Define the classification of immobilized enzymes.

　　(c)　How are enzyme active sites formed ? Discuss the phenomena of allosterism.

2.　Attempt any **two** parts of the following : 　　　　(6×2=12)

　　(a)　What are the properties of immobilized enzyme ? Discuss the application of immobilized enzyme in biotechnology.

　　(b)　What are diffusional resistances for immobilized enzyme ? How does it affect the rate of chemical transformation ?

　　(c)　Classify the enzyme reactors and discuss the perfomance of immobilized enzyme in various reactor configurations.

3. Attempt any **two** parts of the following : (6×2=12)

   (a) Define the process of protein synthesis. How does confirmation of proteins identified experimentally ?

   (b) What are the factors affecting the performance of enzymatic reaction ? Explain the various parameters used to evaluate efficiency of enzyme reactors.

   (c) What do you mean by enzyme specificity ? Discuss the effect of amino acid substitution on protein conformation.

4. Write short notes on any **two** : (6×2=12)

   (a) X-Ray crystallography and protein structure determination

   (b) Site directed mutagenesis and protein function

   (c) Protein engineering and DHFR.