

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

Paper ID : 154653

Roll No.

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B.TECH.

Theory Examination (Semester-IV) 2015-16

ENZYME AND PROTEIN ENGINEERING

Time : 3 Hours

Max. Marks : 100

Section-A

1. Attempt all questions :

(2×10=20)

- (i) Give the application of immobilized enzymes over normal enzymes.
- (ii) What do you understand by folding of protein?
- (iii) What are allosteric enzymes? Explain with example.
- (iv) What is alpha helix and beta sheet?
- (v) What is quasi steady state?
- (vi) Give the name of commonly used adsorbents in enzyme immobilization techniques.

- (vii) What do you understand by effectiveness factor?
- (viii) Explain the kinetics of inhibition of immobilized enzyme.
- (ix) What is micro encapsulation? Give the application of micro encapsulation technique.
- (x) What is site directed mutagenesis and how it helps to determine function of proteins.

Section-B

2. Attempt any FIVE of the following (10×5=50)

- (a) Give the difference between Packed bed and Fluidized bed reactor.
- (b) Give industrial application of immobilized enzyme.
- (c) Explain basic concepts for designing a new protein and enzyme molecules.
- (d) What is immobilization of enzyme?
- (e) Explain adsorption method of enzyme immobilization.
- (f) What do you mean by translation?
- (g) What are essential and non essential amino acids?
- (h) Give the name of physical methods used for determination of protein structure.

Section-C

Attempt any two of the following.

(15×2 = 30)

3. Explain X-Ray crystallography method of protein structure determination.
4. What is bioreactor? Explain working mechanism of CSTR and Plug flow bioreactor.
5. Discuss biosynthesis of protein with suitable diagram.

