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

Paper ID : 154413 Roll No. | | | | | | | | | |

B.TECH.

Theory Examination (Semester-IV) 2015-16

ENZYME ENGINEERING

Time : 3 Hours *Max. Marks : 100*

Section-A

Q.1 Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)

(a) What is the importance of prosthetic group in an enzyme?

(b) What is the unit of Michaelis Menten constant?

(c) Sketch lineweaver-burk plot showing the effect of competitive inhibition.

(d) Differentiate activation and deactivation energy of enzymes.

(PBR) and fluidized bed reactor (FBR)?

(j) Write down the element of biosensors.

Section-B

Q2. Attempt any five parts. All parts cany equal marks: (5×10=50)

(a) Derive a Michaelis-Menten equation for enzyme catalyzed reaction.

(b) Describe the co-operative behaviour of hemoglobin through concerted and sequential model.

(c) Describe diagrammatically purification of enzyme through affinity chromatography.

positive feedback inhibition with appropriate example.

(h) Write the applications of immobilized enzyme system.

Section-C

Attempt any two questions from this section. (2×15=30)

Q3. Explain the matrix entrapment of enzyme in brief. Write advantages and disadvantages of immobilization of enzymes by matrix entrapment. Give two examples of immobilization of enzymes by matrix entrapment.

Q4. Explain two methods for estimation of total protein.

Q5. Derive Michaelis-Menten equation for uncompetitive inhibition. Draw the lineweaver burk plot showing the effect of uncompetitive inhibition.