

Code :R5322302

R5

III B.Tech II Semester(R05) Supplementary Examinations, April/May 2011  
ENZYME ENGINEERING  
(Biotechnology)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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1. What are the different procedures used in protein purification? Discuss in detail.
2. Write in detail about the isolation of extra cellular enzymes from plant cells.
3. Enumerate Lock and Key model and Koshland's induced fit model.
4. Derive the mathematical expression for un-competitive inhibition.
5. (a) What are the desired ideal features of carriers or supports used in the immobilization of enzymes.  
(b) What are the commonly exploited aminoacids of the enzyme for covalent coupling to the matrix in the immobilization of enzymes.
6. (a) What is mass transfer effect.how to increase the mass transfer coefficient in an immobilized enzyme system.  
(b) What are the combined effects of bulk substrate concentration and substrate modulus on the effectiveness factor in immobilized enzyme catalysed reaction.
7. (a) Discuss the relation between enzyme content to the fractional conversion in CSTR and PBR.  
(b) Discuss the change in the productivity of a PBR and CSTR with time.
8. Write the principle,mode of operation advantages and disadvantages and applications of calorimetric biosensors.

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