Code No: RR222303 **Set No.1**

II B.Tech. II Semester Regular Examinations, April/May -2005
ENZYME ENGINEERING AND TECHNOLOGY
(Bio-Technology)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss the importance of enzymes in pharmaceutical industry?
2. Describe the procedures of enzyme isolation from natural sources.
3. Explain substrate strain and transition state theory.
4. Derive Michaelis-Menten equation. State the importance of MM constant.
5. How Koshland-Nemethy-Filmer (KNF) model account for allosteric regulation.
6. Discuss the important criteria and prerequisite for selecting support for enzyme immobilization
7. Give an account of different types of immobilized enzyme reactors.
8. Enumerate the application of enzymes in analysis.

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Code No: RR222303 **Set No.2**

II B.Tech. II Semester Regular Examinations, April/May -2005
ENZYME ENGINEERING AND TECHNOLOGY
(Bio-Technology)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What are enzymes? Justify its role as biocatalysts.
2. How are enzymes characterized? What are the importances of enzyme characterization?
3. Distinguish between the lock & key and Induced Fit models for binding of a substrate to an enzyme.
4. Write the significance of MM equation.
5. How Koshland-Nemethy-Filmer (KNF) model account for allosteric regulation.
6. Write a brief note about different techniques employed for immobilizing enzymes
7. Give an account of fluidized bed reactor. State its important applications.
8. Discuss the design of enzyme electrodes.

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Code No: RR222303 **Set No.3**

II B.Tech. II Semester Regular Examinations, April/May -2005
ENZYME ENGINEERING AND TECHNOLOGY
(Bio-Technology)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss enzyme classification in terms of four-digit classification number?
2. Describe the procedures of enzyme isolation from natural sources.
3. Discuss why the lock & key model could lead to an inefficient enzyme mechanism and induced fit model to an efficient enzyme mechanism.
4. Derive Michaelis-Menten equation. State the importance of MM constant.
5. What are substrate and product inhibition? Explain.
6. Discuss in detail about the across linking method for enzyme immobilization.
7. Discuss about the dynamic models of bioreactors.
8. Write the application of enzyme electrodes as biosensor in various industries.

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Code No: RR222303 **Set No.4**

II B.Tech. II Semester Regular Examinations, April/May -2005
ENZYME ENGINEERING AND TECHNOLOGY
(Bio-Technology)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. State the importance of enzymes in medical diagnosis.
2. What are the analytical techniques employed fro obtaining highly purified enzyme preparation.
3. Explain substrate strain and transition state theory.
4. Discuss about the Eadie-Hofstee and Hanes plot and state their edge over the LB plot.
5. What are substrate and product inhibition? Explain.
6. Discuss the important criteria and prerequisite for selecting support for enzyme immobilization
7. Define and explain intraparticle diffusion and reaction.
8. Enumerate the application of enzymes in analysis.

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