B. Tech.
(SEM. VI) EXAMINATION, 2006-07
ENZYME ENGINEERING

Time : 2 Hours] [Total Marks : 100

Note : Attempt all questions.

1. Attempt any four parts of the following : 10
   (a) Write a short note on various techniques used for enzyme immobilization.
   (b) Discuss briefly a few applications of immobilized enzymes.
   (c) What do you mean by “Effectiveness Factor” for enzyme reactors?
   (d) Discuss briefly the external and internal mass transfer
   (e) Comment on heterogeneous reactions in bioprocessing.

2. Attempt any four parts of the following : 10
   (a) What are the parameters affecting the performance of enzyme reactors?
   (b) Discuss briefly the applications of enzymes in pharmaceutical industry.
   (c) Discuss briefly the application of enzymes in chemical industry.

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(d) Discuss briefly the starch conversion process.
(e) Discuss very briefly various types of enzyme reactors.

3. Attempt any two parts of the following:
   (a) What are the parameters affecting the performance of enzyme reactors? Discuss.
   (b) Discuss the various techniques for enzyme immobilization with suitable examples.
   (c) Discuss the various operational strategies of immobilized enzyme reactors.

4. Attempt any two parts of the following:
   (a) Discuss some applications of enzyme in food, leather and textile industry.
   (b) Discuss some applications of enzyme in medicine.
   (c) Write an essay on biosensors as analytical tools.