STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2008 – 09)

SUBJECT CODE: BY/PC/ET35

M. Sc. DEGREE EXAMINATION, NOVEMBER 2009
BIOTECHNOLOGY
THIRD SEMESTER

COURSE : CORE
PAPER : ENZYME TECHNOLOGY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

Answer all questions: **(20 x 1 = 20)**

1. Define a biocatalyst.
2. What is the rate determining step in a reaction?
3. What are enzyme inhibitors?
4. What are multisubstrate reactions?
5. Explain active site.
6. List out a few enzyme activators.
7. What are zymogens? Give examples.
8. Define allosteric enzymes.
9. What are native enzymes?
10. Define ribozymes.
11. What are carriers?
12. Define mass transfer.
13. What is PFR?
14. Define ideal reactors.
15. What are the matrices used to immobilize enzymes?
16. What is Aspect Ratio for fermentation?
17. Define enzyme mimicking.
18. What are biosensors?
19. Explain artificial enzymes.
20. Why is head space required in a fermenter?

..2

SECTION – B

Answer any four questions in about 600 words : (4 x 10 = 40)

21. Explain King and Altman procedure.
22. Explain pre-steady state kinetics.
23. Differentiate between DNA polymerases and RNAases.
24. What are the characteristics and properties of immobilized catalysts?
25. Explain CSTR and PFR.
26. How are enzymes used as biosensors?

SECTION – C

Answer any two questions each in about 1500 words: (2 x 20 = 40)

27. How is the active site of an enzyme determined? What are allosteric enzymes?
28. How are immobilized enzymes prepared ?Give their applications.
29. Write short notes on:
    a) Membrane reactor
    b) Fluidized bed reactor.
30. Write short notes on
    a) Enzymes in the food industry
    b) Unnatural substrates.

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