STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11BY/PC/BE34

M. Sc. DEGREE EXAMINATION - NOVEMBER 2014
BIOTECHNOLOGY
THIRD SEMESTER

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

SECTION – A

ANSWER ALL QUESTIONS. (20 x 1 = 20)

1. Biosensors
2. Artificial Enzymes
3. Reverse Osmosis
4. Fermentation
5. Two Phase of Aqueous Extraction
6. GRAS
7. GILSP
8. Sparger
9. Biocatalyst
10. Oxygen transfer rate
11. Baffles
12. ALF
13. Rotameter
14. Chemostat
15. K_d
16. Darcy equation
17. Partition Coefficient (K)
18. Dialysis
19. Retention time
20. Lyophilization

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SECTION – B

ANSWER ANY FOUR QUESTIONS: (4 x 10 = 40)

21. Write short notes on solid state fermentation.
22. Give an account on Affinity Column Chromatography.
23. Derive the equation of thermal death kinetics of micro-organisms.
24. Explain briefly about media formulation for industrial fermentation.
25. Write short notes on Immobilized enzyme systems.
26. Discuss on Gas – Liquid mass transfer.

SECTION – C

ANSWER ANY TWO QUESTIONS: (2 x 20 = 40)

27. List the types of bioreactors and explain about any three in detail.
28. Write an account on four phases of growth and kinetics involved in all types of fermentation processes.
29. Explain the various methods for recovery and purification of intracellular products.
30. Write a detailed note on principle of biosensor, its types and application in various industries.

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