

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BY/PC/EB34

M. Sc. DEGREE EXAMINATION - NOVEMBER 2018
BIOTECHNOLOGY
THIRD SEMESTER

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

SECTION – A

ANSWER ALL QUESTIONS

(20 x 1 = 20)

1. Define Km.
2. State transition state theory.
3. What is relative specificity?
4. Give an example for Lyase.
5. Write any two properties of immobilized enzymes.
6. How will you determine Vmax?
7. What is reversible inhibition?
8. List any two applications of immobilized enzymes.
9. What are the control systems in fermentor?
10. What do you mean by filter sterilization?
11. What are the advantages of fed-batch culture?
12. Write any two uses of bioprocess technology.
13. Give the principle of packed bed reactor.
14. Expand CSTR.
15. Define yield coefficient.
16. List any two advantages of aerobic culture.
17. List any two techniques used in bioproduct analysis.
18. What is downstream processing?
19. Give any two uses of lyophilization techniques.
20. What is reverse osmosis?

SECTION – B**ANSWER ANY FOUR QUESTIONS:****(4 x 10 = 40)**

21. Discuss the factors affecting the rate of chemical reaction.
22. Give a brief account of irreversible inhibition.
23. What are the criteria required for media optimization ? Add a note on different carbon and nitrogen sources.
24. Write short notes on solid state fermentation.
25. Discuss the methods for the analysis of intracellular products.
26. Briefly explain the product formulation and finishing.
27. Explain the mechanism of enzyme action.

SECTION – C**ANSWER ANY TWO QUESTIONS:****(2 x 20 = 40)**

28. Outline the IUB system of enzyme classification with examples.
29. Explain the kinetics of multisubstrate enzyme catalyzed reaction.
30. Give a detailed account on different types of bioreactors with a neat labeled diagram.
31. Discuss the techniques used for product isolation and purification.
