

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2005 – 2006 & thereafter)

SUBJECT CODE: ZL/MC/IN64

B. Sc. DEGREE EXAMINATION APRIL 2009
BRANCH VI.A. ADVANCED ZOOLOGY & BIOTECHNOLOGY
SIXTH SEMESTER

COURSE : MAJOR –CORE

PAPER : INDUSTRIAL BIOTECHNOLOGY

TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS

(10 X 3 = 30)

1. Mention the different types of Impellers used in fermenters.
2. What is the principle of a bubble column fermenter?
3. Comment on Stock Cultures.
4. Briefly explain Continuous fermentation.
5. Mention any two microorganisms that are used for the production of Streptomycin, Acetone and Butanol.
6. List out the nutrients that are necessary in a culture medium.
7. What are single cell proteins?
8. Define Biomass.
9. Define Enzymes.
10. What are the uses of Immobilized enzymes?

SECTION – B

ANSWER ANY FIVE QUESTIONS

(5 X 6 = 30)

11. What are the parts required to construct a fermenter? Explain.
12. Explain in detail the process of scale up in fermentation.
13. Give an account on the types of fermentation media used in fermentation.
14. Illustrate any two bioreactors in details.

15. Explain the production process of Spirulina.
16. How is Amylase produced commercially? What are its uses?
17. Write an account on Proteolytic Enzymes.

SECTION – C

ANSWER ANY TWO QUESTIONS

(2 X 20 = 40)

18. Give a detailed account on Biological Waste Treatment procedures.
19. What is Sterilization? What are the different types of heat and filter sterilization used?
20. Explain the Analytical methods involved in the separation and purification of Enzymes.
21. Write short notes on
 - a. Production of Pectinase
 - b. Production of Vitamin A
