



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

SIXTH SEMESTER – APRIL 2016

PB 6609 - FERMENTATION TECHNOLOGY

Date: 18-04-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART A

Answer the following, each within 50 words only

(10 x 2 = 20 marks)

1. Define fermentation.
2. What is biotransformation?
3. What is primary screening?
4. Define lyophilization.
5. What are spargers?
6. What are baffles?
7. Define a sensor.
8. What is *in situ* sterilization?
9. Define sonication?
10. What is adsorption chromatography?

PART B

Answer the following, each within 500 words. Draw diagrams wherever necessary.

(5 x 7 = 35 marks)

11. a. Give a historical account of fermentation processes.
(or)
b. Outline the overall processes in fermentation industries.
12. a. What are the various carbon sources used in medium formulation?
(or)
b. Discuss about the microbial growth during fermentation.
13. a. Write notes on asepsis and maintenance of sterility in a fermentor.
(or)
b. Give an account on fluidized bed reactor and bubble column reactor.
14. a. Briefly describe about online monitoring of fermentation process.
(or)
b. Write notes on biosensors and their application in fermentors.
15. a. Write notes on cell separation and disruption techniques.
(or)
b. Give a brief account on effluent treatment in fermentation industries.

PART C

Answer any three of the following, each within 1200 words. Draw diagrams wherever necessary. (3 x 15= 45 marks)

16. Write detailed notes on the range of products from fermentation based industries.
17. Explain about the methods used in isolation and preservation of industrially important microbes.
18. Give a detailed account on the structure of a typical fermentor and explain its parts.
19. Explain in detail about the control of pressure, temperature and flow in fermentors.
20. Write detailed notes on the chromatographic techniques used in product separation and purification.
