

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



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

**SIXTH SEMESTER – APRIL 2018**

**PB 6609– FERMENTATION TECHNOLOGY**

Date: 03-05-2018  
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

**PART A**

**Answer the following, each within 50 words.**

**(10 x 2 = 20marks)**

1. What is continuous culture?
2. Define starter culture.
3. What is lag phase?
4. Define semisynthetic media.
5. What are spargers?
6. What is a turbidometer?
7. What are photobioreactors?
8. Define biosensors.
9. What is centrifugation?
10. Define downstream processing.

**PART B**

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

**(5 x 7 = 35marks)**

11.a. Write an account on the types of fermentation.

**[OR]**

b. Write an account on biotransformation of secondary metabolites.

12.a. Discuss the various types of media used in industrial fermentation

**[OR]**

b. Differentiate fed-batch and continuous culture.

13.a. Write about the basic structure of a fermentor.

**[OR]**

b. How is aseptic condition maintained in a fermentor?

14.a. Write notes on online monitoring device in fermentors.

**[OR]**

b. Write a detailed account on biosensors used in fermentors.

15.a. What are the factors that influence the end product in a fermentor.

**[OR]**

b. Write an account on chromatographic methods used in product recovery.

### **PART C**

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

16. Give a detailed account on the types of products obtained from microbial fermentation.

17. Write about the various methods used to isolate and improve the industrially important microorganisms.

18. Write about the various types of fermenters.

19. Write an essay on the various control systems used in the maintenance of a fermenter.

20. Describe the various steps in the production of fermented products.

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