



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

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

SIXTH SEMESTER – NOVEMBER 2016

**PB 6609 - FERMENTATION TECHNOLOGY**

Date: 16-11-2016  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART A ( 20 marks)**

**ANSWER THE FOLLOWING EACH WITHIN 50 WORDS ONLY:**

**( 10X2= 20)**

01. How is temperature control achieved in bioreactors ?
02. What is the use of antifoam agents? Mention a few commonly used antifoam agents.
03. Give examples of microbial products produced during idiophase.
04. What is Bio-transformation?
05. Distinguish between trophophase and idiophase.
06. Differentiate between online and offline sensors.
07. What are steam traps in fermentation industries?
08. Mention about cell disruption.
09. What is flocculation?
10. Which is the most crucial component of a fermentation process and why?

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

**ANSWER THE FOLLOWING, EACH ANSWER WITHIN 500 WORDS; DRAW DIAGRAMS WHEREVER NECESSARY.**

11. a. Give an account of the components of microbial fermentation process.  
(OR)  
b. Comment on the chronological development of the fermentation industry.
12. a. Write about the media preparation for industrial fermentation?  
(OR)  
b. Comment on growth kinetics of batch cultures.
13. a. Draw and describe any two types of fermentors.  
(OR)  
b. Enumerate the basic functions of a fermentor.
14. a. Highlight the role of computerized control systems for industrial fermentations.

(OR)

b. Write notes on biosensors.

15. a. Comment briefly on the application of chromatography in fermentation.

(OR)

b. Explain down stream processing.

**PART C ( 3 x 15 = 45 marks)**

**ANSWER ANY THREE OF THE FOLLOWING, EACH WITH 1200 WORDS; DRAW DIAGRAMS WHEREVER NECESSARY.**

16. Give an overview of the range of products obtained from industrial fermentations.

17. Describe the methods involved in improvement of industrially important microorganisms.

18. Explain the body constructions of a fermentor.

19. Discuss all the process variables for the industrial fermentation process.

20. Write an essay on the application of computers in a fermentation process.

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