

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

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & PLANT BIO-TECH.

FIFTH SEMESTER – NOVEMBER 2009

**PB 5400 - MICROBIAL TECHNOLOGY**

Date & Time: 12/11/2009 / 9:00 - 12:00 Dept. No.

Max. : 100 Marks

**PART A (20 marks)**

**Answer all questions**

**I. Choose the best answer**

**(5 x 1 =5)**

1. Molasses is used as a \_\_\_ source  
a) vitamin      b) nitrogen      c) carbon      d) inducer
2. Mycoprotein is obtained from  
a) *Aspergillus*      b) *Fusarium*      c) *Penicillium*      d) *Mucor*
3. Hepatitis B vaccine is used to immunize against  
a) TB      b) cholera      c) jaundice      d) typhoid
4. *Glucanobacter* is used in the production of  
a) Acetic acid      b) Lactic acid      c) Citric acid      d) Picric acid
5. Alginic acid is obtained from  
a) *Acetobacter*      b) *Pseudomonas*      c) *Leuconostoc*      d) *Vibrio*

**II. State whether the following statements are true or false.**

**(5 x 1 = 5)**

6. Spargers are used for aeration.
7. Yeast is used in production of SCP.
8. Human insulin can be produced by rDNA technology.
9. *Dunaliella salina* is a good source for  $\beta$ -carotene.
10. Dextran is a polysaccharide from fungi.

**III. Complete the following**

**(5 x 1 = 5)**

11. Whey powder is used popularly as a \_\_\_\_\_ source.
12. Pace way ponds are used in the cultivation of \_\_\_\_\_.
13. Immobilized enzymes are used in \_\_\_\_\_ process.
14. Acid protease is used in the production of \_\_\_\_\_.
15. Bt toxin is used in the control of \_\_\_\_\_.

**IV. Answer the following, each in about 50 words**

**(5 x 1= 5)**

16. What are baffles?
17. List any two lactic acid producing bacteria.
18. Mention two organisms used in production of vitamin B.
19. Define biotransformation.
20. What are bioplastics?

**PART B**

**Answer the following, each answer not exceeding 350 words. Draw diagrams and flow charts wherever necessary**

**( 5 x 7= 35)**

21. a. Explain the principles of fermentation process.  
(or)  
b. Write notes on the salient features of a fermentor.
22. a. Write notes on cheese production.  
(or)  
b. Give an account of beer production.
23. a. Explain about the process involved in vitamin B12 production.  
(or)  
b. Enumerate the methods involved in production of  $\beta$ - carotene.
24. a. Write short notes on production of acetic acid.  
(or)  
b. Give an account of lactic acid production.
25. a. Explain briefly about biopolymers and their application.  
(or)  
b. Discuss about biopesticide production.

**PART C**

**Answer any three of the following, each answer not exceeding 1200 words. Draw diagrams and flow charts wherever necessary**

**(3 x 15= 45)**

26. Explain about the structure of a fermentor.
27. Give detailed account of *Spirulina* production.
28. With a suitable example, explain the production of recombinant drug.
29. Explain about the steps involved in the production of citric acid.
30. Write detailed notes on Biofertilizers.

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