

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

SIXTH SEMESTER – APRIL 2022

UPB 6502 – MICROBIAL TECHNOLOGY

Date: 17-06-2022

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART – A

(10 x 2 = 20 Marks)

Answer the following, each within 50 words.

1. What is a pure culture?
2. What is downstream processing?
3. Comment on the importance of spargers.
4. What is ultrafiltration?
5. What is yoghurt? Mention the microorganisms used in the production..
6. Write about the advantages of probiotics. Give examples.
7. What is β lactum ring?
8. What are recombinant vaccines?
9. Write about the uses of amylase.
10. Mention the applications of citric acid.

PART – B

(5 x 7 = 35 Marks)

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

11. (a) Describe the method for the production of recombinant products studied by you.
(or)
(b) Elaborate on the methods to improve industrially important microorganisms.
12. (a) Explain the structure and applications of airlift bioreactors.
(or)
(b) Describe the basic requirements of culture media.
13. (a) Write an account on traditional fermented foods.
(or)
(b) Describe the method of wine production.
14. (a) Write an account on steroid transformation.
(or)
(b) Describe the method of streptomycin production.
15. (a) Write an account on exopolymer production and its applications.
(or)
(b) What are biofertilizers? Summarize their environmental significance.

PART – C

(3 X 15 = 45 Marks)

Answer any THREE of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.

16. Give an account of the following: a) Microbial biomass b) Microbial enzymes.
17. Describe the structure of a fermenter.
18. What are single cell proteins? Describe the mass cultivation of *Spirulina*.
19. Explain the industrial production of B12.
20. Describe the large scale production of L-glutamic acid.

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