



Date: 03-04-2024

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

### **Section A**

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

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

1. Define Idiophase.
2. Mention any two antibiotics.
3. Define spargers.
4. List any two probiotic food.
5. What are baffles?
6. Mention the sources of glutamic acid.
7. Mention the importance of plasmids with examples.
8. What are biopesticides?
9. Mention any two biopolymers.
10. Define biotransformation.

### **Section B**

**Answer ANY 4, each within 500 words. Draw diagrams and flowcharts wherever necessary.**  
**(4 x 10 = 40 marks)**

11. Write short notes on isolation of microorganisms.
12. Explain about induced mutagenesis.
13. Describe methods for preservation of microorganisms.
14. Write detailed notes production of cheese.
15. Briefly explain about the production of citric acid.
16. Explain about the production of recombinant insulin.
17. Write detailed notes on microbial enzymes.
18. Give an account on biofertilizers.

### **Section C**

**Answer ANY 2 of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.**  
**(2 x20 = 40 marks)**

19. Discuss in detail the various range of products obtained through fermentation.
20. Explain in detail about the stirred tank reactor.
21. Discuss in detail about beer and wine production.
22. Explain in detail about the production of penicillin and streptomycin.

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