

D 70950

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Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. DEGREE (REGULAR) EXAMINATION
NOVEMBER 2019**

General Biotechnology

GB 3C2—BIOPROCESS TECHNOLOGY

Time : Three Hours

Maximum : 36 Weightage

Section A

Answer all questions, each with weightage 1.

1. Protoplast fusion.
2. Air lift reactors.
3. Membrane filtration.
4. Antifoam agents.
5. Precursors and inhibitors.
6. Affinity chromatography.
7. Reynolds number.
8. Entrapment.
9. Bioethanol.
10. Acetators and cavitators.

(10 × 1 = 10 weightage)

Section B

Answer any seven questions, each with weightage 2.

11. Differentiate between solid state and submerged fermentation.
12. With a neat diagram explain the CSTR.
13. Explain the secondary screening strategies for selecting industrial organism.
14. Give an account of different recombinant products produced by bioprocess technologies.
15. Differentiate between batch, fed batch and continuous fermentation processes.
16. Explain the kinetics of microbial growth in batch culture.
17. What different up-stream operations ?
18. Write briefly on plug flow reactors.

Turn over

19. Explain Role of freeze drying in bioprocess.
20. Explain the significance of Mass transfer and oxygen transfer in bioprocess.

(7 × 2 = 14 weightage)

Section C

*Answer any **two** questions, each with weightage 6.*

21. Explain the different cell disruption strategies.
22. Detail the different methods of immobilization and their applications.
23. Explain the control of pH, temperature and DO in a bioprocess.

(2 × 6 = 12 weightage)