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(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2023**

Biotechnology

BTY 5B 09—BIOPROCESS TECHNOLOGY

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

**Section A (Short Answer Type Questions)**

*Answer any ten questions.  
Each question carries 2 marks.*

1. What is Chlorination ?
2. What is Entrapment ?
3. Industrial application of proteases.
4. Reverse osmosis ?
5. What is NTG ?
6. What is CSTR ?
7. Liquid Nitrogen.
8. What is Chemostat ?
9. What is dissolved oxygen ?
10. What is SSF ?
11. Secondary screening.
12. Solvent extraction.

(10 × 2 = 20 marks)

Turn over

**Section B (Paragraph Type Questions)**

*Answer any **six** out of seven questions.*

*Each question carries 5 marks.*

13. Explain microbe as a source of enzymes.
14. Microbial production of acetic acid.
15. Explain cell disruption methods for intracellular products.
16. Discuss about various parameters under fermentation process control.
17. Explain strain improvement by mutations.
18. Explain the types of valves used in a fermenter.
19. Microbial growth kinetics of Batch, fed-batch culture.

**Section C (Essay Type Questions)**

*Answer any **one**, which carries 10 marks.*

20. Write in detail about the fermentation process operation.
21. Explain different methods for the preservation of micro-organism.

(1 × 1