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VI Semester B.Sc. Degree Examination, August/September - 2023

**BIOTECHNOLOGY****Industrial Biotechnology****(CBCS Scheme Freshers 2020 onwards)****Paper - VII****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates :**

- i) All Sections are Compulsory.
- ii) Draw neat labelled diagram wherever necessary.

**SECTION - A****I. Write Short notes on the following****(5×2=10)**

1. Submerged Fermentation.
2. Air Lift Reactor.
3. Pilot Plant.
4. SCP
5. Industrial Amylase.

**SECTION - B****II. Answer any FOUR of the following.****(4×5=20)**

6. Write a note on maintenance of strain.
7. Give an account of sterilization of fermenters.
8. Explain the process of inoculum preparation.
9. Discuss the production of Citric acid.
10. Explain the importance of enzymes in food industry.

**[P.T.O.]**



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**SECTION - C**

**III.** Answer any **THREE** of the following.

**(3×10=30)**

11. Define fermenter. Explain typical fermenter with neat labelled diagram.
12. Explain Natural and synthetic Media in fermentation.
13. What is down streaming processing. Explain the process of
  - a) Separation of Cells
  - b) Extraction of product.
14. Explain in detail the production of Beer with Schematic diagram.
15. Describe the production of Pencillin.

**SECTION - D**

**IV.** Answer the following

**(10×1=10)**

16. Define HOPS.
  17. What are anti foaming agents.
  18. Explain SCP.
  19. What is Mollases.
  20. Name source of Citric acid production.
  21. Define Sparger.
  22. Expand MSG
  23. Mention any one enzyme used in leather industry.
  24. Define Strain.
  25. Instrument used for cell disruption.
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VI Semester B.Sc. Degree Examination, August/September - 2023

**BIOTECHNOLOGY****Bioinformatics, Bioentrepreneurship and Bioresearch  
(CBCS Scheme 2020 Freshers)****Paper - VIII****Time: 3 Hours****Maximum Marks : 70****Instructions to Candidates :**

- i) All Sections are compulsory.
- ii) Draw neat labelled diagram wherever necessary.

**SECTION - A****I. Write Short notes on the following. (5×2=10)**

1. System Software.
2. Organism specific data bases.
3. Bioethics.
4. Mention any two significant role of DBT
5. Objectives of research in Biology.

**SECTION - B****II. Answer any FOUR of the following. (4×5=20)**

6. Discuss the different databases maintained by NCBI.
7. Write the applications of Bio informatics.
8. Write a detailed note on BLAST - Tool.
9. Describe ban on Glyphosate GM plants and its environmental concern.
10. Explain Preparation and analysis of data.

**[P.T.O.]**

**SECTION - C**

- III. Answer any THREE of the following.** (3×10=30)
11. Write a note on :
    - a) Multiple sequence alignment.
    - b) Metabolomics and Proteomics.
  12. Explain copyright and BIRAC.
  13. Describe the Strategies and process of negotiation with financiers and add a note on GAAT.
  14. Explain the major Biotech companies in India and their Products.
  15. Discuss the importance of publication and documentation in research.

**SECTION - D**

- III. Answer the following in One word or a sentence each.** (10×1=10)
16. Define Operating System.
  17. Expand FASTA.
  18. Define Bioinformatics.
  19. What are Transcriptomics?
  20. Expand MSME.
  21. What is an Entrepreneurship ?
  22. Write the significance of Vit - A biosynthesis in Rice Plants.
  23. Expand JNCASR.
  24. Mention any two significance of Research.
  25. What are Hand books?
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