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VI Semester B.Sc./ B.C.U. Degree Examination July/August - 2024

**BIOTECHNOLOGY****Bioprocess and Environment Biotechnology****(NEP Scheme 2023-2024 Fresher)****Paper : VIII****Time : 2½ Hours****Maximum Marks :60****Instructions to Candidates:****All Sections are compulsory Draw neat labelled diagram.****SECTION - A**

**I. Write short notes on any Four of the following questions. Each question carries 2 marks. (4×2=8)**

1. Upstream Processing
2. Impeller
3. Filtration
4. Environmental Conservation
5. Phyto remediation
6. In-situ Bio remediation

**SECTION - B**

**II. Answer any Four of the following questions. Each question carries 5 marks. (4×5=20)**

7. What is inoculum? Write briefly about inoculum development process. (2+3)
8. Define fermenter? Explain airlift bioreactor. (2+3)
9. What is Biosensor? Describe its Construction and application. (2+3)
10. What is SCP? Give an account on microbial production of SCP. (2+3)
11. What is Xenobiotics? Discuss its application. (2+3)
12. What is biometallurgy? Briefly explain biomining (2+3)

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



## SECTION - C

- III. Answer any Four questions. Each question carries 8 marks. (4×8=32)**
13. Explain downstream processing in detail. Add a note on its significance. (6+2)
14. Write notes on Microbial production of (4+4)
- a) Amylase
- b) Ethanol
15. Discuss membrane Bioreactor and spray dry technology in detail. (4+4)
16. Explain Ex-Situ Bioremediation methods and write its significance. (6+2)
17. What is Biogas? Describe its composition and production. (2+6)
18. What is waste water treatment? Describe the biological process involved. (2+6)
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