PG (CBCS) EVEN SEMESTER EXAMINATION, 2024

ECOLOGY AND ENVIRONMENTAL SCIENCE

4th Semester

Course No. : ECGCC - 402

(Environmental Biotechnology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

(Answer any five questions selecting one from each unit)

Unit - I

1. Write a short account on production of various organic compounds by microbial fermentation. Add a brief note on biohydrometallurgy. 9+7=14

2. Write short notes on : 7x2=14
   a) Bioplastics
   b) Concept of green chemistry

Unit - II

3. What is immobilization of cells and enzymes? Describe the different methods of cell and enzyme immobilization. State the role of immobilized microbial technology in environmental waste management. 2+8+4=14

(Turn Over)

4. Write an elaborate note on the steps of waste water treatment. Describe briefly the advanced water purification technologies. 7+7=14

Unit - III

5. Describe the process of bio-hydrogen production giving schematics and suitable examples. 14

6. Write short notes on : 7x2=14
   a) Biogas
   b) Bioethanol

Unit - IV

7. Discuss briefly about stoichiometry. Explain the main types of analysis in stoichiometry. 6+8=14

8. Write short notes on : 7x2=14
   a) Solubility of gases in water
   b) The carbonate system

Unit - V

9. Discuss the components and working procedure of gel electrophoresis. 14

10. Write short notes on : 7x2=14
    a) Working principle of colorimeter
    b) Applications of chromatography in industries

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