

M.Sc. Sem.-3 Examination

504

Env. Science

(Env. Bio.)

November-2025

Time : 2-30 Hours]

[Max. Marks : 70

Instructions: All Questions carry equal marks
Attempt all Questions

- Q I Write short notes on the following: 14
(i) Methods of removing oil spills and grease using biotechnology.
(ii) Role of biotechnology in the restoration of toxic or polluted sites.
- OR
- Q I A. Discuss in detail the genetic concepts applied in environmental management and their significance in promoting sustainability 7
B. Explain key features of bioremediation and enlist kinds of bioremediation processes. 7
- Q II Explain advantages and disadvantages of bioleaching along with its concept. 14
- OR
- Q II A. Discuss the constraints and drawbacks of the biosorption process. 7
B. Explain the mechanism of bacterial metal resistance in detail. 7
- Q III Give an account on Bio-degradation of specific hazardous wastes and hydrocarbons. 14
- OR
- Q III A. Write a note on plant biotechnology along with its significance in the environment. 7
B. Identify the various categories of bio-pesticides and discuss their significance. 7
- Q IV Explain the applications of remote sensing in environmental studies 14
- OR
- Q IV A. Explain the term GPS and GIS and state the difference between them. 7
B. Give an account on principles of remote sensing. 7
- Q V Attempt **any 7 out of 12** Short questions. 14
- 1 Define: bio-absorption and bioremediation. 2
 - 2 Name two microorganisms commonly used in bioremediation. 2
 - 3 Explain the "Reuse" principle with an example. 2
 - 4 What are the uses of GPS? 2

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- 5 Define: composting. Give an example. 2
- 6 Name two satellites which are based on remote sensing. 2
- 7 How does public perception influence biotechnology applications? 2
- 8 What are the characteristics of hazardous waste? 2
- 9 Explain the term bioaugmentation and Bioventing 2
- 10 Give full form of GIS and GPS. 2
- 11 Give any two examples of waste which can be upscaled and used. 2
- 12 State any two objectives of environmental biotechnology as per Agenda 21. 2

