

**Bachelor of Science (B.Sc.) Semester–IV Examination**  
**ENVIRONMENTAL SCIENCE (SOIL POLLUTION & WASTE MANAGEMENT)**  
**Optional Paper–I**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) All questions are compulsory and carry equal marks.

(2) Illustrate your answer with suitable examples and diagrams.

1. Define soil pollution. How it can be controlled effectively? 10

**OR**

- (a) How pesticides can be bio-degraded? Suggest methods to minimize pesticide pollution. 5  
 (b) Define bio remediation. Explain the general methods of reclamation of contaminated soil. 5
2. Describe the methods of transferring waste from primary collection to secondary collection. 10

**OR**

- (a) How are the solid wastes classified? What are the characteristics of solid waste? 5  
 (b) Write informative note on recycling and re-use of solid waste. 5
3. What are the main objectives of solid waste sampling? Discuss the general requirement for good sampling procedure. 10

**OR**

- (a) Write informative note on solid waste amendments and vermi-composting technique. 5  
 (b) Describe the different steps of composting operation. 5
4. Describe with the help of diagram the essential features of secure land-fill. 10

**OR**

- (a) What are the factors that we need to consider while considering incineration for hazardous waste management? 5  
 (b) What are the types of container mostly used for the disposal of bio-medical waste? 5
5. Write in brief (Attempt **any ten**) :-
- (a) What are the various types of fertilizers?  
 (b) What are the sources of radionuclides in soil?  
 (c) Define persistent pesticides.  
 (d) Mention the chemical properties of solid waste.  
 (e) What is the composition of municipal solid waste?  
 (f) Explain disposal of solid waste by pyrolysis.  
 (g) Name the important parameters for composting operation.  
 (h) What is bio-gasification?  
 (i) What are the important highlights of Municipal Solid Waste (Management and Handling) Rules-2000?  
 (j) Mention the categories of biomedical waste.  
 (k) Write the 3-R principle for hazardous waste.  
 (l) Name the important factors that should be considered for hazardous waste management plant.

1×10=10