

SL No of QP : 1222

Unique Paper Code: 32187602

Name of the Paper: Solid Waste Management

Name of the Programme: B.Sc. (H) Environmental Sciences – DSE (LOCF)

Semester: VI

Duration: 3 Hours

Maximum Marks: 75

Instructions for Candidates

Answer any **five** questions. All Questions carry **equal** marks.

1. Characterize municipal solid waste. How does hazardous and biomedical waste differ from municipal solid waste in terms of composition and risk? (15)
2. (a) Explain the impacts of mining waste on land degradation. (7½)
(b) Discuss the impact of solid waste on human and plant health. (7½)
3. Describe the techniques of thermal treatment of waste, focusing on pyrolysis and incineration. What are the drawbacks of these techniques? (15)
4. (a) Explain stack emission control and the importance of emission monitoring in industrial waste management. (7½)
(b) Discuss the major effects of industrial waste on air, water, and soil. (7½)
5. Write explanatory notes (Attempt any **two**): (7½×2=15)
(i) Anaerobic digestion process
(ii) Refuse Derived Fuel (RDF)
(iii) Lifecycle Inventory in LCA
(iv) Bio-medical Waste (Management and Handling) Rules 1998
6. Explain the process and advantages of energy recovery from waste using landfill gas (LFG) recovery and anaerobic digestion. (15)
7. Discuss the advantages and limitations of Life Cycle Assessment (LCA) in waste management. Give an example from a case study. (15)
8. Explain the Hazardous Wastes (Management and Handling) Rules 1989. How do they help in regulating industrial waste? (15)

