

Code No: R164201C

**R16**

**Set No. 1**

**IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021**  
**SOLID AND HAZARDOUS WASTE MANAGEMENT**  
**(Civil Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*  
*Answer ALL sub questions from Part-A*  
*Answer any FOUR questions from Part-B*

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**PART-A (14 Marks)**

1. a) Discuss the necessity of solid waste management. [3]
- b) Explain about the methodology adopted for the optimization of collection routes. [3]
- c) What type of solid waste need the transfer and why? [2]
- d) Highlight the steps involved in biogas generation. [2]
- e) State the factors governing the selection of landfills. [2]
- f) Enumerate the means to handle hazardous waste. [2]

**PART-B (4x14 = 56 Marks)**

2. a) Explain the detailed classification of solid waste with suitable examples for each. [7]
- b) Discuss in detail the factors influencing the solid waste sampling and characterization. [7]
3. a) Provide the various principles to be adopted towards solid waste management. [7]
- b) Discuss in detail the need and methods adopted for storage and processing of solid waste. [7]
4. a) Explain about the requirements and the design concepts of transfer stations. [7]
- b) With suitable examples, discuss in detail about waste minimization and shredding. [7]
5. a) Enlighten the process of waste transformation through composting. [7]
- b) With neat sketch, explain the working principle and limitations of Incinerators. [7]
6. With suitable examples, explain about various drainage and leachate collection systems [14]
7. a) Explain the treatment and disposal methods of electronic waste along with its management strategies. [7]
- b) Explain the principles and salient features of environmental law related to waste management. [7]