Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1037147

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024
Seventh Semester
Civil Engineering
U20CE741 – MUNICIPAL SOLID WASTE MANAGEMENT
(Regulation 2020)

Time: Three Hours | Maximum: 100 Marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)

1. State the purpose of carrying out solid waste characterization.

2. What are the functional elements of solid waste management system?

3. List out the materials used for containers of municipal solid waste.

4. What is the health issues associated with improper storage of MSW?

5. Enumerate the types of vehicles used for collection of MSW.

6. What is the role of transfer station in solid waste management?

7. Write down the significance of moisture content in composting process.

8. Distinguish between incineration and pyrolysis.

9. What are the factors that affect production of leachate and landfill gas in landfill?

10. List out various gases generated in landfill.

PART – B (5 x 16 = 80 Marks)

11. (a) Explain various types of solid waste in detail. Also describe the physical and chemical characteristics of MSW. (16)

(OR)

(b) Briefly discuss the salient features of Municipal solid waste (Management and Handling) rules. (16)

12. (a) Explain briefly about onsite storage methods and describe the various methods of sorting the solid waste. (16)

(OR)

(b) "Segregation of solid wastes at source is the key to waste management" – Explain with the help of case study. (16)

13. (a) Discuss the common principles to be considered while planning collection routes for MSW. (16)

(OR)

(b) Describe in detail the various methods of MSW collection system with flow diagram. (16)

14. (a) Explain the working principle of a solid waste incinerator with suitable sketch.(16)

(OR)

(b) What is windrow composting? Discuss the windrow composting process with the aid of a schematic diagram. (16)

15. (a) Draw a neat sketch of a landfill bioreactor and explain the various components of the unit. Also explain the biological process involved in it. (16)

(OR)

(b) Explain the design and operation aspects of sanitary landfill. (16)

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