

21 DEC 2022

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Seventh Semester

Civil Engineering**EN8591 - MUNICIPAL SOLID WASTE MANAGEMENT**

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. Classify the solid waste based on sources. | 2,K1,CO1 |
| 2. What are the effects of improper disposal of municipal solid wastes? | 2,K1,CO1 |
| 3. State the necessity of onsite segregation of solid waste. | 2,K2,CO2 |
| 4. List out the materials used for containers of municipal solid waste. | 2,K1,CO2 |
| 5. Mention the types of Mechanical vehicles used for SW collections | 2,K1,CO3 |
| 6. What are different types of transfer station? | 2,K1,CO3 |
| 7. Mention the factors influencing the process of composting. | 2,K1,CO4 |
| 8. List the various types of incineration technologies. | 2,K1,CO4 |
| 9. Name any two factors to be considered while selecting site for sanitary landfill. | 2,K2,CO5 |
| 10. Give the various methods to control leachate. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Briefly discuss the salient features of Municipal solid waste management and handling rules. 13,K2,CO1
- OR**
- b) (i) Describe the importance of public awareness and role of NGOs in effective solid waste management. 8,K2,CO1
(ii) Mention the advantages of waste characterization. 5,K2,CO1
12. a) Explain the factors that must be considered in onsite storage of solid waste. 13,K2,CO2
- OR**
- b) Explain the measures to be taken by local bodies towards segregation of recyclable waste. 13,K2,CO2

13. a) Discuss the common principles to be considered while planning collection routes for MSW. 13,K2,CO3

OR

b) Explain in detail about the methods of solid waste collection system. 13,K2,CO3

14. a) (i) Outline a flow chart showing the steps involved in the aerobic composting process. 8,K2,CO4

(ii) Explain the factors affecting composting process. 5,K2,CO4

OR

b) Briefly discuss the techniques involved in resource recovery from solid waste. 13,K2,CO4

15. a) List and explain the important factor that must be considered in the site selection, design and operation of sanitary landfill. 13,K2,CO5

OR

b) Explain the salient features of landfill bioreactor with suitable sketches. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) (i) Draw the cross section of a Sanitary Land Fill and explain. 7,K3,CO6
(ii) Explain in detail about dump site rehabilitation. 8,K2,CO6

OR

b) (i) Explain the various Landfill methods. 8,K2,CO6
(ii) List out the parameters to be considered in the selection of site for Sanitary Land Fill. 7,K3,CO6