

Reg. No.

Question Paper Code

11877

14 JUN 2023

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Sixth Semester

Electronics and Communication Engineering

20CYOE913 - WASTE MANAGEMENT AND RECYCLING TECHNOLOGY

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |  | <i>Marks,<br/>K-Level, CO</i> |
|--|-------------------------------|
| 1. List out the Biodegradable and non-biodegradable wastes.  | 2,K1,CO1                      |
| 2. What is called Hazardous waste?                           | 2,K1,CO1                      |
| 3. Compare Recycle and Reuse.                                | 2,K2,CO2                      |
| 4. What is meant by 3 R'S?                                   | 2,K1,CO2                      |
| 5. Define stationary container system.                       | 2,K1,CO3                      |
| 6. What is At-site and Off-site?                             | 2,K1,CO3                      |
| 7. Mention the parameters of composting.                     | 2,K1,CO4                      |
| 8. Write the merits and demerits of Incineration.            | 2,K1,CO4                      |
| 9. What is the purpose of using landfill for waste disposal? | 2,K1,CO5                      |
| 10. Write the composition of landfill gas.                   | 2,K1,CO5                      |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

11. a) Explain the sources and types of solid wastes. 13,K2,CO1
- OR**
- b) What is integrated management and public awareness? Explain the Role of NGO's in the waste management. 13,K1,CO1
12. a) "Segregation of solid wastes at sources is the key to waste management" – Explain with the help of a case study. 13,K2,CO2
- OR**
- b) Write about Storage containers and list out the Storage containers size in MSWM 13,K1,CO2
13. a) Briefly explain the analysis methods of solid waste collection system. 13,K3,CO3

**OR**

*K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create*

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- b) What are the objectives of street cleaning? Explain the tools used for street sweeping in detail. 13,K2,CO3
14. a) With the help of sketches, elaborate the types, working and principle of composting methods. 13,K1,CO4

**OR**

- b) Write a detail note on magnetic separation and eddy current separation of solid waste with help of sketches. 13,K2,CO4
15. a) Explain the salient features of landfill bioreactor with suitable sketch. 13,K2,CO5

**OR**

- b) What is leachate? Mention the various types of treatments of leachate and disposal. 13,K2,CO5

**PART - C (1 × 15 = 15 Marks)**

16. a) (i) Explain the four techniques of WM. 8,K2,CO2  
(ii) What are the types of vehicle routing methods? Explain in any two detail. 7,K2,CO3

**OR**

- b) (i) Classify the various methods of sorting the solid waste. Describe it briefly. 8,K2,CO2  
(ii) Explain the role, usefulness and types of transfer stations. 7,K2,CO3