

**J-21-0125**

**B. Tech. EXAMINATION, 2021**

Semester VII (CBCS)

MUNICIPAL SOLID WASTE MANAGEMENT

CE-708

*Time : 2 Hours*

*Maximum Marks : 60*

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*The candidates shall limit their answers precisely within 20 pages only (A4 size sheets/assignment sheets), no extra sheet allowed. The candidates should write only on one side of the page and the back side of the page should remain blank. Only blue ball pen is admissible.*

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**Note :** Attempt *Four* questions in all, selecting *one* question from any of the Sections A, B, C and D. Q. No. **9** is compulsory.

**Section A**

1. Write a note on environmental and Health risk scenarios of solid waste. **15**
2. Explain the concept of “Zero Waste”. Describe the possibilities in solid waste management with respect to 3R’s. **15**

### Section B

3. How waste generation can be reduced ? With a neat sketch, explain the resource recovery facility producing marketable products for MSW. **15**
4. Explain briefly about on-site storage methods for solid waste. Evaluate the best option under Indian conditions. **15**

### Section C

5. Explain the factors to be considered for selecting solid waste collection equipment. **15**
6. Explain in detail Heuristic Routing rules. **15**

### Section D

7. Describe in detail sanitary landfilling process with neat sketch. **15**
8. What is Leachate ? Explain in detail about the methods for treatment of leachate and disposal. **15**

### (Compulsory Question)

9. Answer the following : **10×1½=15**
  - (i) What is the calorific value of waste and how is it calculated ?

- (ii) What are the components of routing ?
- (iii) What is Integrated Solid Waste Management ?
- (iv) Differentiate between aerobic and anaerobic composting of waste.
- (v) What is purpose of waste processing ?
- (vi) What is transfer station and its role in municipal solid waste management ?
- (vii) Discuss about the public participation in solid waste management.
- (viii) Define waste minimization.
- (ix) Write a short note on biological treatment of municipal solid waste.
- (x) Differentiate between primary and secondary collection.