



Roll No:

**BTECH**  
**(SEM VII) THEORY EXAMINATION 2023-24**  
**SOLID WASTE MANAGEMENT**

TIME: 3 HRS

M.MARKS: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

1. Attempt all questions in brief.

| Q no. | Question   | Marks | CO |
|-------|--|-------|----|
| a.    | Write major sources of municipal solid waste.                    | 2     | 1  |
| b.    | What are the major recoverable materials present in solid waste? | 2     | 1  |
| c.    | Mention two component of routing procedures.                     | 2     | 2  |
| d.    | What is the main principle of separation of solid waste?         | 2     | 2  |
| e.    | Define landfill.   | 2     | 3  |
| f.    | Write the types of landfills?                                    | 2     | 3  |
| g.    | Define incineration process.                                     | 2     | 4  |
| h.    | What do you mean by C/N ratio?                                   | 2     | 4  |
| i.    | Explain corrosivity.   | 2     | 5  |
| j.    | Differentiate between biomedical and hazardous waste.            | 2     | 5  |

**SECTION B**

2. Attempt any three of the following:

|    |  |    |   |
|----|--|----|---|
| a. | Describe the composition of municipal solid waste.   | 10 | 1 |
| b. | Discuss various methods opted for on-site processing of solid waste.                               | 10 | 2 |
| c. | Describe the physical and chemical parameters considered for energy recovery from municipal waste. | 10 | 3 |
| d. | Discuss the site selection criterion of sanitary landfill.   | 10 | 4 |
| e. | Describe the electronic waste and hazardous waste.   | 10 | 5 |

**SECTION C**

3. Attempt any one part of the following:

|    |   |    |   |
|----|---|----|---|
| a. | Explain integrated solid waste management.  | 10 | 1 |
| b. | What do you understand by waste generation? What is the various method used to estimate the quantities of solid waste generation? | 10 | 1 |

4. Attempt any one part of the following:

|    |   |    |   |
|----|---|----|---|
| a. | Discuss classification of waste minimization techniques.  | 10 | 2 |
| b. | Describe the on-site handling and storage of solid waste. | 10 | 2 |

5. Attempt any one part of the following:

|    |   |    |   |
|----|---|----|---|
| a. | Describe the all phases for the generation of landfill gases. | 10 | 3 |
| b. | Discuss the factors affecting landfill gases.                 | 10 | 3 |

6. Attempt any one part of the following:

|    |  |    |   |
|----|--|----|---|
| a. | Explain design consideration for aerobic composting.           | 10 | 4 |
| b. | Describe the pyrolysis and gasification process of solid waste | 10 | 4 |

7. Attempt any one part of the following:

|    |   |    |   |
|----|---|----|---|
| a. | Examine what are the harmful effects/risks involved due to hazardous waste. | 10 | 5 |
| b. | Explain the treatment of hazardous waste.                                   | 10 | 5 |