

**POST GRADUATE DIPLOMA IN
WASTE MANAGEMENT (PGDWAM)**

Term-End Examination

December, 2025

**MEV-051 : OVERVIEW OF WASTE
MANAGEMENT**

Time : 3 Hours

Maximum Marks : 100

Note : (i) Attempt any **ten** questions.

(ii) All questions carry equal marks.

1. Describe the physical properties of solid waste. Explain their significance for designing waste management strategies. 10
2. What is biomedical waste ? Explain its primary source and composition. 10
3. (a) What is a Life Cycle Assessment (LCA) ? Explain with suitable examples. 5

(b) What is composite sampling in waste analysis ? What is its significance ? Explain. 5

4. What are waste generation quantification models ? Describe each model. 10
5. Describe the primary principles of waste segregation. Explain the *three* main categories with suitable examples. 10
6. What are the differences between stationary, hauled and communal collection systems ? What are the drawbacks of traditional collection systems ? 10
7. Define the terms 'uncontrolled dumping' and 'controlled dumping'. Describe *five* severe health and environmental issues associated with open dumping of waste. 10
8. Describe the landfill's cell method of waste disposal. What are the challenges and significance of this method ? Explain. 10

9. What is the significance of pre-treatment of wastes in an integrated waste management system ? Describe the process of screening and the role of grit chambers. 10
10. (a) Define Critical Raw Materials (CRMs). Explain any *two* factors used to classify them as critical. 5
- (b) What is the role of lithium and cobalt used in Electric Vehicles (EVs) and portable electronics ? 5
11. (a) What is the significance of Artificial Intelligence (AI) and Sensor technologies in waste analysis ? 5
- (b) What is the principle of stakeholder engagement in waste auditing ? Explain its significance. 5
12. (a) Describe the throwaway culture. What are its effects on the ecosystem ? 5
- (b) Describe *two* major environmental risks associated with improper disposal of solid waste in landfills. 5

13. How does effective waste management contribute to achieve SDGs ? Explain specific waste management practices relevant to SDGs. 10
14. What is Refuse Derived Fuel (RDF) ? Describe the process of producing RDF from Municipal Solid Waste and its advantages. 10

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