

23124

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.

Marks**1. Attempt any FIVE :****10**

- (a) State the sources of solid waste.
- (b) List the tools and equipments used in collection of solid waste.
- (c) State methods of storage for household waste and garden waste.
- (d) Enlist sources of Biomedical waste.
- (e) Define communicable and non-communicable disease with example.
- (f) State the sources of E-waste.
- (g) List the existing legal provisions made for SWM (any two).

2. Attempt any THREE :**12**

- (a) State impacts of solid waste on environment.
- (b) (i) Draw solid waste management hierarchy.
(ii) State the purpose of Transfer station.
- (c) Write name of any four transport vehicles with their capacities used for transporting municipal solid waste.
- (d) State the four factors affecting the site selection for land filling technique to dispose solid waste.



- 3. Attempt any THREE :** **12**
- (a) Draw the organization pattern of solid waste management.
 - (b) Explain the methods of collection of solid waste in your town/city.
 - (c) State advantages and disadvantages of incineration process.
 - (d) Write note on vermicomposting highlighting its
 - (i) construction details
 - (ii) suitability.
- 4. Attempt any THREE :** **12**
- (a) Explain the importance of rag pickers in solid waste management.
 - (b) State the importance of public participation in solid waste management.
 - (c) Explain various control measures of industrial waste.
 - (d) Define E-Waste. List the components of E-Waste.
 - (e) Explain the salient features of Construction and Demolition Waste Management Rules – 2016.
- 5. Attempt any TWO :** **12**
- (a) Differentiate between Bangalore and Indore method of composting (any six).
 - (b) Discuss segregation of Biomedical waste as per BMW Rule – 2016.
 - (c) Discuss the origin and effects of the following E-Waste constituents on human health :
 - (i) Cadmium
 - (ii) Brominated Flame Retardants (BFR)
 - (iii) Lead
 - (iv) Hexavalent Chromium
 - (v) Mercury
 - (vi) Plastic Compounds
- 6. Attempt any TWO :** **12**
- (a) Define Pyrolysis. State the product of incineration process with their use.
 - (b) Describe methods of disposal of biomedical waste.
 - (c) Describe methods of recycling of industrial waste.
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