

22605

12425

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any FIVE of the following :**

**10**

- (a) Enlist the type of solid waste.
- (b) List the various tools used in collection and transportation of solid waste.
- (c) States the methods of collection of MSW.
- (d) List the various methods of composting.
- (e) State the role of MPCB in solid waste management.
- (f) Define Hazardous and Non-Hazardous Waste.
- (g) Define biomedical waste.

**2. Attempt any THREE of the following :**

**12**

- (a) Explain any eight factors affecting solid waste generation.
- (b) Define the movable bin and stationary bin.
- (c) State the products of incineration with their uses.
- (d) Explain the single linear system of Leachate control with neat sketch.



- 3. Attempt any THREE of the following : 12**
- (a) Explain the step by step process of vermi-composting.
  - (b) Describe the classification of biomedical waste.
  - (c) Explain the health aspect during processing of solid waste.
  - (d) List the land filling methods and explain any one in detail.
- 4. Attempt any THREE of the following : 12**
- (a) Explain the dangerous of E-waste.
  - (b) Explain the variety of industrial waste.
  - (c) Explain the major provisions in Municipal Solid Waste Management Rules 2016.
  - (d) Write a short note on public involvement and participation in solid waste management.
  - (e) Explain the major provisions in Plastic Waste Management Rules, 2016.
- 5. Attempt any TWO of the following : 12**
- (a) Explain the meaning of transfer station, also state its location and necessity.
  - (b) Explain the various management technologies of biomedical waste.
  - (c) Explain organization pattern of solid waste management system with sketch.
- 6. Attempt any TWO of the following : 12**
- (a) Describe the following methods of composting with neat sketch :
    - (i) Bangalore method
    - (ii) Indore method
  - (b) Explain the 3R principles applied in disposal of E-waste.
  - (c) Explain the various control measures of industrial waste.
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