

22605

22232

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.
  - (5) Assume suitable data, if necessary.
  - (6) 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) Define solid waste and list different types of solid waste generated from community.
- (b) List the vehicles which may be used for transportation of solid waste.
- (c) State the necessity of Transfer station.
- (d) State the concept of composting of solid waste.
- (e) State the importance of Legal aspects in solid waste management.
- (f) Define Hazardous and Non-hazardous solid waste.
- (g) Define Biomedical waste and list the sources of generation of this type of waste.



- 2. Attempt any THREE of the following : 12**
- (a) Explain solid waste management hierarchy with neat sketch.
  - (b) State the methods of solid waste collection and explain any one.
  - (c) Draw a neat labelled sketch of composite liner system for leachate control.
  - (d) Explain Indore method of composting with neat labelled sketch.
- 3. Attempt any THREE of the following : 12**
- (a) Suggest and justify the criteria adopted for the execution of vermicomposting process.
  - (b) State the importance of segregation and recycle of waste in solid waste management practices.
  - (c) Explain various health related problems during handling and processing of solid waste.
  - (d) Suggest the situations for adopting a specific method of land filling for solid waste disposal.
- 4. Attempt any THREE of the following : 12**
- (a) Define E-Waste. List the components of E-Waste.
  - (b) Explain the disposal methods for industrial solid waste.
  - (c) Explain the major provisions in Biomedical Waste Management Rules 2016.
  - (d) Explain the importance of public involvement and participation in solid waste management.
  - (e) Explain the role of Central Pollution Control Board in management of solid waste from various sources.

- 5. Attempt any TWO of the following :** **12**
- (a) Draw organization pattern of solid waste management. State the pattern for a city having population more than 1 million.
  - (b) Suggest various management technologies for biomedical waste for its safe disposal.
  - (c) “Rag pickers-media of cleanliness for the society”. Justify the statement with examples.
- 6. Attempt any TWO of the following :** **12**
- (a) (i) State the advantages and disadvantages of landfill method of solid waste disposal.
  - (ii) List the products of incineration process and also state their uses.
  - (b) Suggest the various control measures for industrial solid waste to reduce environmental pollution.
  - (c) Discuss various recycling techniques for E-waste. Explain in brief about the methods of disposal of E-waste.
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