

# 17605

**15116**

**3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any TEN of the following: **20****
- a) State the principles of aerobic composting.
  - b) How C/N ratio affects composting process?
  - c) Define:
    - (i) Leachate
    - (ii) Pyrolysis
  - d) What is Biogas?
  - e) What is Vermicomposting?
  - f) What is Incineration of solid waste?
  - g) State the objectives of Biomedical waste management.
  - h) What is Biomedical waste?
  - i) Define E waste. Give examples.
  - j) Give the colour coding used for sorting of biomedical waste.
  - k) What are dangerous constituents of E-waste?
  - l) Enlist different industrial wastes.
  - m) What are the types of environmental and health hazards?

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- n) What is centralised sorting of solid waste?
- o) What is the purpose of recycling?

**2. Attempt any FOUR of the following: 16**

- a) State the factors affecting the generation of solid waste.
- b) Classify solid wastes. Give meaning of each with examples.
- c) What do you mean by solid waste management hierarchy?
- d) Describe physical and chemical characteristics of solid wastes.
- e) Describe the impact of solid waste on environment.
- f) Enlist different sources of solid waste.

**3. Attempt any FOUR of the following: 16**

- a) Describe transfer station with meaning, necessity and location.
- b) What are the measures to be taken to improve the transportation system for SWM?
- c) Explain the organizational pattern of solid waste management.
- d) Describe different methods of collection of solid wastes.
- e) What are the arrangements to be made for the efficient storage of household waste?
- f) State the goals/requirements applicable to transportation vehicles for solid waste.

**4. Attempt any FOUR of the following: 16**

- a) Describe Indore and Bangalore methods of composting.
- b) Describe mechanical composting.
- c) Describe any one method of land filling.
- d) Describe any one leachate control method with a neat sketch.
- e) Describe the working of a municipal incinerator.
- f) State any four advantages and disadvantages of incineration process.

- 5. Attempt any FOUR of the following:** **16**
- a) Describe provisions in the law for safe disposal of biomedical waste.
  - b) What are components of biomedical wastes?
  - c) What are ill effects of hazardous substances that come out of E-waste?
  - d) Describe disposal methods of E-waste.
  - e) Describe the waste minimisation approach measures of industrial waste.
  - f) Describe recycling of any four industrial wastes.
- 6. Attempt any FOUR of the following:** **16**
- a) Describe the strategy of public participation in solid waste management.
  - b) What are the measures to be taken to bring about a change in public?
  - c) Describe the health aspects involved in handling and processing of solid wastes.
  - d) Describe thermal processes of resource recovery through waste processing.
  - e) What are benefits of recycling?
  - f) Describe methods of collection of recyclables.
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