



# CBCS SCHEME

15CV651

## Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Solid Waste Management

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Define the term Solid waste. Classify the solid waste material. (08 Marks)  
b. Estimate the moisture content, density of the solid waste samples with the following data (based as 100 kg). (08 Marks)

Component	% by mass	Typical % moisture	Typical density kg/m <sup>3</sup>
Food waste	15	70	290
Paper	45	6	85
Plastic	10	2	65
Wood	5	20	240
Cardboard	10	5	50
Tin cans	5	3	90
Garden Trimmings	10	60	105

OR

- 2 a. Explain with neat sketch, hauled container and stationary container system. (08 Marks)  
b. Explain the factors that must be considered in the design of transfer station. (08 Marks)

### Module-2

- 3 a. Explain various processing techniques used in solid waste management. (08 Marks)  
b. With the help of neat sketch, describe the conventional municipal incinerator. (08 Marks)

OR

- 4 a. Explain the factors that should be considered in evaluating onsite processing techniques. (08 Marks)  
b. What are the emission control facilities and equipments for municipal incinerator? (08 Marks)

### Module-3

- 5 a. Describe the basic steps involved in indoor process of composting, with neat sketch. (08 Marks)  
b. Discuss the important design considerations for aerobic composting process. (08 Marks)

OR

- 6 a. What are the factors to be considered in the selection of site for a sanitary landfill? (08 Marks)  
b. Explain with the help of neat sketch, control of gas movement in landfills. (08 Marks)

### Module-4

- 7 a. Explain the three stages of biomedical waste disposal. (08 Marks)  
b. Briefly explain E waste disposal methods. (08 Marks)

OR

1 of 2

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- 8 a. Define Hazardous waste. How do you classify hazardous waste? (08 Marks)  
b. Explain the sources of construction wastes generated from the construction activities. (08 Marks)

**Module-5**

- 9 a. Explain the process of pyrolysis and mention the conversion products resulting from pyrolysis. (08 Marks)  
b. Explain the effect of 3T's in incineration process of solid waste. (08 Marks)

**OR**

- 10 a. Explain with the help of flow chart for the recovery of ferrous materials and energy from solid wastes. (08 Marks)  
b. Write a flow sheer for the process of Refuse Derived Fuel (RDF) either power form or pallet form. (08 Marks)

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