

B.TECH.
(SEM V) THEORY EXAMINATION 2022-23
SOLID WASTE MANAGEMENT

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- (a) Explain the composition of municipal solid wastes.
- (b) What do you mean by 3R?
- (c) Specify the role of transfer station in municipal solid waste management?
- (d) What do you understand by refuse-derived fuel system?
- (e) Define gasification.
- (f) How to collect bio-medical waste?
- (g) Discuss the ultimate disposal of hazardous wastes.
- (h) What do you mean by In-vessel composting system?
- (i) Define incineration.
- (j) List the various activities of NGO's

SECTION B

2. Attempt any three of the following: 10 x 3 = 30

- (a) Write the factors for selection of collection and transfer alternatives for solid waste.
- (b) Explain the different sources and types of solid wastes.
- (c) What do you understand by transfer vehicles for solid waste management? Explain about tractor and container system.
- (d) Who will collect the recyclable materials? How to process the recyclable materials?
- (e) Briefly explain the pyrolysis process.

SECTION C

3. Attempt any one part of the following: 10 x 1 = 10

- (a) Give any Eight important design principles of Solid Waste Management, with numerical and units.
- (b) Enlist and explain the functional elements of municipal solid waste management.

4. Attempt any one part of the following: 10 x 1 = 10

- (a) What are the three key steps involved in integrated solid waste management? Also draw the model frame work integrated sustainable waste management.
- (b) Write the advantages and disadvantages of the anaerobic processing.

5. Attempt any *one* part of the following:

10 x 1 = 10

- (a) Write the principle of the composting process? What factors affecting composting process.
- (b) What do you understand the term Leachate? What are the problems posed by Leachate and how would you overcome them?

6. Attempt any *one* part of the following:

10 x 1 = 10

- (a) Explain the terms 'Salvage and Shredding'. What are their applications in an Integrated SWM?
- (b) With neat sketch of schematic representation of a common typical municipal solid waste landfill. What are the key terms used in municipal solid waste landfill design?

7. Attempt any *one* part of the following:

10 x 1 = 10

- (a) State the key role of public in solid waste management.
- (b) Discuss which types of wastes from a hospital can be categorized as infectious waste?

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