

Reg. No.

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**B.E./ B.TECH. DEGREE EXAMINATIONS, MAY 2023**  
**OE18402 – INTEGRATED SOLID WASTE MANAGEMENT**  
**(Regulation2018/2018A)**

TIME:3 HOURS

MAX. MARKS: 100

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Explain the nature and characteristics of municipal solid wastes and the regulatory requirements regarding municipal solid waste management.	3
CO 2	Summarise the concepts on reduction, reuse and recycling of waste.	3
CO 3	Design the systems for storage, collection, transport, processing and disposal of municipal solid waste.	3
CO 4	Determine the size of sanitary landfill and explain the operation of sanitary landfill.	3
CO 5	Explain the management of construction, demolition and electronic waste.	3

**PART- A(10x2=20Marks)**  
 (Answer all Questions)

	CO	RBT LEVEL
1. State the per capita solid waste generation rate in India.	1	1
2. Write the importance of solid waste management.	1	2
3. “Waste collection is the most important aspect in the municipal solid waste management” Justify the statement.	2	2
4. Write any four advantages of source reduction.	2	2
5. Write down the objectives of off-site processing.	3	1
6. Show the significance of moisture content in composting process.	3	2
7. What are the benefits of using landfill for waste disposal?	4	2
8. Illustrate the uses of daily cover in a land fill.	4	2
9. Discuss the impacts of informal recycling of E-Waste.	5	2
10. Where can the C&D waste be reused?	5	2

**PART- B (5x 14=70Marks)**

	Marks	CO	RBT LEVEL
11. (a) Explain the various sources of municipal solid waste and compositions of solid waste from each source.	(14)	1	3
<b>(OR)</b>			
(b) Describe the adverse health and environmental effects due to improper disposal of solid waste.	(14)	1	3

12. (a) Explain the different types of waste collection system based on their mode of operation with neat sketches. (14) 2 3

(OR)

(b) Describe the strategies of source reduction, recycling and reuse of solid waste. (14) 2 3

13. (a) Draw a neat sketch of a municipal solid waste incinerator and explain the working principle. (14) 3 3

(OR)

(b) Explain the windrow composting process with neat sketches and List the factors controlling the process efficiency. (14) 3 4

14. (a) Explain the various criteria to be considered for site selection of a landfill. (14) 4 3

(OR)

(b) Draw a neat sketch of a sanitary landfill and explain the various components of the sanitary landfill that will be recommended by you for the Chennai city. (14) 4 3

15. (a) Discover the problems posted by E-waste on public health and environment and examine how to overcome it. (14) 5 3

(OR)

(b) Describe about the management of construction and demolition waste in India. (14) 5 3

**PART- C(1x 10=10Marks)**

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Explain the methods of collection of waste from residential and commercial facilities.	(10)	2	5

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