

CBCS SCHEME

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BETCK105F

First Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Waste Management

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
 2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module - 1					
Q.1	a.	Explain about Environmentally Sound Solid Waste Management (ESSWM) and how does it works.	M	L	C
			6	L1	CO1
	b.	Describe the major challenges and opportunities in solid waste management in India.	6	L2	CO1
	c.	How can source reduction contribute to sustainable waste management?	8	L2	CO1
OR					
Q.2	a.	Explain the primary obstacles hindering effective solid waste management in India.	6	L1	CO1
	b.	How can public private partnerships enhance solid waste management in India?	6	L1	CO1
	c.	Describe the benefits of waste reduction and minimization strategies for sustainable waste management.	8	L2	CO1
Module - 2					
Q.3	a.	What are the negative consequences of improper solid waste management on human health and the environment?	6	L1	CO2
	b.	Explain waste generation patterns and composition differ between developed and developing countries.	6	L2	CO2
	c.	Brief about waste characterization contribute to effective solid waste management.	8	L2	CO2
OR					
Q.4	a.	In what ways does waste characterization aid is effective in waste management strategies?	8	L2	CO2
	b.	How does improper solid waste disposal impact human health?	6	L2	CO2
	c.	Describe about community involvement in enhancing solid waste management efforts.	6	L3	CO2

Module - 3			
Q.5	a.	Describe the different methods used to collect waste.	6 L2 CO3
	b.	Explain the factors determine the type of waste collection vehicles used?	8 L2 CO3
	c.	Explain factors to be considered when designing a waste collection system.	6 L2 CO3
OR			
Q.6	a.	What is Land fill mining and how can it be beneficial?	6 L2 CO3
	b.	Why is land fill closure and post closure care important?	6 L2 CO3
	c.	Describe the methods to prevent and treat leachate pollution.	8 L2 CO3
Module - 4			
Q.7	a.	What are the main objectives of waste processing?	6 L2 CO3
	b.	Explain Mechanical Biological Treatment (MBT) and what are its benefits?	8 L2 CO3
	c.	Explain strategies that can be adopted to reduce waste generation at source.	6 L2 CO3
OR			
Q.8	a.	How does Extended Producer Responsibility (EPR) contribute to recycling and waste reduction?	8 L1 CO3
	b.	Discuss the obstacles and potential benefits of implementing recycling programs.	6 L2 CO3
	c.	Discuss strategies that can improve the efficiency and reduce the cost of recycling processes.	6 L2 CO3
Module - 5			
Q.9	a.	Describe the process of identifying and classifying hazardous waste. Why is accurate identification crucial for effective management?	6 L2 CO4
	b.	Explain two common methods for treating hazardous wastes. What are the advantages and disadvantages of each?	6 L2 CO4
	c.	What are the key principles of pollution prevention and waste minimization in hazardous waste management? Provide an example of how these principles can be implemented in an industrial setting.	8 L2 CO4
OR			
Q.10	a.	Briefly outline the regulatory framework for hazardous waste management in India. What are the challenges in its implementation?	6 L2 CO4
	b.	What are the environmental and health impacts associated with improper e - waste disposal?	6 L2 CO4
	c.	Discuss the importance of e - waste recycling and describe a few methods used in the process.	8 L2 CO4