

Reg. No.

**MANIPAL INSTITUTE OF TECHNOLOGY****MANIPAL***(A constituent unit of MAHE, Manipal)***VI SEMESTER B.TECH. (CIVIL ENGINEERING)****MAKE UP EXAMINATIONS JUNE 2023****SUBJECT: SOLID WASTE MANAGEMENT (CIE 4058)****/ / 2023****TIME: 3 HRS.****MAX. MARKS: 50****Note: 1. Answer all questions.****2. Any missing data may be suitably assumed.**

Q.NO	QUESTION	Marks	CO	BL
1A.	List the key features of solid waste management rules in India.	03	CO1	1
1B.	Define (i) Garbage (ii) Refuse (iii) Solid waste (iv) Rubble	02	CO2	2
1C.	Discuss in detail the source-based classification of solid waste.	05	CO2	2
2A.	With a neat sketch explain the functional elements of solid waste management.	05	CO2	2
2B.	Explain the physical transformation process of solid waste.	03	CO4	2
2C.	What are the health and environmental effects of solid waste?	02	CO2	1
3A.	With a neat sketch define the terms with reference to Hauled container system (i) Pick up (ii) Haul (iii) At-site (iv) Off-route	05	CO3	3
3B.	Give the guidelines for laying out solid waste collection route.	02	CO3	2
3C.	With a neat sketch explain the different types of magnetic separators.	03	CO5	2
4A.	With a neat sketch explain the waste management hierarchy.	04	CO5	2
4B.	With the neat sketch differentiate between area method and trench method of landfilling.	03	CO4	2
4C.	Enumerate the typical restriction to be observed during landfill siting.	03	CO4	2
5A.	With the neat sketch explain fixed bed incinerators stating its application.	04	CO4	2
5B.	Explain the effect of moisture content and carbon- nitrogen ratio in composting of solid waste.	03	CO5	2
5C.	Explain the method of backyard composting in detail.	03	CO5	2