



VI SEMESTER B.TECH (CIVIL ENGINEERING)  
END SEMESTER EXAMINATIONS, MAY/JUNE 2022  
SUBJECT: **SOLID WASTE MANAGEMENT [CIE 4058]**  
**REVISED CREDIT SYSTEM**  
( \_ / \_ / 2022)

Time: 3 Hours

Max. Marks: 50

### Instructions to Candidates:

❖ Answer ALL the questions

Q.No		Marks	CO
1A.	Enlist (any six) public health effects of mismanagement of solid wastes.	03	1
1B.	Explain the (any six) importance of measurement of solid wastes quantities.	03	2
1C.	Write a short note on Ultimate Analysis and Proximate Analysis.	04	2
2A.	Explain the five major stages in composting process for solid wastes.	05	2
2B.	Briefly explain (any six) disadvantages of incineration of solid wastes.	03	2
2C.	Write a short note on Load-count Analysis method.	02	2
3A.	Calculate the labour required for collecting solid waste with manually loaded stationary container system. Total waste generation from area= 900 m <sup>3</sup> Vehicle capacity = 50 m <sup>3</sup> Compaction factor = 3 Container volume = 0.3 m <sup>3</sup> No of containers per location=2 Time from dispatch to collection area= 0.3 h Time from disposal site to dispatch site = 0.4 h Total haul time =0.65 h/trip At-site time= 0.1 h/trip Trips per day= 2 Average drive time between container location= 0.72 min Unloading time= 0.18 min/container Length of workday = 8 h Off route factor= 0.15	04	3
3B.	With a neat sketch explain the Stationary Container System (mechanically loaded compactors) for waste collection.	04	3
3C.	Write a short note on Manual Sorting of solid wastes.	02	4
4A.	With a neat sketch explain the working of Horizontal Air Classifier.	04	4
4B.	Write a short note on transfer station. Briefly explain Storage-load transfer station.	04	4
4C.	Write a short note on Bioreactor Landfill.	02	5

<b>5A.</b>	Write a short note on Area Method for landfilling of solid wastes.	03	4
<b>5B.</b>	Explain the steps in strategic planning for solid waste management.	05	5
<b>5C.</b>	Enlist (any four) restrictions to be observed for siting landfills.	02	5