SCHOOL OF CIVIL ENGINEERING

Continuous Assessment Test – I - Fall Semester 2019-2020

Programme Name & Branch: B. Tech. (Civil Engineering)

Course Name & Code: SOLID WASTE MANAGEMENT (CLE2020)

Class Number: 3530   **Slot:** G1   **Exam Duration:** 90 mins.   **Maximum Marks:** 50

Answer All Questions

1. Management of Solid waste depends on the generation and composition of the waste. It has been found that the composition as well as rate of generation varies from city to city as well as country to country. State reason for the variation in composition and rate of generation of solid waste from place to place with appropriate examples.   **(8 Marks)**

2. Explain the Vellore model developed by Mr. Shrinivasan to manage the solid waste
        (7 Marks)

3. One of the criteria for selecting Smart city is the management of Solid waste. As a student of Solid waste management class propose idea for Smart City   **(10 Marks)**

4. As per the study conducted by the Solid waste management department of Dholakpur municipal corporation if 6 hauled containers are collect every day from the city, all the waste can be collected from the city every week. Using the data given below determine the actual length of workday required to collect 6 containers per day. Assume appropriate data if necessary.   **(10 Marks)**

> The time from garage to the first container = 15 minutes
> The time from last container to the garage = 18 minutes
> The average time to drive between containers = 4 minutes
> Pick-up and unlading time = 0.30 h/trip
> One way distance to the disposal site = 30 km
> Speed limit = 50 km / h
> Length of workday = 8 h
> Off route factor = 0.15
> At site time = 0.2 h/trip

Typical values of haul constant coefficients

Speed limit km/h	a h/trip	b h/km
88	0.016	0.011
72	0.022	0.014
40	0.05	0.025

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