Register Number: …….

B.E. DEGREE EXAMINATIONS: NOV / DEC 2010

Seventh Semester

CIVIL ENGINEERING

U07CEE10: Municipal Solid Waste Management

Time: Three Hours **Maximum Marks: 100**

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. Food waste constitute about _____ percent of all domestic waste.

   (a) 45 (b) 32 (c) 35 (d) 30

2. The method to determine the generation and movement of solid wastes with any degree of reliability is achieved by _____

   (a) Load – Count Analysis (b) Material – Balance Analysis

   (c) Ultimate Analysis (d) Proximate Analysis

3. The maximum capacity of container used with stationary compactor for the onsite storage of solid waste is _____

   (a) 30 Cu.m. (b) 33 Cu.m. (c) 38 Cu.m. (d) 35 Cu.m.

4. Collection system in which the containers used for the storage of wastes remain at the point of waste generation is termed as _____

   (a) HCS (b) SCS (c) Tilt frame HCS (d) Trash trailer HCS

5. The operational capacity of a transfer station must be such that the collection vehicles _____

   (a) Have to wait too long to unload (b) Do not have to wait too long to unload

   (c) Have to wait until the next vehicle enters (d) Do not have to wait till the next vehicle enters

6. The area method is used when the terrain is _____for the excavation of trenches in which to place the solid waste.

   (a) Suitable (b) Unsuitable (c) Moderate (d) Undulating

7. The person responsible for on site processing of solid wastes at source in the low –rise residential area _____

   (a) Residents (b) Crews (c) Owners (d) Operators

8. The Carbon –Nitrogen ratio in the humas is _____

   (a) Low (b) High (c) Very High (d) Very Low

9. The length of trenches to place solid waste may vary between _____

   (a) 100 ft to 400 ft (b) 150 ft to 450 ft (c) 125 ft to 425 ft (d) 110 ft to 410 ft

10. Small grinders are used for size reduction of _____ wastes

    (a) Organic residential solid wastes (b) Paper and Cardboard

    (c) Large Solids (d) Brittle and Friable materials.

PART B (10 x 2 = 20 Marks)

11. List out the sources of solid waste generation
12. What is meant by special waste?
13. Mention the factors that must be considered in the onsite storage of solid waste
14. Give the advantage of source separation.
15. What is meant by HCS?
16. Mention the factors that must be considered in the design of transfer stations.
17. Distinguish between incineration and pyrolysis.
18. Define compost.
19. What is meant by leachate?
20. Mention the advantages of sanitary landfill.

PART C (5 x 14 = 70 Marks)

21. a) Discuss the principle of solid waste management and mention the importance of public awareness.

(OR)

b) Explain the factors that affect generation of solid waste.

22. a) What is meant by onsite handling? Discuss the equipments used for the onsite handling of solid wastes at the source.

(OR)

b) Mention the uses of onsite processing of solid waste. Write a note on shredding and pulping process.

23. a) With a neat sketch explain the operational sequence of hauled container system.

(OR)

b) (i) Write a note on residential collection service.

(ii) What are the factors that should be taken into account when laying out transfer routes.

24. a) Explain briefly about the Incineration process with the neat sketch.

(OR)

b) What is meant by composting? Explain the factors affecting the composting Operation.

25. a) Explain the factors to be considered in evaluating site selection for landfill.

(OR)

b) With a neat sketch explain how methane is collected from a land fill.

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