



B.E DEGREE EXAMINATIONS: APRIL/MAY 2016

(Regulation 2013)

Sixth Semester

CIVIL ENGINEERING

U13CETE12: Municipal Solid Waste Management

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Special wastes are such as
 - a) Garbage
 - b) Rubbish
 - c) Ashes
 - d) Catch-basin debris
2. The best place to sort waste material for recovery purpose is
3. The equipments used for on-site handling of solid wastes from high-rise building is
 - a) Gravity chutes
 - b) Hand carts
 - c) Container trains
 - d) Vandal proof containers
4. is the most positive ways to achieve the recovery reuse of materials.
5. The capacity of medium transfer station is
 - a) Less than 100 tons/ day
 - b) 100 – 200 tons/ day
 - c) 100 – 500 tons/ day
 - d) 500 – 700 tons/ day
6. is the type that can be used to compress materials directly in to large containers.
7. In dryer the heat is transmitted indirectly by contact of the wet materials with a heated surface by
 - a) Convection
 - b) Conduction
 - c) Radiation
 - d) Separation
8. In the incineration process the volume reduces of combustible solid waste is.....
9. It is explosive , when methane is present in the air in concentration between
 - a) 0 – 5 %
 - b) 5 – 15 %
 - c) 30 – 40 %
 - d) 40 – 50 %
10. may be defined as liquid that has percolated through solid waste and has extracted dissolves or suspended materials from it.

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. Define 'solid waste', state the types.
12. What are the improper methods of solid waste disposal?
13. State the advantages of on-site segregation of solid waste.
14. List the different on-site processes on solid waste.
15. What is meant by secondary collection of solid waste?
16. Outline the information available in a collection route schedule.
17. What are the off-site processes?
18. List out any four recoverable products from off-site processing of solid waste.
19. Brief the treatment mechanism of a sanitary land filling.
20. What is the advantage of segregated solid waste disposal by sanitary land filling?

PART C (5 x 14 = 70 Marks)
(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. (i) What are the different factors influencing solid waste generation rate? Explain them. (10)
(ii) Write a note on NGOs contribution in solid waste management. (4)
22. (a) List out the factors to be considered in selection of equivalent for on-site processing of solid wastes. Explain them.
(OR)
(b) (i) Explain the estimation of storage capacity of community bins. (7)
(ii) What is the mechanical volume reduction? Discuss its importance and method of carrying out. (7)
23. (a) Discuss the various components and requirements of transfer station.
(OR)
(b) Explain the different solid waste collection systems and compare them.
24. (a) Explain the various methods of composting solid waste, their advantages and disadvantages.
(OR)
(b) Discuss the thermal conversion methods and resource recovery from solid waste.
25. (a) (i) Explain the area method of sanitary land filling (7)
(ii) List out factors governing selection of site for sanitary land fill. (7)
(OR)
(b) Draw the layout plan for sanitary land fill showing its structural components, equipments/machineries being used and pollution preventive measures. Explain them.
