



Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--

15/05/18 (AN)

Question Paper Code : 41086

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Fifth/Seventh Semester
Environmental Engineering
EN 6501 – MUNICIPAL SOLID WASTE MANAGEMENT
(Common to Civil Engineering)
(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. What is meant by MSW ?
2. What is the purpose of source reduction ?
3. What is the legal requirement in India regarding onsite storage and collection of MSW ?
4. What is meant by transfer station ?
5. Define Motion Time Measurement (MTM).
6. Why is source reduction required in waste management ?
7. Describe pyrolysis and incineration.
8. List out the benefits associated with leachate recirculation in landfill bioreactors.
9. What are the factors which affect production of leachate and landfill gas in the landfill ?
10. List the various gases generated in sanitary landfill.

PART – B

(5×13=65 Marks)

11. a) State the composition of MSW. Describe the compositions

(OR)

- b) State and explain the various environmental legislation for MSW.

41086



12. a) What is magnetic separation of solid waste ? Explain process for magnetic separation. What are the factors influence the effectiveness of magnetic separation ?

(OR)

- b) Explain the difference between compaction and size reduction and their importance in solid waste management. Explain the types, mode of action and applications of equipments used for size reduction and component separation in detail.

13. a) Explain the routing guidelines to formulate a suitable route for collection vehicles. Sketch the routing pattern for one way street collection and three block configuration.

(OR)

- b) Explain the role of transfer station in solid waste management. Discuss the benefits of transfer station to a community in terms of economics, time, savings and the environmental quality.

14. a) Draw a flow chart showing the steps involved in the aerobic composting process. Explain the factors affecting composting process.

(OR)

- b) Explain the classifications of compensating technologies and discuss briefly the basic steps involved in the compensating process.

15. a) Explain the various phases of MSW decomposition in a closed landfill cell.

(OR)

- b) With the help of a neat sketch, compare the cross section of liner systems, and cover systems recommended for sanitary landfill.

PART – C

(1×15=15 Marks)

16. a) Explain the various options for the disposal of solid wastes and the relative merits of disposal.

(OR)

- b) i) List out the factors that must be considered in identification of potential site for a secure landfill. Describe site selection procedure. (9)

ii) Write short notes on :

i) Gases in sanitary landfill (3)

ii) Composting microbiology. (3)