

11. (a) (i) Explain the biochemistry of landfill leachate.
briefly discuss about any three of them. (6 + 6)

B.E./B.Tech Discuss the role of NGOs effectively helping the governance of MSW. (4)

- (b) Highlight the main factors to be considered in selecting a suitable location for sanitary landfill. Also, appropriately discuss the design and operation of a large such sanitary landfill. (6 + 6 + 4)

- (b) (i) Mention the various essential physico-chemical biological, and CE 2039/1011 biochemical characteristics of MSW. Also briefly explain the significance of proximate analysis of MSW. (9 + 3)

- (ii) Explain the various components of MSW. (4) (Regulations 2003/2010)

12. (a) (i) Appropriately delineate the objectives, methods, and merits-cum-demerits of on-site segregation of MSW. (3 x 4)
B.E. (Part-time) Sixth Semester Civil Engineering – Regulations 2003

Time : Three hours Give an account of economics of storage of MSW maximum : 100 marks

Answer ALL or questions.

- (b) (i) Appropriately substantiate the utility of synthetic polymers in on-site storage of MSW. (4)

1. Glass pieces and paper wastes come under which categories of municipal solid waste (MSW)? As per Indian conditions, discuss the three popular methods of on-site storage of MSW. (4 x 3)

2. Enunciate the vital principle of municipal solid waste management (MSWM). Also, (a) Discuss the points to be considered in selecting any transfer station. Also, appropriately explain its operation with a neat sketch. (4 + 4 + 8)

3. What do you mean by on-site storage of MSW?

Or

4. Why material characteristics are very essential in storage of MSW?

- (b) (i) Considering a small Indian town of 1000 population, discuss the inventories of equipment(s), vehicles, and manpower requirements

5. Substantiate the significance of final collection route. (4 x 3)

6. (i) Explain the procedure of assessing the collection route. (4)

- Specify the normal range of tonnage/day capacity of a typical large transfer

- station (a) Appropriately discuss the significance, factors to be considered in selecting aerobic or anaerobic-based and economics of composting of

7. Differentiate between aerobic and anaerobic composting of MSW. (3 + 6 + 3)

- (ii) Substantiate how 'incineration process' of MSW is effective in

8. Enlist the disposal options in the pyrolysis of MSW. (4)

Or

9. State the two prime health effects of dumping MSW on land.

- (b) In view of essential aspects, appropriately discuss on:

10. What is a leachate?

- (i) incineration and

- (ii) pyrolysis processes

(8 + 8)