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**Question Paper Code : 51231**

**B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016**

**Seventh Semester**

**Civil Engineering**

**CE 2039/10111 CEE 36 – MUNICIPAL SOLID WASTE AND MANAGEMENT**

**(Regulations 2008/2010)**

**(Common to PTCE 2039 – Municipal Solid Waste and Management for B.E. (Part-Time)**

**Sixth Semester – Civil Engineering – Regulations 2009)**

**Time : Three Hours**

**Maximum : 100 Marks**

**Answer ALL questions.**

**PART – A (10 × 2 = 20 Marks)**

1. Glass pieces and paper wastes come under which categories of municipal solid waste (MSW).
2. Enunciate the vital principle of Municipal Solid Waste Management (MSWM).
3. What are the qualities of materials used for the containers ?
4. Name any two diseases transmitted by improper storage of MSW.
5. How do you select the most appropriate transfer station ?
6. What is meant by 'Motion Time Measurement' technique ?
7. List the objectives of waste processing.
8. Define pyrolysis.
9. Write the composition of landfill gas.
10. Define Leachate.

**PART – B (5 × 16 = 80 Marks)**

11. (a) (i) Enlist atleast ten features that affect the generation of MSW. Also, briefly discuss about any three of them. (6 + 6)
- (ii) Discuss the role of NGOs in effectively helping the governance of MSW. (4)

**OR**

- (b) (i) Mention the various essential physico-chemical biological and biochemical characteristics of MSW. Also briefly explain the significance of proximate analysis of MSW. (9 + 3)
- (ii) Explain the various components of MSW. (4)

12. (a) Explain the importance of On-site segregation of solid wastes and how it can be enforced in Indian cities.

**OR**

- (b) Discuss the various issues pertaining to public health and economic aspects of storage of MSW.

13. (a) Enumerate the methods of solid waste collection and transportation.

**OR**

- (b) List the factors involved in the selection of location, operation and maintenance of solid waste under Indian conditions.

14. (a) (i) Explain any six solid waste processing technique. (12)
- (ii) Briefly describe the role of biological processes in solid waste processing. (4)

**OR**

- (b) Write a note on off-site processing options for solid wastes which are well suited under Indian conditions.

15. (a) Write a detailed report on site selection, design and operation of sanitary landfill. (16)

**OR**

- (b) Explain in detail the collection and treatment of leachate in the landfill. (16)