

**5E3158-Q**

Roll No. : \_\_\_\_\_

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**B. Tech. (Sem. V) (Main / Back) Examination, December - 2011**  
**Civil Engg.**  
**5CE6.3 Solid Waste Management**

Time : 3 Hours]

[Maximum Marks : 80  
 [Min. Passing Marks : 24

**Instructions to Candidates :**

*Attempt any five questions selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

Use of following supporting material is permitted during examination.  
 (Mentioned in form No. 205)

1. NIL2. NIL**UNIT - I**

- 1 (a) Describe the problems associated with solid waste disposal. 8  
 (b) Discuss various characteristics of municipal solid waste. 8

**OR**

- 1 (a) Draw the step by step diagram of solid waste management and explain the various steps. 8  
 (b) Describe 4-R principle for solid waste management. 8

**UNIT - II**

- 2 (a) What are the ill effects of open dumping of solid waste ? 8  
 (b) What are the methods of onsite storage and handling of solid waste ? 8

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- 2 (a) What are the various criteria for locating community bins ? 8
- (b) Describe the term "sorting of solid waste". 8

**UNIT - III**

- 3 (a) How do we decide the labour requirement for collection of solid waste ? 8
- (b) Describe various types of collection system of solid waste. 8

**OR**

- 3 (a) What are the various points to be kept in mind while choosing the collection route of vehicle to pick up solid waste ? 8
- (b) What are the various facilities that must be available at transfer station ? 8

**UNIT - IV**

- 4 (a) Describe the various factors affecting composting. 8
- (b) Describe the various guidelines for selection of a landfill site. 8

**OR**

- 4 (a) What are the various phases of operation of landfill ? Draw the neat sketch of a landfill. 8
- (b) Why incineration is considered better than open burning ? 8

**UNIT - V**

- 5 (a) Describe the nature of solid waste generated by different industries. 8
- (b) Suggest various methods for reducing the solid waste generation in the industries. 8

**OR**

- 5 Write short notes on any four of the following "
  - (i) Reuse of material
  - (ii) Recovery of energy and material
  - (iii) Energy generation from waste
  - (iv) Disposal of Industrial Waste
  - (v) Vermicomposting
  - (vi) Sanitary landfill.

**4×4=16**

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