

5E5068

Roll No. _____

Total No of Pages: **3****5E5068****B. Tech. V Sem. (Main / Back) Exam., Dec. 2014****Civil Engineering****5CE6.3A 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)

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UNIT – I

Q. 1 (a) Define solid waste. What are the impacts of solid waste on environment? [8]

(b) Describe the classification of solid waste as hazardous and non-hazardous waste.

Describe garbage, rubbish, trash, litter and refuse. [8]

OR

(a) Describe the generation of solid waste. What are the factors affecting generation of solid waste? [8]

(b) Describe in detail the characteristics of solid waste. [8]

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UNIT – II

- Q. 2 (a) What are the problem of public health and aesthetics associated with solid waste management? Describe the various onsite handling methods. [8]
- (b) Sketch and describe the various types of dustbins. What are the associated problems with dustbins in our country? [8]

OR

- (a) Describe the various onsite processing methods of solid waste. [8]
- (b) Describe community containers. What are the considerations to be made in deciding the location of containers? [8]

UNIT – III

- Q. 3 (a) Describe various collection systems. What are the advantages and disadvantages of door-to-door collection system? rtuonline.com [8]
- (b) Explain the method of finding the labour requirement for collection and transport of solid waste. Suggest some suitable method for a metro city. [8]

OR

- (a) Sketch and describe the equipment used for collection and transport of solid waste. [8]
- (b) How do we plan for the collection routes? Describe any scientific method for effective and economical collection of solid waste. [8]

UNIT – IV

- Q. 4 (a) What is the requirement for processing of solid waste? Describe various methods of processing. [8]
- (b) Sketch and describe the sanitary landfill. What are the problems associated with leachate? [8]

OR

- Q. 4 (a) Describe the processes of composting and incineration as disposal methods of solid waste. [8]
- (b) Describe various types of bioremediation. [8]

UNIT – V

- Q. 5 (a) Describe the various methods of energy recovery from solid waste. [8]
- (b) Describe the reuse of solid waste in other industry. What are the problems associated with re-use? [8]

OR

- Q. 5 (a) Describe the nature of industrial solid waste and differentiate it with municipal solid waste. [8]
- (b) Discuss the treatment and disposal of industrial solid waste. [8]
