

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00313

December, 2018

**BICEE-001 : SOLID AND HAZARDOUS WASTE
MANAGEMENT**

Time : 3 hours

Maximum Marks : 70

*Note : Answer any **five** questions. All questions carry equal marks.*

1. (a) Explain the sources of solid wastes. What is the composition of a typical MSW in an Indian city? 7
- (b) Illustrate the factors affecting the generation rates of solid wastes. 7
2. (a) Explain in detail the various biological and chemical conversion techniques of solid waste processing. 10
- (b) Describe in brief any two types of collection services for MSW. 4
3. Discuss the solid waste disposal methods with their relative advantages and disadvantages. 14

4. (a) Discuss the process and importance of transportation of solid waste from source to disposal site. 7
- (b) What are the techniques involved in resource recovery ? Explain in detail. 7
5. Write notes on the following : $2 \times 7 = 14$
- (a) Stabilization and Solidification of Hazardous Wastes
- (b) Leachate Collection and Treatment
6. (a) What is an engineered landfill ? With the aid of a neat sketch, explain the working of different components of an engineered landfill. 9
- (b) List out and explain various toxic solid wastes in industrial wastes. 5
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Incineration
- (b) Waste to Energy
- (c) Storage of Solid Wastes
- (d) Health Care Establishment Wastes
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