

# CRASH COURSE

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10CV757

## Seventh Semester B.E. Degree Examination, May 2017 Solid Waste Management

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer any FIVE full questions, selecting atleast TWO questions from each part.  
2. Assume suitable data if needed.**

### PART – A

- 1 a. Define Land Pollution. Explain in brief the sources and their effects on soil. (10 Marks)  
b. With a neat flow diagram, explain in brief the functional units of solid waste management. (10 Marks)
- 2 a. Write explanatory note on :  
i) Curb collection service    ii) Garbage chute    iii) Transfer station    iv) Route optimization. (12 Marks)  
b. Estimate the energy content of a solid waste sample on unit energy content on dry basis and on ash free dry basis. Assume 5% as ash content. (08 Marks)

Component	% by mass	% moisture content	Energy kJ/kg
Food waste	15	70	4650
Paper	45	6	16750
Cardboard	10	5	16300
Plastic	10	2	32600
Garden trimmings	10	60	6500
Wood	5	20	18600
Tin cans	5	3	700

- 3 a. With a neat sketch, explain hauled container and stationary container system. (12 Marks)  
b. With a neat sketch, explain the working of :  
i) Magnetic separator    ii) Rotating screen. (08 Marks)
- 4 a. Describe briefly a conventional incinerator, with the help of a neat sketch. (10 Marks)  
b. Write the factors that affect the incineration process. (10 Marks)

### PART – B

- 5 a. With a neat sketches, explain the  
i) Windrow method of composting    ii) Static pile method of composting. (10 Marks)  
b. Explain in brief, the factors that affect aerobic composting process. (10 Marks)
- 6 a. Write in brief the factors that must be considered in evaluating potential landfill sites. (10 Marks)  
b. Differentiate between :  
i) Area method and trench method    ii) Open dumping and sanitary landfills. (10 Marks)

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- 7 a. Write explanatory notes on :
- i) Hog feeding      ii) Ocean disposal of solid wastes.      **(10 Marks)**
  - b. Explain the characteristics of biomedical waste and disposal methods.      **(10 Marks)**
- 8 Write explanatory notes on any four of the following :
- a. Plastic wastes.
  - b. Landfill liners.
  - c. Energy recovery from solid wastes.
  - d. Hazardous waste management.
  - e. Air classifier.      **(20 Marks)**

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