

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)**

CLASS: BE  
BRANCH: CIVIL

SEMESTER: VII  
SESSION : MO/2019

**SUBJECT : CE8001 ENVIRONMENT POLLUTION AND CONTROL**

TIME: 1.5 HOURS

FULL MARKS: 25

**INSTRUCTIONS:**

1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

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- Q1 (a) Determine the density of the waste sample from the given data (Table 1). [2]  
(b) Differentiate between Proximate analysis and Ultimate analysis. [3]
- Q2 (a) Draw the flow chart explaining the functional elements of waste generation. [2]  
(b) Explain the methods used for calculating waste generation rate. [3]
- Q3 (a) Explain how reduction in raw material usage can reduce the amount of solid waste. [2]  
(b) What are the different types of waste collection systems? Explain. [3]
- Q4 (a) Explain the classifications of transfer stations depending upon the method used. [2]  
(b) Write short notes on Incineration. [3]
- Q5 (a) Even though emission from natural sources is greater than anthropogenic sources, [2]  
pollution from latter is more harmful. Why?  
(b) What is the term particulate means? Explain its classification. [3]
- Q6 (a) The maximum one-hour carbon monoxide levels in Kolkata reach 40 ppm. Calculate the [2]  
equivalent concentration in terms of mass fraction and milligrams per cubic meter at 25<sup>o</sup>  
C and 1 atm.  
(b) What is meant by scavenging processes for pollutants? Explain the same for particulates. [3]

:::: 24/09/2019M ::::

Component	Percent by mass	Moisture content%
Food waste	15	75
Paper	45	7
Cardboard	10	4
Plastics	10	2
Garden trimmings	10	70
Wood	5	15
Tin cans	5	2

Table1