

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION(S), OCT-2019

Course Code: CE474

Course Name: MUNICIPAL SOLID WASTE MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

- 1 a) What are the various categories of waste? (5)
 b) Write the factors affecting the generation of municipal solid waste (5)
 c) What are the components of agricultural waste? How are they stored? (5)
- 2 a) Determine the average moisture content of municipal solid waste of a typical Indian city from the following data. (5)

Description	Weight (%)	Moisture Content (%)
Food Waste	40	70
Yard Waste	3.5	60
Paper	.75	6
Plastic	.9	2
Glass	0.5	2
Metal	.7	2
Textile	2	8
Leather	.4	10
Miscellaneous	8.25	10
Stone/Brick	43	8

- b) What are the physical characteristics of municipal solid waste? (5)
 c) Write the important points to be considered while storing the hazardous waste (5)
- 3 a) How solid wastes from Industries are managed? (5)
 b) Write a brief note on radioactive waste. (5)
 c) Explain any one method of estimation of generation rate of municipal solid waste. (5)

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) What are the factors that have to be considered while fixing collection route? (5)
b) Explain the operations carried out in a transfer station. (5)
c) Explain the relevance of resource conservation. (5)
- 5 a) What are the types of compactors employed for mechanical volume reduction? (5)
b) Component separation enhances the municipal solid waste management system. (5)
True or false? Justify your answer.
c) What is the major cause for the inefficiency of waste to energy projects in India? (5)
How can it be overcome?
- 6 a) What are the collection services employed to collect residential solid waste. (5)
b) Describe chemical volume reduction with advantages and disadvantages. (7)
c) What are the advantages of reducing size of solid waste? (3)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) Compare area method and trench method of land fill with suitable sketches. (10)
b) Draw the neat sketch of an incinerator and describe the functions. (8)
c) What are the components of effluent gas from an incinerator (2)
- 8 a) Compare Indore process and Bangalore process of composting with advantages and disadvantages. (10)
b) Explain biogas digester with the help of a neat sketch (10)
- 9 a) What are the types of incinerators? Which one is most common type? (7)
b) What are the advantages of composting (6)
c) Explain the different stages of anaerobic digestion of waste. (7)
