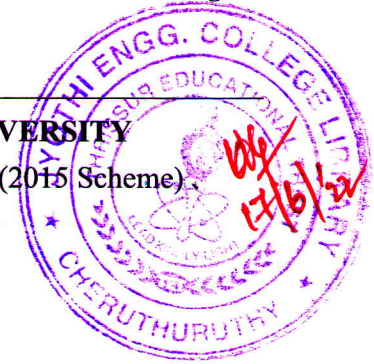


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Eighth Semester B.Tech Degree Examination June 2022 (2015 Scheme)



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) Explain in detail about the integrated waste management system? What are its advantages? (10)
- b) Write briefly about the impact of waste on environment. (5)
- 2 a) Calculate the moisture content and energy content of the solid waste sample for the composition given below. Also calculate the energy content on dry basis and ash free basis if the ash content is 5%. Assume the mass as 100kg. (9)

Component	Paper	Card Board	Plastics	Good Wastes	Garden Wastes	Wood	Tin cans
% by mass	35	12	12	16	13	6	6
Energy kJ/Kg	17770	15800	16400	5000	7000	19000	600
Moisture Content %	6	5	2	20	60	20	3

- b) Write any three physical characteristics of waste and its importance. (6)
- 3 a) What are the major components of a Municipal Solid waste? (5)
- b) Explain the various methods of estimation of generation rate of Municipal Solid waste? (10)

PART B*Answer any two full questions, each carries 15 marks.*

- 4 a) What are Transfer Stations and why is it necessary? (6)
- b) Propose a recycling strategy for various wastes from your Institution. Estimate the financial implications. (9)

- 5 a) What is importance of volume reduction in waste management (9)
b) Write briefly the various types of screens used for size separation (6)
- 6 a) What are the advantages of recycling? (6)
b) Write briefly on the various processing techniques. (9)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) Write short notes on a) Pyrolysis b) Gasification c) Pelletization (9)
b) What is an incinerator? With neat sketch explain the various parts. (11)
- 8 a) Write briefly on windrow composting? (10)
b) Explain Bangalore process and Indore process of composting? What are its advantages and disadvantages? (10)
- 9 a) Explain the various components of a landfill and its functions (10)
b) Write short notes on Vermicomposting and In vessel composting (10)
