

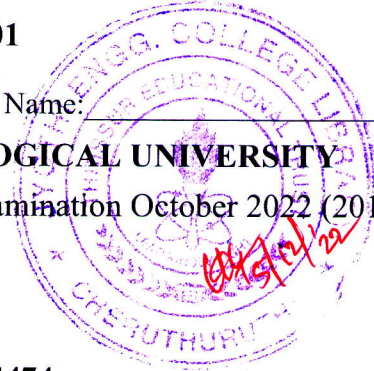
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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Eighth Semester B.Tech Degree Supplementary Examination October 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 the various categories of waste.                                   | (9) |
|   | b) | Discuss the sources and characteristics of waste generated in our society. | (6) |
| 2 | a) | Describe the factors affecting the rate of generation of solid waste.      | (7) |
|   | b) | Explain the physical and chemical composition of solid waste.              | (8) |
| 3 | a) | Describe the effects on improper disposal of solid waste on human health.  | (4) |
|   | b) | What is solid waste management? Explain 3 R's in waste hierarchy.          | (6) |
|   | c) | Explain the storage of solid waste.  | (5) |

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

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|---|----|---|------|
| 4 | a) | Explain: Hauled Container System and Stationary Container System.                     | (10) |
|   | b) | What is meant by the terms resource conservation and resource recovery?               | (5)  |
| 5 | a) | Explain the procedures adopted for chemical and biological conversion of solid waste. | (10) |
|   | b) | Write a note on mechanical volume reduction.  | (5)  |
| 6 | a) | Differentiate between Micro-routing and Macro-routing.                                | (5)  |
|   | b) | What is the role of transfer station in solid waste management?                       | (5)  |
|   | c) | Describe magnetic separation and the equipments used for it.                          | (5)  |

**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) | With the help of a neat sketch, explain the parts and functions of an incinerator.                | (10) |
| 8 | a) | Compare Indore process and Bangalore process of composting with its advantages and disadvantages. | (10) |
|   | b) | Explain Biogas digester with the help of a neat sketch.   | (10) |

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- 9 a) Describe the various types of incinerators used and which one is most common type? (7)
- b) Explain the different stages of anaerobic digestion of waste. (7)
- c) What are the advantages of composting. (6)

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