

## APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

### Scheme for Valuation/Answer Key

*Scheme of evaluation (marks in brackets) and answers of problems/key*

**EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 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) Any Five with brief explanation (2marks each)    | (10)  |
|   | b) Five property (1 mark each)                      | (5)   |
| 2 | a) Answer 27.79kg, Dry weight calculation (2 marks) | (5)   |
|   | Average moisture content (3marks)                   |       |
|   | b) Any five advantages (1mark each)                 | (5)   |
|   | c) Any five impacts (1marks each)                   | (5)   |
| 3 | a) Total Energy =14740kJ/kg (4)                     | (10)  |
|   | Energy on dry basis = 18658.23kJ/kg (3)             |       |
|   | Energy on ash free basis = 19918.92kJ/kg (3)        |       |
|   | b) Any five impacts with a brief note               | (5)   |

#### PART B

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

- |   |   |      |
|---|---|------|
| 4 | a) Definition (2), Need at least three points (3)               | (5)  |
|   | b) Chemical conversion (5) & Biological conversion (5)          | (10) |
| 5 | a) Brief note on transfer station requirements (any five point) | (5)  |
|   | b) Flow chart (3) explanation (7)                               | (10) |
| 6 | a) Any five points  | (5)  |
|   | b) Magnetic separation (3) Equipment used (2)                   | (5)  |
|   | c) Types of collection systems (5)                              | (5)  |

#### PART C

*Answer any two full questions, each carries 20 marks.*

- |   |  |     |
|---|--|-----|
| 7 | a) Indore process explanation(4) advantages any four (4) | (8) |
|   | b) Parts of incinerator (3) sketch (5)                   | (8) |
|   | c) Composition of effluent gas( at least 4 components)   | (4) |
| 8 | a) Vermi composting Definition (3) Process (4)           | (7) |
|   | b) Definition (3)Merits (2.5) demerits(2.5)              | (8) |



- c) Benefits of composting (any five) (5)
- 9 a) Components (9), Sketch (5) (14)
- b) anaerobic digestion (6) (6)

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