

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

December 2023 Supplementary Examinations

Programme: B.E.

Semester: I/II

Branch: Common to all Branches

Duration: 3 hrs.

Course Code: 22CV1ESWMT/22CV2ESWMT

Max Marks: 100

Course: Waste Management

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

| | | | UNIT - I | CO | PO | Mar ks |
|---|----|---|-------------------|-----------|-----------|-------------------|
| 1 | a) | With the help of flow diagram explain the functional elements of Solidwaste Management. | CO1 | PO6 | 8 | |
| | b) | Classify different sources and types of waste generated from each source. | CO1 | PO6 | 6 | |
| | c) | List the advantages and disadvantages of any three methods of present solidwaste disposal. | CO1 | PO6 | 6 | |
| | | | UNIT - II | | | |
| 2 | a) | Enumerate the factors affecting generation rate of solidwaste. | CO1 | PO7 | 8 | |
| | b) | Explain the importance of identifying individual components, moisture, density of solid waste. | CO1 | PO7 | 6 | |
| | c) | Briefly explain the importance of chemical characteristics of municipal solid waste. | CO1 | PO7 | 6 | |
| | | | UNIT - III | | | |
| 3 | a) | Define transfer station and Explain the need of transfer operation. | CO2 | PO6 | 8 | |
| | b) | List and explain different waste collection services. | CO2 | PO6 | 6 | |
| | c) | Enumerate the factors to be considered in laying out optimal route for waste collection system. | CO2 | PO6 | 6 | |
| | | | OR | | | |
| 4 | a) | Explain the factors to be considered in evaluating potential land fill site. | CO2 | PO7 | 8 | |
| | b) | Illustrate with rough sketch, the suitability of different methods of landfill. | CO2 | PO7 | 6 | |
| | c) | Enumerate the advantages and disadvantages of landfill. | CO2 | PO7 | 6 | |
| | | | UNIT - IV | | | |
| 5 | a) | List different component separation techniques. Explain the applications of any 3 techniques briefly. | CO2 | PO3 | 8 | |
| | b) | Compare mechanical volume and size reduction with examples. | CO2 | PO3 | 6 | |
| | c) | Enumerate the purpose of processing of solid waste | CO2 | PO3 | 6 | |

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

| OR | | | | | |
|-----------------|----|--|------------|------------|----------|
| 6 | a) | With the help of flow diagram explain recovery of resources and energy from solid waste. | <i>CO3</i> | <i>PO3</i> | 8 |
| | b) | Enumerate the factors to be considered in selection of drying equipment. | <i>CO3</i> | <i>PO3</i> | 6 |
| | c) | Illustrate with a case study of solid waste recycling. | <i>CO3</i> | <i>PO3</i> | 6 |
| UNIT - V | | | | | |
| 7 | a) | Illustrate identification of hazardous waste with flow diagram of screening model. | <i>CO4</i> | <i>PO7</i> | 8 |
| | b) | List and explain classification of hazardous waste. | <i>CO4</i> | <i>PO7</i> | 6 |
| | c) | Write a note on hazardous waste management in India. | <i>CO4</i> | <i>PO7</i> | 6 |
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SUPPLEMENTARY EXAMS 2023