### Course Code
- **CE474**

### Course Name
- MUNICIPAL SOLID WASTE MANAGEMENT

### L-T-P-Credits
- 3-0-0-3

### Year of Introduction
- 2016

### Prerequisites: Nil

### Course objectives:
1. To create an awareness of different types of solid waste generated in our environment and their ill effects
2. To study the various methods of collection, processing and disposal of solid wastes

### Syllabus:

### Course Outcomes:
- Students will have an awareness of the ill effects of increasing solid wastes
- Students will be able to understand the various methods available for managing solid wastes generated

### Text Books
3. Howard S Peavy, Donald R Rowe, George Tchobanoglous, “Environmental Engineering” McGrawhill Education

### References:

### COURSE PLAN

<table>
<thead>
<tr>
<th>Module</th>
<th>Contents</th>
<th>Hours</th>
<th>End Sem. Exam Marks %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Wastes-Sources and characteristics - Categories of wastes-Municipal, Industrial, Medical, Universal, Construction and demolition debris, Radioactive, Mining, e wastes, Agricultural waste.</td>
<td>7</td>
<td>15</td>
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<tr>
<td>II</td>
<td>Waste generation-Methods of estimation of Generation rate-Measure of quantities, Composition- Physical and chemical (simple problems). Storage of solid waste</td>
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**FIRST INTERNAL EXAMINATION**
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<td>IV</td>
<td>Processing techniques- Mechanical volume and size reduction, chemical volume reduction, component separation, Drying (simple problems)</td>
<td>6 15</td>
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**SECOND INTERNAL EXAMINATION**

| V | Disposal of solid waste; Sanitary land fill- area method, trench method-advantages and disadvantages, Incineration- types of incinerators -parts of an incinerator-incinerator effluent gas composition | 8 20 |
| VI | Composting- types of composting-Indore process, Bangalore process (advantages and disadvantages). Anaerobic digestion of wastes, Biogas digesters | 8 20 |

**END SEMESTER EXAMINATION**

**QUESTION PAPER PATTERN (End Semester Exam)**

<table>
<thead>
<tr>
<th>Maximum Marks :100</th>
<th>Exam Duration: 3 Hrs</th>
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<tbody>
<tr>
<td>Part A -Module I &amp; II : 2 questions out of 3 questions carrying 15 marks each</td>
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<tr>
<td>Part B - Module III &amp; IV: 2 questions out of 3 questions carrying 15 marks each</td>
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<tr>
<td>Part C - Module V &amp; VI : 2 questions out of 3 questions carrying 20 marks each</td>
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**Note:**

1. Each part should have at least one question from each module

2. Each question can have a maximum of 4 subdivisions (a,b,c,d)