

CE2039 – MUNICIPAL SOLID WASTE AND MANAGEMENT

SUBJECT DESCRIPTION

The subject deals with sources and types of solid wastes.

Factors affecting generation rates and effects of improper disposal of Municipal solid wastes. On site storage methods and materials used for collection containers. Critical evaluation of storage processing.

Various methods of collection in municipal solid waste and types of vehicles used in collection system and types of transfer station used in collection.

Various processing techniques and equipment used for municipal solid wastes; options under Indian conditions.

Various methods disposal in municipal solid wastes and principles of leach ate collection and treatment

OBJECTIVE

This subject covers the various sources and characterization of municipal solid wastes and on-site / off- site processing of the same and the disposal methods. The students expected to know about the various effects and disposal options for the municipal solid wastes.

MICRO LESSON PLAN

| Week | Hrs | Lecture Topics | Book |
|---|-----|---|-------------|
| UNIT I SOURCES AND TYPES OF MUNICIPAL SOLID WASTES | | | |
| I | 1 | Sources and types of sold wastes | TEXT BOOK 1 |
| | 2 | Quantity,Factors affecting generation of solid wastes | |
| | 3 | Characteristics (AV CLASS) | |
| | 4 | Methods of sampling and Charecterization | |
| | 5 | Effects of improper disposal solid wastes | |
| II | 6 | Public health effects | |
| | 7 | Principles of solid waste management | |
| | 8 | Social & economic aspects;Public awareness | |
| | 9 | Role of NGOs ; legislation | |
| UNIT II ONSITE STORAGE & PROCESSING | | | |
| III | 10 | On site storage methods | TEXT BOOK 1 |
| | 11 | Materials used for containers (AV CLASS) | |
| | 12 | On-site segregation of solid wastes | |
| | 13 | Public health &economic aspects of storage | |
| | 14 | Public health &economic aspects of storage | |
| IV | 15 | Options under Indian conditions | |
| | 16 | Options under Indian conditions | |
| | 17 | Critical Evaluation Of options | |
| | 18 | Critical Evaluation of options | |
| UNIT III COLLECTION AND TRANSFER | | | |
| V | 19 | Methods of collection | TEXT BOOK 1 |
| | 20 | Methods of collection | |
| | 21 | Types of vehicles (AV CLASS) | |
| | 22 | Manpower requirments | |
| | 23 | Collection rutes | |
| VI | 24 | Transfer stations | |
| | 25 | Selection of location, operation & maintenace | |
| | 26 | Selection of location, operation & maintenace | |
| | 27 | Options under indian conditions | |

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| | UNIT IV OFF-SITE PROCESSING | | |
| VII | 28 | Processing Techniques and equipment | TEXT BOOK 1 |
| | 29 | Processing Techniques and equipment | |
| | 30 | Resource recovery from solid wastes | |
| | 31 | Composting | |
| | 32 | Composting | |
| VIII | 33 | Incineration (AV CLASS) | |
| | 34 | Pyrolysis | |
| | 35 | Options under indian conditions | |
| | 36 | Options under indian conditions | |
| | UNIT V – DISPOSAL | | |
| IX | 37 | Dumping solid wastes | TEXT BOOK 1 |
| | 38 | Sanitary landfills | |
| | 39 | Sanitary landfills (AV CLASS) | |
| | 40 | Design and operation of sanitary landfills | |
| | 41 | Design and operation of sanitary landfills | |
| X | 42 | Site selection | |
| | 43 | Site collection | |
| | 44 | Leachate collection and treatment | |
| | 45 | Leachate collection and treatment | |

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