

ENVIRONMENTAL STUDIES

LECTURE-29

Methods of Solid Waste Management

There are different methods of solid waste management. The following are some of the recognized methods:

1. Sanitary Landfill

This is the most popular solid waste disposal method used today. Garbage is basically spread out in thin layers, compressed and covered with soil or plastic foam.

Modern landfills are designed in such a way that the bottom of the landfill is covered with an impervious liner, which is usually made of several layers of thick plastic and sand. This liner protects the groundwater from being contaminated because of leaching or percolation. When the landfill is full, it is covered with layers of sand, clay, topsoil and gravel to prevent seepage of water.

2. Incineration

This method involves the burning of solid wastes at high temperatures until the wastes are turned into ashes. Incinerators are made in such a way that they do not give off extreme amounts of heat when burning solid wastes.

3. Recovery and Recycling

Recycling or recovery of resources is the process of taking useful but discarded items for the next use. Plastic bags, tins, glass and containers are often recycled automatically since, in many situations, they are likely to be scarce commodities.

Traditionally, these items are processed and cleaned before they are recycled. The process aims at reducing energy loss, consumption of new material and reduction of landfills. The most developed countries follow a strong tradition of recycling to lower volumes of waste.

4. Composting

Due to a lack of adequate space for landfills, biodegradable yard waste is allowed to decompose in a medium designed for the purpose. Only biodegradable waste materials are used in composting.

It is a biological process in which micro-organisms, specifically fungi and bacteria, convert degradable organic waste into substances like humus. This finished product, which looks like soil, is high in carbon and nitrogen. Good quality environmentally friendly manure is formed from the compost that is an excellent medium for growing plants and can be used for agricultural purposes.

5. Pyrolysis

This is a method of solid waste management whereby solid wastes are chemically decomposed by heat without the presence of oxygen. It usually occurs under pressure and at temperatures of up to 430 degrees Celsius. The solid wastes are changed into gasses, solid residue of carbon and ash and small quantities of liquid.