1. What are the various types of solid waste management?

The major types of solid waste management are as follows: a. Municipal Solid Waste (MSW), b. Hazardous Wastes, c. Industrial Wastes, d. Agricultural Wastes, e. Biomedical Wastes, f. Waste Minimization.

2. Write in detail about Waste minimization.

Waste production can be minimized by adopting the 3 R's principle: Reduce, Reuse, and Recycle.

a. Reduce the amount and toxicity of garbage and trash that you discard.

b. Reuse containers and try to repair things that are broken.

c. Recycle products wherever possible, which includes buying recycled products i.e., recycled paper books, paper bags etc.

These are processes that involve integrated waste management practices (IWM). They can reduce the wastes generated by approximately 50%.

3. What is transfer station in Solid waste management?

A transfer station is an intermediate station between final disposal option and collection point in order to increase the efficiency of the system, as collection vehicles and crew remain closer to routes. If the disposal site is far from the collection area, it is justifiable to have a transfer station, where smaller collection vehicles transfer their loads to larger vehicles, which then haul the waste long distances. In some instances, the transfer station serves as a pre-processing point, where wastes are dewatered, scooped or compressed.

4. What are the various landfill methods?

<u>Trench method</u>: This involves the excavation of a trench into which waste is deposited, and the excavated material is then used as cover.

<u>Area method</u>: Wastes may be deposited in layers and so form terraces over the available area. However, with this type of operation, excessive leachate generation may occur, which may render the control difficult.

<u>Cell method</u>: This method involves the deposition of wastes within pre-constructed bounded area. It is now the preferred method in the industrialised world, since it encourages the concept of progressive filling and restoration. Operating a cellular method of filling enables wastes to be deposited in a tidy manner, as the cells serve both to conceal the tipping operation and trap much of the litter that has been generated.

<u>Canyon/depression</u>: This method refers to the placing of suitable wastes against lined canyon or ravine slide slopes. (Slope stability and leachate gas emission control are critical issues for this type of waste placement.)

5. List the benefits of bio-gasification

- production of energy (heat, light, electricity);
- transformation of organic waste into high quality fertiliser;
- improvement of hygienic conditions through reduction of pathogens, worm eggs and flies;
- reduction of workload in firewood collection and cooking;
- environmental advantages through protection of soil, water, air and woody vegetation;
- micro-economical benefits through energy and fertiliser substitution, additional income generation and increasing yields of animal husbandry and agriculture;
- macro-economic benefits through decentralised energy generation, import substitution and environmental protection.