BIOLOGY

SpeedLabs
Assisted Practice | Expert Guidance | Personalized Insights
An Innovative Learning Methodology by IITians.

Board – ICSE	Class – 9	Topic – Waste Generation and Management

Q1. How do I practice waste management at home?

Ans: a) Keep separate containers for dry and wet waste in the kitchen.

b) Keep two bags for dry waste collection- paper and plastic and for the rest of the household waste.

c) Keep plastic from the kitchen clean and dry and drop into the dry waste bin. Keep glass /plastic containers rinsed of food matter.

d) Keep a paper bag for throwing sanitary waste.

Q2. What are the first few steps to initiate a waste management programme in your apartment complex?

Ans: following steps should be taken to initiate waste management.

a) Form a group with like-minded people.
b) Explain waste segregation to your family / neighbours in your apartment building.
c) Get the staff in the apartment building to also understand its importance.
d) Get separate storage drums for storing dry and wet waste.
e) Have the dry waste picked up by the dry waste collection centre or your local scrap dealer.

Q3. What are the different types of waste?

Ans: Following are the types of waste:

1 Wet waste: Wet waste consists of kitchen waste - including vegetable and fruit peels and pieces, tea leaves, coffee grounds, eggshells, bones and entrails, fish scales, as well as cooked food (both veg and non-veg).

2 Dry Waste: Paper, plastics, metal, glass, rubber, thermocol, styrofoam, fabric, leather, rexine, wood-anything that can be kept for an extended period without decomposing is classified as dry waste.

3 Hazardous waste: Household hazardous waste or HHW includes three sub-categories – E-waste; toxic substances such as paints, cleaning agents, solvents, insecticides and their containers, other chemicals; and biomedical waste.

4 E-waste: E-waste or electronic waste consists of batteries, computer parts, wires, electrical equipment of any kind, electrical and electronic toys, remotes, watches, cell phones, bulbs, tube lights and CFLs.

5 Biomedical waste: This includes used menstrual cloth, sanitary napkins, disposable diapers, bandages and any material that is contaminated with blood or other body fluids.

Q4. What is waste management?

Ans. Waste management is the collection, transportation and disposal of waste materials.

Q5. What are the rules and regulations guiding waste management In India?

Ans.**1)** Municipal Solid Waste (Management and Handling) Rules 2000: regulate the management and handling of the municipal solid wastes and are applicable to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes**.**

2) Bio-medical Waste (Management and Handling) Rules, 1998: regulate the management and handling of bio-medical waste and are applicable to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form.

3) E-Waste (Management and Handling) Rules, 2010: regulate the management and handling of electrical and electronic waste and is applicable to every producer, consumer involved in manufacture, sale, purchase and processing of these equipment or its components.

Q6. What is known as waste?

Ans:

Waste is a thing which is not required by the producer, processor or owner. It is generally discarded or thrown away by households, industries, etc.

Q7. How many types of waste?

Ans:

Wastes are of three types: Solid, liquid, or gaseous.

Q8. What are the sources of waste?

Ans:

Waste is generated from a number of sources. The major sources of waste are domestic waste, industrial waste, agricultural waste, biomedical waste, municipal waste etc.

Q9. What are the sources of agricultural wastes.

Ans:

Fertilizers, pesticides and insecticides and other chemical agents.

Q10. What is meant by domestic waste?

Ans:

Wastes generated due to domestic activities are called domestic wastes. Fruits and vegetable peels, paper, polyhtene, discarded clothes etc. are the sources of domestic waste.

Q11. What is pollution? Define

Ans:

Pollution may be described as the unfavorable alteration of our surroundings which occurs mainly because of human activities. Pollution created by waste accumulation is mainly of three types – air pollution, water pollution and soil pollution.

Q12. What do you mean by spoilage of landscape?

Ans:

Spoilage of landscape is directly related to improper disposal of wastes. The waste accumulation not only ruins the natural beauty of the land but also provide a home to rats and other disease carrying organisms. Sources of these wastes may be paper mills, fertilizers manufacturing units, and mines etc.

Q13. What is eutrophication?

Ans:

It is the process of depletion of oxygen from water bodies occurring either naturally or due to human activities. The process of eutrophication takes place due to introduction of nutrients and chemicals through discharge of domestic sewage, industrial effluents and fertilizers from agricultural field. Algae and phytoplankton use carbon dioxide, inorganic nitrogen and phosphate from the water as food. This cause death of most of the aquatic organisms, draining water of all its oxygen.

Q14. What is biomagnifications? What can be its effects on human beings?

Ans:

An important process by which chemicals can affect living organisms is bio-magnification. Many pesticides, such as DDT, aldrin and dihedron have a long lifetime in the environment. They get incorporated into the food chain and ultimately reach all the tissues of plants and animals. They get modified into higher trophic levels. Bio-accumulation or biological magnification can also be seen in the case of heavy metals like lead, mercury, cadmium, etc.

Q15. What is municipal waste?

Ans:

Municipal waste is the waste generated in a municipality or a local government area. Such waste is produced by shops, offices, restaurants, schools, hospitals; etc. and is collected from public waste bins.

Q16. How is soil pollution caused?

Ans:

Soil pollution usually results from the disposal of solid and semi-solid wastes in agricultural practices, industrial processes and in sanitary habits.

Some Major Causes of soil pollution:

Industrial waste: Industrial wastes are mainly discharged from coal and mineral mining, metal processing and engineering industries.

Agricultural practices: Though fertilizers are used to increase the fertility of soil, they often contaminate the soil with impurities present in them. When the fertilizers are contaminated with other synthetic organic chemicals, the soil water gets polluted.

Q17. Defines the effect of waste accumulation on human health.

Ans:

Several incidents around the world have demonstrated the potential harm of accumulation of waste to human health. Some materials are as follows which harm people every day:

Lead: affects blood system, behavioral disorders and can also cause death.

Cadmium: cardiovascular diseases and hypertension, kidney damage Mercury: Nerve and brain damage, kidney damage.

Q18. Explain the effect of accumulation of solid waste on aquatic and terrestrial life.

Ans:

(i) Ammonia seems to be an internal poison to fish as it gets into the body through the gills.

(ii) Bio-accumulation in sea-birds and marine mammals has been linked to reduced breeding success.

(iii) In aquatic ecosystems, cadmium can bio-accumulate in mussels, oysters, lobsters and fish.

(iv) Air contaminated with ozone has irritant qualities and is responsible for pulmonary changes, edema and hemorrhage in dogs, cats and rabbits.

(v) Oil is reported to coat the gills of fish which affects their respiration.

(vi)

Q19. What is incineration? Give advantage and disadvantage of incineration.

Ans:

Incineration is the process of destroying waste materials by burning. Incineration is carried out both on a small scale by individuals, and also on a large-scale industry.

Advantages:

(i) It is a useful technology to deal with large quantities of organic hazardous wastes that have high calorific value and cannot be dealt with by other methods.

(ii) Incineration kills pathogenic organisms and reduces the volume of the waste up to 50 percent.

Disadvantage:

(i) Incineration equipment has high maintenance requirements.

(ii) Incineration consumes significant amount of energy to achieve high temperature.

Q20. Explain the role of government in waste management.

Ans:

The government is not just the protector of the country's environment but also has a major responsibility for sustaining environmental conscience. The government's environmental policy focusses on the following areas:

(i) They check degradation of land and water through wasteland management and restorations of river water quality Programme.

(ii) To monitor development through environmental impact assessment studies of major project proposals; and

(iii) To make laws and acts for environment protection and to initiate penal measures against those who violate these laws.

Q21. What are the reasons for spoilage of landscape?

Ans:

Spoilage of landscape is due to improper disposal wastes, especially solid waste, it may include slag heaps from paper mills, waste from mines, fertilizer, etc. Even our household contributes a large no. of solid wastes like paper, plastic, vegetable waste, etc.

Q22. Why is composting important?

Ans:

Composting is important because it puts organic materials back into the ground which is necessary for a naturally healthy lawn and garden. In addition, composting is important because it's a better alternative than sending these natural organic materials to the landfill.

Q23. Why do we have landfills and are they really necessary?

Ans:

The garbage that is disposed of each day by municipalities, government, business and industries must be done so in an environmentally safe way in order to protect human health and the environment. Landfills are one way to dispose of our solid waste in a safe way. We have landfills because not every item thrown out or discarded can be recycled or reused.