

Environmental Science and Engineering

(Two Mark Question and Answers)

UNIT-1

1. Define Environment?

Physical, chemical and biological presence of living and non-living things outside an individual species is called as its environment.

According to ISO 14001, environment can be defined as, “Surroundings in which an organization operates, including air,water,land, natural resources,flora,fauna,humans and inter relation”.

2. What are all the categories of environment?

The main categories of environment are biotic and abiotic environments. The abiotic environment can further be classified into atmosphere (air),lithosphere(soil),and hydrosphere(water). The biotic environment is called as biosphere.

3. Write the components of environment?

1. Air(Atmosphere)
2. Land(Lithosphere)
3. Water(Hydrosphere)

4. Mention any two awareness programme of environmental issues to student?

1. Participating in seminars and courses related to environment issues.
2. Discussion with people about the environmental problems.

5. Define deforestation?

Deforestation refers to the removal of plants in the forest.

6. List the Causes of deforestation?

1. Slash and Burn farming.
2. Commercial agriculture.
3. Cattle ranching and livestock grazing.
4. Mining and petroleum exploration.
5. Infrastructure development.
6. Fuel wood collection.
7. Tree Plantation

7. Define Surface water?

Precipitation that does not soak into the ground or return to the atmosphere by evaporation or transpiration is called surface water. It forms streams, lakes, wetlands, and artificial reservoirs.

8. What is Groundwater?

The subsurface area where all available soil and rock spaces are filled by water is called the zone of saturation, and the water in these pores is called ground water.

9. What is Rock?

Rock is any material that makes up a large natural, continuous part of the earth's crust. Some kinds of rock, such as limestone (calcium carbonate, or CaCO₃) and quartzite(silicon dioxide or SiO₂), contain only one mineral,but most rocks consist of two or more minerals.

10. Give the classification of Mineral Resources?

Energy resources (coal, oil, natural gas, uranium, and geothermal energy); metallic mineral resources (iron, copper, and aluminium) and nonmetallic minerals resources (salt, gypsum, and clay, sand, phosphates, water, and soil).

11. Classify food production?

There are two types of food production

1. Industrialized Agriculture
2. Subsistence Agriculture
3. Intensive Agriculture

12. Define Traditional Agriculture?

Traditional Agriculture can be classified as Traditional Subsistence agriculture and Traditional Intensive agriculture. Traditional Subsistence agriculture produces enough crops or live stock for a farm family's survival and in good years, a surplus to sell or put aside for hard times. In Traditional Intensive agriculture farmers increase their inputs of human and draft labour, fertilizer, and water to get a higher yield per area of cultivated land to produce enough food.

13. List some of the food resources available in the world?

Major food sources available in the world to cater the human's hunger are 12 types of seeds and grains, 3 root crops, 20 common fruits and vegetables, 6 mammals, 2 domestic fowl, few fishes and other forms of marine life, etc.

14. Classify energy resources?

Available conventional energy sources can be divided into two categories

- 1) Renewable Energy Sources
- 2) Non Renewable Energy Sources

15. Draw the flow chart of petroleum fractionation process?

Fuel gas, Propane Gasoline Kerosene Furnace Diesel Lubricants Asphalt
Butane liquefied gas oil Heated crude oil

16. Write the advantages and disadvantages of petroleum as a energy resources?

As a source of energy petroleum has many advantages

- 1) It is relatively cheap to extract and transport
- 2) It requires little processing to produce desired products and
- 3) It has relatively high net and useful energy

yield. However it has certain disadvantages also,

- 1) Produces Environmental pollution
- 2) Oil spills, in ocean cause water pollution and is expensive to clean up.

17. Write short notes on petroleum gas?

It is the mixture of three hydrocarbons butane, propane and ethane. The main constituent of petroleum gas is butane. The above gases are in gaseous state in ordinary pressure but they can be liquefied under high pressure. So it is called as LPG. (Liquefied petroleum Gas).

A domestic cylinder contains 14 kg of LPG. A strong smelling substance called ethyl mercaptan is added to LPG gas cylinder to help in the detection of gas leakage.

18. What is fission neutrons?

The fission process is accompanied not only by the release of energy also it releases neutrons called as fission neutrons.

19. Name the several types of nuclear reactors?

1. Light water Reactor(LWR)
2. Heavy water Reactor(HWR)
3. Gas Cooled Reactor(GCR)
4. Boiling Water Reactor(BWR)
5. Pressurised Water Reactor(PWR)
6. Liquid Metal Fast Breeder Reactor(LMFBR)

20. List some of the renewable energy sources?

1. Solar energy
2. Wind energy
3. Hydro energy
4. Geo-thermal energy
5. Ocean thermal energy
6. Biogas

21. Write short notes on Tidal energy?

Tides, the alternate rise and fall of sea water possess lot of energy. The identified tidal power potential in India is around 9000 MW. Currently France, Russia, china and Canada are effectively utilizing the tidal energy to produce 2 to 3% of their energy demand.

22. Narrate the advantages and disadvantages of the Hydel power?

Hydel power has the following advantages.

1. Clean Source of energy
2. Provides irrigation facilities
3. Provides drinking water to the people living around

It also has some environmental and socio-economic problems like submerged forests and agricultural land, loss of biodiversity, water logging and silting etc.

23. Define Soil Erosion?

Soil erosion is the movement of soil components, especially surface litter and top soil, from one place to another. The two main movers are flowing water and wind.

24. Write short notes on Desertification?

It is a problem where by the productive potential of arid or semiarid land falls by 10% or more and is caused mostly by human activities.

Desertification is classified into three categories

1. Moderate - Having 10 to 25% drop in productivity
2. Severe - Having 25 to 50% drop in Productivity
3. Very Severe- Having 50% or more, creating huge gullies and sand dunes.

25. List some ways to protect soil?

1. When the buildings are constructed, all the trees shall be saved.
2. Setting a composite bin and it shall be used for producing mulch and soil conditioner for yard and garden planets.
3. Organic methods can be used for growing vegetables.
4. Strictly enforcing laws and policies that minimizes soil erosion, salt buildup and water logging.

26. What is equitable use of resources?

The Equitable use of resources is a concept that deals with the rational use of resources so that a harmony between man's resource requirement and its availability can be established.

UNIT-II

1. Define ecosystem?

Ecosystem has been defined as a system of interaction of organisms with their surroundings. Numerous dynamic interaction are occurring within an ecosystem and these are complex.

2. List any four characteristics of ecosystem?

- (i). Ecosystem is the major ecological unit
- (ii). It contains both biotic and abiotic components.
- (iii). The boundary of the ecosystem is not rigidly defined and it is flexible.
- (iv). Through the biotic and abiotic components nutrient cycle and energy flow occur.

3. What are the different types of ecosystem?

1. Natural Ecosystem
2. Artificial Ecosystem
3. Incomplete Ecosystem

4. What are the biotic components of an ecosystem?

1. Producers (Autotrophs)
2. Consumers (Heterotrophs)
3. Decomposers

5. What are the autotrophs?

Producers or Autotrophs are organisms that are capable of making their required food themselves. (Auto =self, troph=feeder). Green plants, grasses, mosses, shrubs, etc., are some of the examples of autotrophic components.

6. Define heterotrophs?

Those organisms which depend on others (Producers-Autotrophs) for their energy requirements are known as Consumers or Heterotrophs. Since the animals are not having chlorophyll, they are unable to produce their own food.(Hetero=other,troph=feeder).

7. List the abiotic components of an ecosystem?

1. Climatic factors-Solar radiation, Temperature, Wind, Water current, rainfall, etc.
2. Physical factors-Light, Fire, pressure, etc.,
3. Chemical factors – Acidity, Salinity, Inorganic nutrients, etc.,

8. Differentiate between Kinetic energy and Potential energy?

Kinetic energy is the energy possessed by virtue of its motion from one place to another. This is measured by the amount of work done in bringing the body to rest.

9. Define ecological succession?

Ecological succession is defined as the process in which communities of plant and animal species in a particular area are replaced over time by a series of different and often more complex communities.

10. Define primary succession?

The succession taking place in areas that have not already been occupied by any community is known as primary succession.

11. Define secondary succession?

Development of a new community in an area where the previously existing community was removed and the ecological conditions are favourable is termed as secondary succession.

12. What do you know about autogenic succession and allogenic succession?

Allogenic succession (Allo=outside, genic=related) is the type of development occurred in the ecosystem due to the interaction of external physical forces acting on it. Autogenic succession (Auto=inside, self propelling) is the type of development occurred in the ecosystem due to the developmental process generated within the system.

13. What are the characteristics of pioneer species?

1. It has less population.
2. Its nutrient requirement is very less.
3. The rate of growth should be as low as possible.
4. It should be more dynamic to face interspecific and intraspecific competitions.

14. Define seral stage?

Seral stage is defined as the development of secondary community from the pioneers. Each seral stage appears, grows and finally disappears as the environmental changes occur. Each seral stage has its particular community called seral community.

15. What are the three theories related to climax communities?

1. Mono climax theory
2. Poly climax theory
3. Climax pattern theory.

16. What do you know about food chain and food web?

A food chain is a picture or model that shows the flow of energy from Autotrophs to a series of organisms in an environment. The network like interaction of organisms is called as food web.

17. Name three types of food chains?

- a. Grazing food chain
- b. Detritus or Decomposer food chain
- c. Parasitic food chain

18. Define ecological pyramids?

The representation of amount of energy stored in the bodies of living things is called as Ecological pyramids.

19. What is a forest?

A forest is a living community of various species of trees and smaller forms of vegetation. This type of biome contains moderate to high average annual rainfall.

20. How can you classify forests?

1. Tropical rain forests
2. Temperate forests
3. Polar (or) Boreal forests

21. What do you know about grasslands?

Grasslands are grassy, windy, partly-dry biome. Almost one-fourth of the Earth's land area is covered by grassland. Any more, the land would become a forest. Any less, the land would become a desert. The grasslands mostly separate forests from deserts. Most of the grasslands are found in the interiors of continents and rain shadows.

22. What are the types of grasslands?

1. Tropical grasslands (Savannah)
2. Temperate grasslands
3. Polar grasslands (Tundra)

23. List the three types of savannahs?

- a. Climatic savannah
- b. Edaphic savannah
- c. Derived savannah.

24. What are major human impacts on grasslands?

1. Conversion of grassland to cropland
2. Overgrazing of grassland by farm animals.
3. Damage by oil production, air and water pollution and vehicles movement.

25. How do the desert plants adopt to the climate?

Most of the plants have the ability to lack of rainfall. They have widespread roots which are close to the surface. This enables the roots to absorb water quickly, before it evaporates. Plants like 'Cactus' survive because of their thick waxy layer on the outside of its stems and leaves. This helps to retain water and protect tissues from severe sunlight.

26. What are the different types of desert biome?

1. Hot and dry deserts
2. Semiarid deserts
3. Coastal deserts
4. Cold deserts.

27. Define freshwater?

Freshwater is defined as water with less than 1% salt concentration. Plants and animals living in freshwater are adjusted to its low salt concentration.

28. How can you differentiate ponds and lakes?

Ponds are small fresh water bodies surrounded by land and lakes are large fresh water bodies surrounded by land. Most of the ponds are seasonal and exist for just a few months of a year or more.

29. What are the different zones of ponds?

1. Littoral zone,
2. Limnetic zone, and
3. Profundal zone.

30. What are estuaries?

The place where freshwater streams or rivers connect together with the salt water are called estuaries.

31. List the importance of estuaries?

These are important as nursery sites for many kinds of fish and crustaceans like flounder and shrimp

Mixing of many pollutants in the ocean is prevented by the action of trapping of sediments which are carried by the river.

32. What are coral reefs?

Corals are animals, which contain algae called zooanthellae and tissues of animal polyp. A reef is a rocky outcrop rises from the sea floor which is made up of calcareous material, concealed by the coral animals themselves and by red and green algae. Since reef waters tend to be nutritionally poor, corals obtain the required energy from the photosynthetic algae that live in the reef.

33. What are the three basic forms of coral reef?

1. Fringing reefs
2. Barrier reefs
3. Atolls

34. Define bio diversity?

Biodiversity is defined as 'richness of species (micro- organisms, plants and animals) occurring in a given habitat'. It is the sum of genes, species and ecosystems.

35. What are the three types of biodiversity?

1. Genetic Level or Genetic diversity
2. Species Level or Species diversity
3. Ecosystem Level or Ecosystem diversity.

UNIT III

1. Define Air pollution?

Air pollution may be defined as the presence of impurities in excessive quantity and duration to cause adverse effects on plants, animals, human beings and materials.

2. What are the different sources of air pollution?

The two main sources of air pollution

- a. Natural Sources
- b. Man made or anthropogenic sources

Natural sources include dust storms, volcanoes, lightning sea salt, smoke, forest fires, ect. The man made sources are agricultural activities, industrial growth, domestic wastes, automobile exhausts, etc,

3. What do you know about particulate?

In general the term 'particulate' refers to all atmospheric substances that are not gases. They can be suspended droplets or solid particles or mixtures of the two. Particulates can be composed of materials ranging in size from 100mm down 0.1 mm and less. The chemical composition of particulate pollutants is very much dependent upon the origin of the particulate.

4. What are the prime sources of particulate matter?

- i. Coal fired power plants
- ii. Automobiles

5. Define suspended particulate matter?

Suspended Particulate Matter (SPM) is a complex mixture of small and large particles with size less than 100µm varying origin and chemical composition.

6. Differentiate between Mist and Fog? Mist

Mist is made up of liquid droplets generally smaller than 10µm which are formed by condensation in the atmosphere or are released from industrial operations.

Fog

Fog is similar to mist but the droplet size bigger (> 10µm) and water is the liquid. Fog is sufficiently dense to impede vision.

7. What are gaseous pollutants?

These are toxic and poisonous gases such as carbon monoxide, chlorine, ammonia, hydrogen sulphate, sulphur dioxide, nitrogen oxides and carbon dioxide.

8. What are the major sources of air pollution from automobiles?

- The major sources of air pollution from automobiles are Exhaust pipe ->70%
- Crank case emission ->20%
- Evaporations from fuel tank and Carburettor ->10%

9. What are effects of air pollution on animals?

Animals take up fluorides of air through plants. Their milk production falls and their teeth and bones are affected. They are also prone to lead poisoning and paralysis.

10. List some of the effects of air pollution on physical properties of atmosphere?

- Decrease in the visibility
- reduction of Solar radiation
- Effects on weather conditions
- Effects on atmospheric constituents

11. Briefly describe about the impacts of carbon monoxide on human health?

At lower doses, they can impair concentration and neurobehavioral function whereas in higher doses they can cause heart pain and even death. When inhaled it has the ability to combine with haemoglobin of blood and reduce its ability in transfer of oxygen to the brain, heart, and other important organs. But carboxyaemoglobin contents of blood depend on the CO contents of the air inhaled, time of exposure and the activity of the person inhaling. It is particularly dangerous to babies and people with heart disease.

12. How air pollution can be controlled at source?

- Proper use of the existing equipment
- Change in process
- Modification or Replacement of equipments
- Installation of controlling equipments

13. What are the gaseous control equipments?

- Wet and dry adsorption
- Combustion or Catalytic incineration

14. What are the particulate control equipment?

- Gravitational settling chambers
- Cyclone separators
- Fabric filters (or) Bag filters
- Electrostatic precipitators
- Wet scrubbers (or) Wet collectors

15. What are bag filters?

Bag filters are the woven or non-woven fabrics used to filter the particulate laden gases. These generally of tubular shape or envelope shape. Its efficiency is about 99% and it can be used to remove particles small as 0.0mm

16. What are the factors to be considered in selection of type or fabric in fabric filters?

- Temperature of the gas
- Costiveness or abrasiveness of the particles. .

17. Name some of the types of wet scrubbers?

- Spray towers
- Centrifugal scrubbers
- Venturi scrubbers and
- Packed bed columns

18. Define water pollution?

Water pollution is defined as any physical, chemical or biological change in quality of water that has a harmful effect on living organisms or makes the water unsuitable for needs.

19. How can you differentiate point source from non-point source of pollution?

Point sources discharge pollutant at a specific place through pipe lines, sewer lines, or ditches into water bodies.

Non point sources discharge pollutants from large and scattered area. These sources have no specific location.

20. What are the effects of inorganic substances in water?

Makes the water unfit for drinking and other purposes. Corrosion of metals exposed to such waters.

Causes skin cancers, damages to spinal, CNS, liver and kidneys.

Reduces crop yield.

21. How do the nutrients from agricultural fields affect the watershed?

Enrichment of nutrients (Eutrophication) from surrounding watershed affects the penetration of light through the water, causing damage to the characteristic of water and aquatic life.

22. Define soil pollution?

Soil pollution is defined as the introduction of substances, biological organisms, or energy into the soil, resulting in a change of the soil quality, which is likely to affect the normal use of the soil or endangering public health and the living environment.

23. Define marine pollution?

Marine pollution is defined as “Introduction by man, directly or indirectly, of substances or energy in to the marine environment (including estuaries) resulting in such destructive effects harm to living resources, hazard to human health, hindrance to marine activities including fishing, impairment of quality for use of sea-water, and reduction of amenities.”

24. What is the cause of noise pollution?

- Road traffic noise
- Air traffic noise
- Rail traffic noise
- Domestic noise
- Industrial noise
- Incompatible land use

25. How can you define thermal pollution?

Thermal pollution can be defined as ‘the excessive raising or lowering of water temperature above or below normal seasonal ranges in streams, lakes, or estuaries or oceans as the result of discharge of hot or cold effluents in to such water’.

26. What are solid wastes?

The wastes generated and discarded from human and animal activities that are normally solid are called as solid wastes.

UNIT IV

1. State the declaration about the sustainable development?

The Rio declaration states that, “human beings are at the center or concern for sustainable development. They are entitled to a health and productive life in harmony with the nature. Every generation should leave air, water and soil resources without any pollution as pure as it came to the Earth.”

2. Define sustainable development?

Sustainable Development is defined as, 'the development to meet the needs of the present without compromising the ability of future generations to meet their own needs.'

3. What are the three important components of sustainable development?

The three important components of sustainable development are

- i. Economic development (like industrial development, creating job opportunities, utilization of natural resources for developing the quality of life)
- ii. Community development (providing food, shelter, cloth, education, and other essentials for the human beings).
- iii. Environmental protection (providing clear air, water and environment for the present and future generations and utilization of resources in a sustainable manner).

4. Define sustainable development indicators?

Sustainable development Indicators (SDI) are various statistical values that collectively measure the capacity to meet present and future needs. SDI will provide information crucial to decisions on national policy and to the general public.

5. What are the uses of sustainable development indicators?

The indicators are used by decision makers and the policy makers at all levels in order to monitor the progress towards attaining sustainable development. These are also used to increase focus on the sustainable development.

6. Define sustainability?

Sustainability can be defined as the ability of a society or ecosystem to continue functioning into the indefinite future without being forced into decline through complete loss of its strength or overloading of key resources on which that system depends.

7. Define resistance stability and resilience stability?

Resistance stability is the ability of a system to remain stable in the face of stresses and Resilience stability of the system to recover from the disturbance occurred due to the activities happened.

8. List some of the characteristics of a sustainable society?

- i. All the material processes will be designed to be of cyclic nature.
- ii. There will not be any waste material or pollution of air, water, land and environment.
- iii. The output from one system will be used as input to other systems.
- iv. Only renewable energy will be used in the society, either directly or in the forms of hydro-power, wind power solar power and biomass.
- v. The human population will be either stable stable in size or gradually Declining.

9. Define urbanisation ?

Urbanisation is defined as 'the process movement of human population from rural areas to urban areas in search in search of better economic interests with better education, communication, health, civic facilities and other day to day needs.'

10. What are problems or discomforts faced by rural people?

- . Lack of modernization of agricultural sector:
- . Lack of job opportunities;
- . Poor life style;
- . Poor health facilities;
- . Poor education facilities;
- . Poor transportation facilities;
- . Poor availability of energy.

11. What are the uses of energy in an urban areas?

Energy is used in an urban area for the following.

- (a) For industrial activities
- (b) For transportation
- (c) For water apply
- (d) For building & commercial use
- (e) For cleaning of pollutants
- (f) For essential services.

12. Define water conservation. Also indicate some of the water conservation techniques?

The production, development and efficient management of water resources for beneficial use is called as water conservation. The following are some of the techniques for water conservation.

- Rain water harvesting
- Watershed management
- Construction of storage reservoirs
- Reuse of industrial wastewater
- Better agricultural practices

13. What do you know about watershed?

A watershed is defined as the geographic area from which water in a particular stream, lake or estuary originates. It includes entire area of land that drains into the water body. It is separate from other system by high points in the area such as hills or slopes.

14. What is watershed management ?

Watershed management is a process aimed at protecting and restoring the habitat and water resources of a watershed, incorporating the needs of multiple stakeholders.

15. What are the impacts of human activities on watershed?

- (a) Alteration of water course b)
- Addition of pollution sources
- (c) Urbanisation
- (d) Securing of channels.

16. What are the two important principles of watershed management?

The two important principles of watershed management are: 1) To preserve the environment, and

- 2) To use the most cost-effective means to achieve this goal.

17. Name some of the factors causing relocation of people?

- (a) Development activities
- (b) Natural and man-made disasters
- (c) Conservation initiatives.

18. Define resettlement and rehabilitation?

Resettlement is defined as the process of simple relocation or displacement of human population without considering their individual, community or societal needs. Rehabilitation is defined as the process of replacing the lost economic assets, rebuilding the community system that have been weakened by displacement, attending to the psychological trauma of forced separation from livelihood.

19. How do you define term ‘Environmental Ethics’?

Environment Ethics is the branch of ethics which is analyzing about human use or Earth’s limited resources.

20. What are the factors that influence climate change on the earth?

Climate change on the earth is influenced by the following factors. Variations in the Earth’s orbital characteristics.
Atmospheric carbon dioxide variations.
Volcanic eruptions
Variations in solar output.

21. List out any four effects of climate change?

Mean sea level is increased on an average of around 1.8mm per year. Many ecosystems of the world have to adapt to the rapid change in global temperature. The rate of species extinction will be increased. Human agriculture, forestry, water resources and health will be affected.

22. Define Global warming?

Global warming is defined as the increase in temperature of the earth, which causes more changes in climate.

23. How can global warming be controlled?

- i. Reduction in consumption of fossil fuel such as coal and petroleum.
- ii. Use of biogas plants.
- iii. Use of nuclear power plants.
- iv. Increasing forest cover.
- v. Use of unleaded petrol in automobiles.
- vi. Installation of pollution controlling devices in automobiles and industries.

24. What are the two principal acids present in acid rain?

Sulphuric acid (H₂SO₄) and Nitric acid (HNO₃).

25. Define wet deposition and dry deposition. Is there any difference in damage due to these two types of deposition?

Wet deposition refers to acidic rain, fog, and snow. As this acidic water flows over and through the ground, it affects plants and animals in many ways. Dry deposition refers to acidic gases and particles. About half of the acidity in the atmosphere falls back to earth through dry deposition. Both wet and dry deposition can cause the same damage.

UNIT V

1. How the population problem in India is analysed?

India's population problem may be viewed from three aspects

- (1) The absolute size of population
- (2) The rate of growth of the population
- (3) The age structure of the population.

2. What is population explosion?

Population explosion means the rapid population growth which is unexpected and unimaginable. The graph of recent population growth is referred to as a 'J' curve as it follows the shape of that letter, starting out low and skyrocketing straight up.

3. List the effect of population explosion?

Enormous increase in population results in

1. Increased consumption of resources available in the environment and depletion of the same quickly.
2. Due to over-consumption of natural resources, the environment gets deteriorated and polluted.
3. There will be desertification, deforestation, soil erosion, loss of fertility and poor productivity.
4. Mass poverty, poor per-capita availability of food for consumption and prevalence of disease on large scale.
5. Rapid urbanization resulting in growth of slums in cities and towns.
6. Inefficient management and ineffective control at all levels leading to poor quality of life.

4. What is health?

Health is considered as a quality of life that enables the individual to live most and serve best.

5. Define wellness?

Wellness is a state of optimal well being. Wellness emphasizes each individual's responsibility for making decisions that will lead not only to the prevention of disease but to the promotion of a high level of health.

6. Name some health related fitness components?

1. Muscular strength and endurance
2. Flexibility
3. Body composition
4. Cardio-vascular endurance

7. Define Demography?

It refers to the science of dealing with the study of size, composition and territorial distribution of population; it includes study of natality, fertility, mortality, migration, and social mobility.

8. What is vital statistics?

Vital statistics are referred to systematically collected and compiled data relating to vital events of life such as birth, death, marriage, divorce, adoption, etc. Vital statistics are an indication of the given situation and help us in answering many health-related

queries

9.Name the fundamental rights of an Indian citizen?

1. Right to equality
2. Right to freedom of Speech and Activity
3. Right against Exploitation
4. Right to Freedom of Religion
5. Cultural and Educational Rights
6. Right to Constitutional Remedies.

10.Write short notes on common property resources?

Our environment has a major component that does not belong to individuals. There are several commonly owned resources that all of us use as a community. The water that nature recycles, the air that we all breathe, the forests and grasslands which maintain our climate and soil, are all common property resources.

11.What is HIV and AIDS?

HIV stands for Human Immuno-deficiency Virus and is a virus that can damage the body's defence system so that it cannot fight off certain infections.

AIDS stands for (Acquired Immuno Deficiency Syndrome). An HIV infected person receives a diagnosis of AIDS after developing one of the AIDS indicator illness, A positive HIV test result does not mean that person has AIDS. A diagnosis of AIDS is made by a physician using certain clinical criteria (Eg: AIDS indicator illnesses).

12.What is opportunistic infection?

Infection with HIV can weaken the immune system to the point that it has difficulty fighting off certain infections. These types of infections are known as "opportunistic infections" because they take the opportunity to weaken the immune system which causes illness of the body.

13. List the means of HIV transmission.

There are four main ways in which HIV can be passed on:

1. By having vaginal, anal or oral sex without a condom with someone who has HIV.
2. By using needles, syringes or other drug-injecting equipment that is infected with HIV.
3. From a woman with HIV to her baby (before or during birth) and by Breast feeding.
4. By receiving infected blood, blood products or donated organs as part of medical treatment.

14. Name some tests available to find HIV infection?

In addition to the EIA or ELISA and Western blot, other tests now available include:

- Radio Immuno Precipitation Assay (RIPA)
- Dot -blot immuno binding assay
- Immuno fluorescence assay
- Nucleic acid testing assay
- Polymerase Chain Reaction (PCR)

15. List the special features of Comprehensive programme on women and child welfare?

1. Personality
2. Reduction of Deprivation
3. Co-ordinational Effectivity
4. Maternity and Motherhood

16. What is information?

The term “information” has been defined by Eliahu Hoffinan as: “an aggregate (Collection and accumulation) of statements, or facts or figures which are conceptually by way of reasoning, logic, ideas, or any other mental “mode operation” interrelated/connected.

17. Name Some applications of IT in health?

Apart from helping in the administration of hospitals, IT is playing a key role in the health industry. On the, medical care, the IT has varied applications right from the diagnosis, where there are latest tools like CT scans, Ultrasound Sonography etc. Which use It as their basis for diagnosis of ailments. Most of the ICU’s (Intensive Care Units) are now using computers to monitor the progress and condition of the patient, undergoing treatments. Apart from this, with help of IT, expert opinions from doctors away from the place can be sought with help of IT tools like video conferencing etc. Apart from this can be used in the analysis and research on various potential medicines /drugs to be used in medical treatments.

18. List the applications of IT in environment?

- a. Remote Sensing
- b. Geographic Information System (GIS)
- c. Global Positioning System(GPS)
- d. Meterology

19. What is meant by sewage sickness?

The phenomena of soil getting clogged when the sewage is applied continuously on a piece of land is called sewage sickness

20. What are the preventive methods for sewage sickness?

- Primary treatment of sewage
- Choice of land
- Under drainage of soil
- Giving rest to land and Rotation of crops

21. Define dilution factor?

The dilution factor is defined as the ratio of the amount of river water to the amount of the sewage

22. List various natural forces of self purification?

- Physical forces
- Chemical forces

23. What are the factors affecting the reduction?

- Temperature
- Turbulence effect of wind

Hydrographic

Available dissolved
oxygen Rate of re-aeration

24. What is meant by prim lake pollutant ?

The phosphorus which contains in domestic sewage as well as in the industrial waste which affect the water quality of the lake and its called prim lake pollutant

25. What is meant by de oxygenation curve?

The curve which represents (or) showing the depletion of D.O with time at the given temperature