**13A01403 ENVIRONMENTAL SCIENCE Short Answers**

**Unit -I (Part-B)**

1. **What are renewable resources?**
   Resources that can be replenished or produced in a given span of time are called renewable resources. Ex. Plants, animals, Solar energy, Wind Energy, OTE etc.

2. **What are non Renewable resources?**
   Resources that cannot be replenished or produced in a given span of time are called non renewable resources. Ex. Soil, Petroleum, Coal, Nuclear Fuels etc.

3. **Name the plant which yield drug for malaria and cancer?**
   Quinine is a drug for malaria which is made from the bark of cinchona tree.

   For cancer, Vinca Rosea, available in India and Camptothea Acuminata plant present in China and Tibet posses anti-cancer properties.

4. **What is deforestation?**
   The removal or reduction of forest cover is called deforestation.

5. **What are the causes of Deforestation?**
   The growing population and rapid industrialization and many related activities are responsible for forest area exploitation. The important reasons for destruction are:
   - Encroachment of forest land for agricultural use.
   - Expansion of cities.
   - Construction of dams, canals, and highways.
   - Establishment of industrial areas.
   - Demand for firewood.
   - Mining.
   - Sifting cultivation.
   - Forest fires.
   - Submergence of forests in river valley projects.

6. **What are the effects of Deforestation?**
   Large scale deforestation leads to number of adverse effects as followed:
   - Loss of habitat of wild animals.
   - Increased intensity and frequency of floods.
   - Land degradation.
   - Loss of forest products.
   - Change in climatic conditions.
   - Siltation of rivers and lakes.
   - Loss of revenue.
   - Change in water cycle and reduced rainfall.
   - Increased socio-economic problems in long run.

7. **What is a confined aquifer?**
   An aquifer which is sandwiched between two layers of less permeable material is called confined aquifer. It has the recharging point far away, some time 100s of km away.

8. **What is an unconfined aquifer?**

   An aquifer overlaid by permeable earth materials and is recharged by water seeping down from above in the form of rainfall and snow melt is called unconfined aquifer.

9. **What are the effects of groundwater exploitation or Over-utilization of Groundwater?**

   The following are the effects of groundwater exploitation:
   - Reduced surface water flow.
   - Lowering of water table.
   - Water logging.
   - Ground Subsidence.
   - Degradation of water quality.
   - Increased salt content.
   - Increased power costs.

10. **What are the different types of floods?**

    The various types of floods are:
    - Flash floods: Floods caused by sudden and heavy rainfall.
    - River floods: Floods caused by precipitation over large catchment areas or by melting snow.
    - Coastal floods: Floods associated with cyclonic activities producing extreme flooding in coastal areas.

11. **What is drought?**

    Devoid of water in an area is termed as drought.

    Drought is an extended period when a region receives a deficiency in its water supply, whether atmospheric, surface or ground water.

    Usually it's a meteorological phenomena, i.e, when the rainfall is significantly less than the climatological mean of that area, drought conditions prevail. Yet now-a-days many areas are under drought conditions due to the anthropogenic causes.

12. **What are the advantages of Dams?**
    - Increase in irrigation capacity.
    - Increase in electricity production.
    - Promote navigation.
    - Increase of Recreation land (Theme parks).
    - Control of floods.
    - Increase source of fresh water resources or domestic uses.

13. **What are the Disadvantages of Dams?**

    Some of the disadvantages associated with dams are:
    - Deforestation and loss of biodiversity.
    - Sinking of agricultural and forest land.
    - Displacement of tribal people from home lands.
    - Growth of aquatic weeds.
    - Siltation of reservoirs, due to degraded catchment conditions.
    - Microclimatic Changes.
    - Increase of vector borne - diseases.
    - Increase of flash floods.
    - Increase of water logging and salinity conditions.
    - Changes in earth rotation.
    - Increase of greenhouse gases.

14. **What are the various effects of mining?**
    - Accelerates the deforestation.
    - Reduces soil fertility & increases soil erosion.
    - Increases particulate matter, fumes etc.
    - River contamination and ground water contamination.
    - Ground subsidence.
    - Defacing of landscape.
    - Increase of Occupational health hazards.
    - Induced seismicity due to bastings.
    - Radioactive contamination in case of radioactive mining.

15. **How can mineral resources be conserved?**

    Mineral resources can be conserved by:
    - Minimizing waste and developing the technologies to recover the resource from the waste.
    - Developing the alloys that will reduce the demand of the pure metals.
    - Finding the alternative to the fossil fuels.
    - Discovering the new mining areas.

16. **Write a short notes on world food problems?**

    Though world food production is increased 3 times. The population has increased 10 times. Some of the important food problems are:
    - Shortage of food.
    - Reduced irrigation due to over exploitation of land resources with excess fertilizers and chemicals.
    - Mismanagement due to hoarding and black-marketing.

17. **Write about water logging.**

    Accumulation of water on land for long period is known as water logging.

    Causes: Rain water accumulation, Irrigation with inadequate drainage.

Effects:

- Accelerates denitrification causing nitrogen loss.
- Decreases in soil Oxygen content.
- Loss of aesthetic environment due to accumulation of organic matter and its decomposition.

18. **What are the fertilizer-pesticide problems?**

The modern agricultural impacted human life a lot and created the following problems.
Fertilizer related problems:

- Micronutrient imbalance.
- The High Yielding Varieties resulted in monocultures, that destabilized the production. Any single pest attack or nutrient deficiency resulted the crop loss in the entire region.
- Degradation of soil quality.
- Eutrophication of lakes due to addition of irrigated water to them.

Pesticide related problems:

- Death of non target organisms.
- Increase in the tolerance of targeted organisms.
- Bioaccumulation and bio magnification problems.

19. **What are the methods that control soil erosion?**

The control of soil erosion depends of geographical area, landscape, type of soil etc.
Some of the common practices are:

- Reduced Tillage.
- Stubble mulching.
- Contour bunding.
- Vegetative bunding.
- Contour cultivation.
- Strip cropping.
- Terracing.

Other methods that can save soil are afforestation, control of over grazing, check dam construction.

20. **Distinguish between deforestation and desertification.**

Deforestation is the permanent destruction of forest and their replacement for other purposes.

Desertification is a process in which the productivity potential of arid and semi-arid lands fall by 10% or more and then turn into non-productive land.