**UNIT -2**

**Water Resources**

**Distribution of water**

The distribution of water on the surface of earth is extremely uneven. Only 3% of the water on the surface is fresh, the remaining 97% resides in the ocean. Of fresh water 69% resides in glaciers, 30% underground and less than 1% is located in lakes, rivers and swamps.

**Flood**

An overflow of a large amount of water beyond its normal limits, over dry land.

**Causes**

1. Heavy rainfall
2. Snow melting
3. Sedimentation of rivers due to accumulation of silt which enables the river bed to rise and overflow.
4. Obstruction in the river flow due to accumulation of debris from the landslides and urban drainage basin.

**Methods of Flood Control**

1. Construction of dams, flood control reservoirs, flood walls and diversion channels
2. Protection of wetlands
3. Planting of trees

**Conflict over water in India**

Conflict between Bangladesh and India regarding distribution of water of Ganga from the Farakka Barrage.

**Inter-State Conflict**

1. Conflict between Karnataka and Tamil Nadu over the water of River Kaveri.
2. Conflict between Gujarat, Maharashtra and Madhya Pradesh over ‘Sardar Sarovar Dam’ on the River Narmada.
3. Satadru-Jamuna conflict between Punjab and Haryana.

**Waterlogging**

It is the saturation of soil with water. Soil may be regarded as waterlogged when it remains saturated much of the time so much so that its air pockets are restricted and an aerobic condition prevails.

**Causes**

1. Excessive rainfall
2. Poor drainage system
3. Inability of the soil to store much water
4. Over-irrigation of fields

**Preventive Measures**

1. Soil conservation
2. Construction of diversion channels to discharge water to a nearby river or any other water course.

**Drought**

An absolutely long dry period that uses up available water resources. There are three types of prevailing drought conditions.

1. Dry Spell – During the rainy season when rainfall is less than 0.8mm the situation is termed as dry spell.
2. Partial Drought – When rainfall is less than 0.2mm the situation is termed as partial drought.
3. Absolute Drought – When there is absolutely no rainfall during the rainy season for continuous 14 days the situation is termed as absolute drought.

**Causes**

1. Excessive and unplanned felling of trees
2. Establishment of factories that causes choking of free air and excessive rise in temperature
3. Greenhouse Effect
4. More vaporization than rainfall

**Preventive Measures**

1. Rainwater harvesting
2. Drip irrigation
3. Construction of solar pumps
4. Recycling organic water

**Solar Energy**

Solar energy is the capturing of the energy from the sun and subsequently converting it into electricity and other forms of energy.

**Advantages of Solar Energy**

1. Renewable energy source
2. Low maintenance cost
3. Technology development

**Uses of Solar Energy**

1. Cooking
2. Generation of electricity
3. Heating of buildings
4. Drying clothes

**Geothermal Energy**

It is heat derived within the substance of the earth. Water and stream carry the geothermal energy to the surface of earth. This energy can be used for the purposes of heating and cooling or for harnessing to generate electricity.

**Biomass Energy**

Biomass is plant or animal material used for energy production or in various industries as raw substance for a range of products. It can be purposely grown energy crops, wood or forest residue, waste from food crops, horticulture, food processing, animal farming.

**Tidal Energy**

Tides are created by the gravitational attraction of the Moon and the Sun. The relative motion of these causes the level of the water to rise and fall at a periodical interval. The difference in level of water is used to generate hydroelectricity.

**Answer the following questions. Key is mentioned at the end of each question.**

1. The mostly found substance in Lithosphere is
2. Oxygen
3. Silica
4. Alumina

Key- B

1. Tsunami is a type of
2. High coastal wave due to the Earth’s motion
3. High mid-oceanic wave due to glaciations
4. High coastal wave due to sub-oceanic earthquake

Key- C

1. Which of the following is not a renewable resource?
2. Hydroelectricity
3. Iron Ore
4. Plantation

Key- B

1. Which of the following leads to soil erosion?
2. Afforestation
3. Thermal Power Generation
4. Over Grazing

Key- C

1. Desert Ecosystem means area where
2. temperature is always high
3. thorny plants are found
4. rate of rainfall is lower than the rate of evaporation

Key- C

1. The gas responsible for Ozone layer depletion is
2. Carbon monoxide
3. Chloroflurocarbon
4. Carbon dioxide

Key- B

1. One of the major causes of marine pollution is
2. Oil Spill
3. Municipal Solid Waste Disposal
4. Over Grazing

Key- B

1. Wildlife Protection Act was enacted in the year
2. 1971
3. 1972
4. 1975

 Key- B

1. Plants tolerant to desert condition are
2. Halophyte
3. Xerophyte
4. Hydrophyte

Key- B

1. The water body with very high nutrient content is known as
2. Mesotrophic
3. Oligotrophic
4. Eutrophic

Key- C

1. Example of Tropical Savanna Biomass is
2. Dooars
3. Grasslands of Australia
4. Terai

Key- B

1. Example of lentic water is
2. Running water in river
3. Lake water
4. Ocean Water

Key- B

1. SPM in air measured by
2. High volume sample
3. Hygrometer
4. Barometer

Key- A

1. Intensity of solar radiation is measured by
2. Hygrometer
3. Luxmeter
4. Nephalometer

Key- B

1. Apico Movement took place in
2. Kumaon Region
3. Himachal Region
4. Karnataka

Key- C