6.3 OZONE LAYER DEPLETION

- Ozone layer is present in the earth's atmosphere (stratosphere) which contains 90% of atmospheric ozone (O_3).
- The ozone layer is found in the lower portion of the stratosphere from about 20 to 30 km above earth's surface.
- Its thickness varies seasonal and geographical.
- The ozone layer forms by conversion of atmospheric oxygen into ozone (O_3), this process is called as Chapman cycle.
- The oxygen gets photocatalyzed by U.V.rays to form oxygen radical.
- The oxygen radical then react with molecular oxygen and forms ozone molecule.
- Decrease in concentration of ozone and thinning of ozone layer is called Ozone depletion.
- From industries and our daily life many gases like Chlorofluorocarbons (CFC's) , Hydro- chlorofluorocarbons (HCFC's), halons, halogens, etc. get evolved in atmosphere which are mainly responsible for ozone depletion via producing produce Chlorine.
- Due to ozone depletion, harmful Ultra-violet radiation reaches on earth which is harmful to the animals, plants, aquatic life as well as on humans also.
- Decrease in amount of phytoplankton increase the CO_2 in atmosphere which contribute the global warming.
- In human, damage genetic materials in the cells and also leading cataracts, cancer, allergies and some other infectious disease.
- According to a research 10% depletion in ozone layer may increase 30% incidences of skin cancer.