# B.TECH. EAS-105

## FIRST SEMESTER EXAMINATION, 2008-2009

# ENVIRONMENT & ECOLOGY

*Time : 2 Hours* *Total Marks : 50*

***Note :****The question paper contains three sections. SECTION-A, SECTION-B and SECTION-C with the weightage of 10, 15 & 25 Marks respectively. Follow the instruction as given in each section.*

### SECTION - A

*This question contains 10 questions of multiple choice / Fill in the blanks / True, False / Matching correct answer type questions. Attempts* ***all*** *parts of this section :*

**1. Fill in the following blanks with suitable words :**

**(a) The study of the interaction between biotic and abiotic environment is known as ..... .**

**Ans.** Ecology.

**(b) The activety mainly responsible for the pesticide pollution of surface water is ..... .**

**Ans.** Modern Agriculture

**(c) Dental fluorosis is caused by excessive concentration of ..... in drinking water.**

**Ans.** Fluoride

**(d) BOD stands for ..... .**

**Ans.** Bio-chemical Oxygen Demand

**(e) PPm stands for ..... .**

**Ans.** Parts per Million

**(f) Acid rain is caused mainly is due to ..... gas in the atmosphere.**

**Ans.** $SO_2$ / $NO_2$

**(g) Ozone concentration in the stratosphere is ..... ppm.**

**Ans.** 10 P pm by volume

**(h) Which famous environmental law was enacted in 1986 ..... .**

**Ans.** Environmental Protection Act

*Indicate* ***True*** *or* ***False*** *for the following Statements :*

**(i) Only government can protect environment. .–True / False.**

**Ans.** False

**(ii) Hydrogen is an alternative future source of energy. – True /False.**

**Ans.** True

### SECTION – B

**2. Attempt any three parts. All parts carry equal marks :**

**(a) Define environment. Discuss in brief four segments of environment.**

**Ans. Environment** : The Term Environment is used to define the entire segments of nature, which includes each and every kind of surroundings.

Therefore It is the sum of all living & non-living surrounding of our earth.

It can also defined as "The sum of all biotic & abiotic factor which can affect the existence, growth & development of every living organism.

**Environmental Segments :**

(a) Atmosphere,
(b) Hydrosphere
(c) L, thosphere
(d) Biosphere.

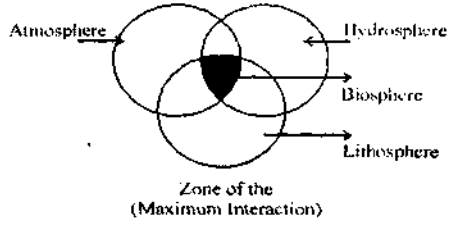



**Fig. (a)**

**Atmosphere** : It is the outer gaseous envelope of earth on. The basis of chemical composition the atmosphere is divided into

(a) **Troposphere :** It's altitude ranges from 0 – 11 km which may expand up to 15 km on the basis of temperature. The temperature of this zone ranges from 15 to –56°C & form negative lapse route (Decrease generally 6.5°C/1km in temperature as per increase in hight)

(b) **Stratosphere :** Altitude of this zone varies form 11 to 50 km & temperature ranges from – 56 to – 2°C that gives positive lapse rate in this zone. Presence of ozone is characteristic feature which absorb U.V light.

(c) **Mesosphere :** Altitude of this zone from 50 to 85 km & temperature ranges from –2 to -92°C & gives negative in ionic form & help in movement of radiowave that why a part of this zone is also known as ionosphere.

(d) **Thermosphere :** Altitude of this zone varies from 85 to 500 km & temperature ranges from –92 to 1200°C & gives the lapse rate. Presence of high temperature is literalistic which is generated from absorption of Solar radiation by $O_2$ molecules.

**Lithosphere :** It contains all of the cold, hard solid land of the planet's surfase (crust). The semisolid land below the crust &liguid land near the center of earth i. e. Magma The outer lajer of L, theosophy consist of soil particles rich in nutrients , $O_2$ & Silicon. Under this lajer next lajer is present in thin form & contains $O_2$ & silicon. The next lajer is a thick lajer i. e. semi-solid mantle & made by $O_2$, Silicon , iron & magnesium. Below this lajer a liguid core region is tint & made by Nickel & Fe (shown in Fig-b)

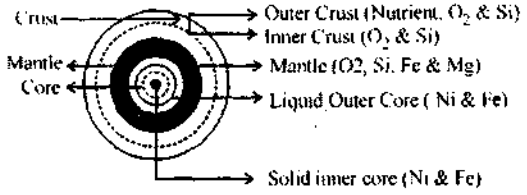



**Fig. (b)**

The crust thickness varies widely, being thickest in continental region (Avg. thickness is about 40km) & thinnest in the ocean basin (Avg. thickness about 10 to 12 km ) (shown in fig –c)


**Fig. (c)**

**Hydrosphere :** It is composed of all of the water on or near the earth surface. It may be divided in two components a river system that collects the water & other substance from water shed (i. e. Collection of water from surface) & deliver to deep valleys along the Earth surface (i. e. Ocean). Total Available water is estimated as $1.36 \times 10^9$ cubic km. Out of it 974. Water is saline in nature. The remaining 3% is fresh water from which 3/4 part is locked in the form of ice the remaining part present either in ground water form or return back to earth through precipitation (i.e.ruin)

**Bio-sphere :** It is the part of Atmosphere, Hydrosphere & lithosphere upon which existance of life of organism is possible. Must of the planet's life is found from 3 meter below the ground to 30 meters above it. All the living things of biospher from ecological communities based on physical surrounding & known as Biome. It occupies the least volume of all of 3 spheres & acts as a heart or chemical pump through which much of flow of matter occars through nature.

**(b) What are natural resource? Classify them.**

**Ans. Natural Resource :** These are the important component of environment which are created by environment it self for supporting the life. These resources are available in atmosphere hydrosphere, & lithosphere in the form of Air, water, soil, minerals, forest, food, Animals, plants, energy etc.

In a simple word we can say that all the natural raw material that are derived by surrounding to support the life is called natural resource.

**Classification :** Natural resources may classified by a number of ways. Some of them are listed below.

**Based on Availabily :**

(a) ***Exhaustible (Non renewable)*** : That can not be renewed in a limited time period e.g. Mineral

(b) ***In Exhaustible (Renewable)*** : That can be

renewed in a limited time-period e.g. Forests & water.

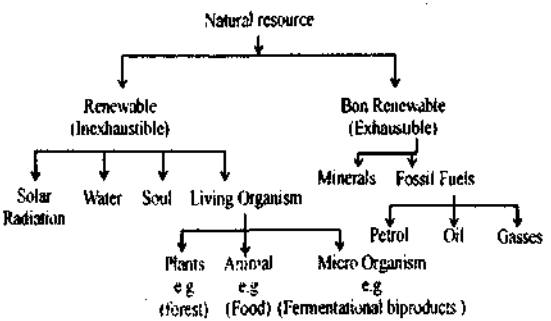
**Based on composition :**

(a) ***organic*** **:** That can be formed by organic substance e.g. Fassil Fuel

(b) ***Inorganic*** **:** These Natura Resources in which organic substance are absent e.g. hydrological energy.

**On the basis of Utility :** That natural resources that can be obtained by Forest, Food, Energy etc.

Natural Resources can also be represented by the following tree diagram.




**(c) Explain sources and effects of air pollution.**

**Ans. Source of Air Pollution :** Air pollutant can be emitted by a number of source some of them are listed below.

**On the basis of route :**

(i) ***Point source*** **:** when the Air pollutants come from a know route & location. It is known as point source. e.g. Emission of carbon oxide from vehicular exhaust

(ii) ***Area Source*** **:** when emission comes from large unknown route & location. It is known as Area source. e.g. Emission from Industrial area that emits a number of mix Air pollutant.

(iii) ***Line Source*** **:** when emission comes from mobile & long known route which joins two or more region It is known as Line source e.g. vehicular exhaust from public highway, Trains & Air planes emission.

**On the basis of Nature :**

(i) ***Natural*** **:** Those source which emits air pollution naturally & may absorb again in Nature, are known as natural source e.g. valcanic erruption, Forest Fire, Dust from storms etc.

(ii) **Anthropogenic or Man made : Those man made sources which emmits air pollutants which affects the atmosphere as well as environment are known as Anthropogenic sources.**

**Effect :** Effects of some harmful air pollutants are discussed below.

**Effect of Nitrogen oxides ($NO_x$) on plants :** Higher concentration of $NO_2$ may damage the leaves & retards the photosynthesis & causes chlorosis.

$NO_2$ can damaged the vegetation such as PAN (peroxy Acetyl Nitrate), $O_3$, Smog etc.

**Effect of $SO_x$ (sulpher di-oxide) on plant :** Acute exposure to plants causes bleathing of leaf pigments due to conversion of chlorophyll-a into phecophytin-a

Higher level of $SO_2$ kills leaf tissue & causes necrosis (i.e. some portion of leaf seems to be burned.)

**Effect of $CO_x$ (carbon oxides) an plant :** Higher level of carbon oxides affect the plants inform of leaf curling, reduced leaf size, leaf dropping Interference in cellular respirations.

10 inhibits the $N_2$ fixation ability of bacteria.

**(d) Explain acid rain and its effects on environment.**

**Ans.** It is a rain that has a larger amount of acid than the natural rain due to presence of $SO_2$ & $NO_2$ in the atmosphere. When fossil fuel barns an amount of Sulpher & Nitrogen combines with oxygen of atmosphere & produce Sulphur Oxides & Nitrogen Oxides. These pollutants go into the atmosphere & react with rain water and come back to earth in form of Acid Rain. The main components of Acid rain are Nitrous Acid ($HNO_2$), Nitric Acid ($HNO_3$), Sulphurous Acid ($H_2SO_3$) & Sulphuric Acid ($H_2 SO_2$). There fore above mentioned secandry Air pollutants decreases the pH of natural rain. A number of reactions is responsible for the formation of Acid Rain. These are.

$$2\,NO + O_2 \rightarrow 2\,NO_2$$

$$2\,NO_2 + H_2O \rightarrow \underset{\begin{bmatrix}\text{Nitrous}\\ \text{Acid}\end{bmatrix}}{HNO_2} + \underset{\begin{bmatrix}\text{Nitric}\\ \text{Acid}\end{bmatrix}}{HNO_3} \quad \text{... (i)}$$

$$N_2O_5 + H_2O \rightarrow 2\,HNO_3 \quad \text{... (ii)}$$

$$OH^{-} + NO_2 \rightarrow HNO_3 \quad \text{... (iii)}$$

**Effect :** Acid rain is an extremely destructive form of pollution. Quick effects can be seen in aguatic Ecosystem, Algae & Lichanes, while slow & Acta can be seen on man & Architecture.

**Effect on Environment :**

(i) Acid Rain increases the loss of tree leaves & needles & make them brown.

(ii) Acid rain shows its adverse effect by reducing the tree growth & damaging the bark which makes them sensitive to weather. disease & insects.

(iii) Acid rain increases the acidity of likes. ponds. river etc. & destroy the bacteria that act as a decomposer in Aguatic Ecosystem.

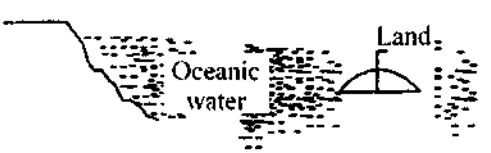
(iv) Soul fertility is badly affected because acid rain kills the earthworm & increase the leaching of potassium from soil.

**Effect on Architecture :** When Sulphur pollutants falls on the surface of building, which is made either sand stone or limestone. Then Sulphur reacts with mineral of limestone & form a powdery substance known as gypsum which can be washed away by rain and make the building puraus e.g. degradation of Taj Mahal.

**(e) Write a short note on various issues related to enforcement legislation.**

**Ans.** Issue related to Environmetal Legislation Human beings on this planet play major role in the functioning of environmental mechanism for his economical growth, status of living. During our personal welfare we emit many pollutant in biosphere which can not be easily assimilated again into environment and degranding the environment quality. The only way to ported the planet is to enforce the environmental legislation strictly. In such reference various issue are as follows.

**Global warming :** It is the warming of earth due traping of Long wavelength. Infra red radiation by $CO_2$ layer which is responsible for heat production.




**Climate Change :** Due to global warming there is critical imbalance in global air pressure. That's why rapid climate change occurs in world. Summer's are excessively. Hot and long while winter's are lumparatively shorter.

**Acid Rain :** see. question 2 (d)

**Ozone lager depletion :** By adding more choloraflоro carban in fraposphere. Where its acts as inactive substance because of high residence time it reacted to stratosphere where Cl° (chloride radicle) destroy the ozone.

$$O_3 + el^{\circ} \rightarrow Cl\,O^{\circ} + O_2$$

$$Cl\,O^{\circ} \rightarrow Cl\,O^{\circ} + O_2$$

$$O_3 + O \rightarrow Cl^{\circ} + O_2 \text{ Depletion of Ozone}$$

## SECTION – C

**Note :** *All questions are compulsory.*

*Attempt any two parts from each question.*

3. **(a) What is an ecosystem ? Classify ecosystem on the basis of energy sources.**

**Ans. Ecosystem :** All the organism & their surroundings are inseperably inter realated to each other keeping this view in mind A. G. Tansley coined the term ecosystem & defined it as the interation of living organism with living & non-living thing e.g. interation of human being (living) with green plants (living) & various gasses (Non living).

It is the smallest ecological unit of biosphere which provides all essential requirement to the group of community.

**Classification :** Stupility of ecosystem depends upon flow of energy & their dependency among different organism. The main source of energy in everyecosystem is sular energy.

Therefore ecosystem may be defined as.

(1) Naturally subsidised sular powered ecosystem.

(2) Naturally subsidised sular powered ecosystem.

(3) Subsidised sular powered ecosystem.

(4) Fuel powerd ecosystem.

**(b) Discuss the impacts of urbanization on environment.**

**Ans. Impact of urbanisation on Environment :** Due to rapid growth in industries for economical growth & for luxurious life. Humans are changing the surrounding. As comparing our previous

environmental observation It seems clearly the environmentally problems are increasing day by day.

Following are some impacts observed in environment due to rapid urbanization.

1. Decrease in the fertility of soul due to excessive use of synthetic fertilizers and pesticides. Maximum part of synthetic fertilizers is not obsorbed by plant & presence of $NO_3$ in fertilizers leached to ground water & causes Methaemoglo-binaemia. While pesticides like D.D.T is non degradable & alter the food chain & accumulate in living cells, responsible for extinction of species e.g. extinction of vultures.
2. **Decrease in water table :** Due to urbanization the demand of water increases for irrigation & for public use that why people are using ground water by deep borewell and due to very low recharging by rain water water table get reduced.
3. **Global warming :** see Q–2 e

**(c) Describe the need of public awareness about the environment.**

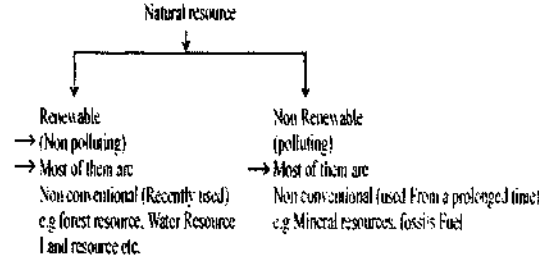
Ans. **Need of public Awareness about environment :** conclusion from different national, international conferences & seminars on environment indicated that only concerned authorities are not sufficient to solve the environmental problem Energy human being is living in the environment & therefore using the resources of nature. Ultimately he is the cause for all types of environmental problems.

If it is acknowledged by every person that how much environment pollution is created by him & how it will affect our biosphere then definitely for the sake of our clean biosphere he will take care of his activities. Therefore the objective of public awareness is to consider himself as the part of environment & create the following things

1. Knowledge of Environmental principles.
2. Skill development to reduce environment pollution.
3. Motivation & participation for environmental protection.
4. Sustainable consumption of natural resources.

**4. (a) Differentiate between renewable and non-renewable natural resources.**

**Ans. Renewable Natural Resource :** These natural resources which can be recycled & regenerated with in significant amount of time. It can be defined as renewable natural resources are these resources that can be produced with in duration. Generally Renewable Natural resources are less polluting. It we use them in a sustainable manner they will not exhausted. e.g. Forest Resource, Soul or Land resources, e.t.c.




**Non Renewable Natural Resource :** Those natural resources which can not be recycled & regenerated with in significant amount of significant amount of time. or Those resorces that can not be produced again once they will finished. e.g. Fossil Fuel, Minirals e.t.c.

**(b) What is deforestation? Enumerate and discuss the various causes of deforestation.**

**Ans. Deforestation :** It is reckless demolition of trees & plants. Normally this detrimental activity is being done for economical gains. Or in a simple word deforestation is the illegal falling of tree. In the starting of 20th century about 30% of Indian land was covered by green forest. It is estimated that major destruction is observed in tropical & Sub tropical forest (40.2%) & only 0.6% destruction is observed in temperate forest due to low economic value of wood & timber products. The following reasons are responsible for deforestation in India :

1. **Shifting cultivation :** Tribals of North- East India are persuing this practise of Agriculture in which a patch of forest have been cut & ground vegetation have been burned & then this land is used for agriculture purpuse. Due to low productivity of forest soul yeild become poorer after passing time. Then new forest patch is selected for Agro purpose.
2. **Over grazing :** When a land is over grazed by the ruminants & animals more than its carring capacity i.e. (bearing capacity) It is

known as over grazing. Due to it new plants died & become a par of food of these animal.

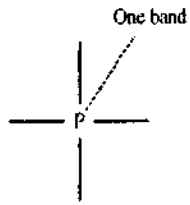
3. **Mining & Hydroelectric power project :** In both the process a large area of forest have been cleared. It poses a great Threat to wild life animal also.
4. **Natural cause :** Like forest fire is also act as a major cause of deforestation. In summer season due to friction of dry leaves of tree which contains oil pigments increases the forest fire.

**(c) Explain the uses of solar energy.**

**Ans. Solar energy :** Sun light i.e. the renewable source of energy is used by two main mechanism

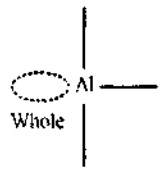
(a) ***Thermal conversion of Sun light*** : e.g Solar cooker, Solar Gyser e.t.c. In which solar radiation is used to heat the conducting material like conversion. Through which heat is either passed to food in solar cooker & to water in gyser.

(b) ***Photovaltaic conversion*** : e.g. Solar light in which ntype (doping of pentavalent substance like $p^{+5}$ ) & P type (doping of Trivalent substance like $Al^{+3}$ ) semi conductors are used to produce electricity due to pentavalent substance a bond releases to a whole of trivalent substance through which current runs apposite the direction of electrons.




All four bonds of used during bond formation with others & single bond remains. Which fill the gap (whole) produced by Trivalent substance due to it electron moves in form of bords.

During bonding of three bons with other substance a whole is formed.




**5. (a) What is water pollution? What ate its effects on human health?**

**Ans. Water Pollution :** Addition of any Aolid, liquid & gasseous Substance in water in such cnocentration that can pose a serious threat to human, plants & animal is called water pollution. Due to solid substance like sand, mud e.t.c. photosynthesis is badly affected & reduce the food production in plant & ultimately they died. While liguid pollutant like industrial waste, Taneries waste e.t.c. Increase the toxic & Heavy metal content in water that accumulate in living cells & become a part of food chain.

**Effect :** consumption of polluted water causes a number of water born diseases. Depending upon type of impurities present in water many disease are listed below with their causing agent.

1. **Amoehic dysentry :** Causing agent of this disease is a protozoan (Entamoeba histolytica) that enters in human body by non-treated drinking water.
2. **Typhoid :** The main causing agent of this disease is Salmonella typhi that also enters through consumption of sawage infected water.
3. **As cariasis :** The main causing agent of tis disease is Ascaris lumbricoides that enters in human body b consumptions drinking water with the worm ego.
4. **Naphrotic Disease :** A number of kidney problem have been observed by consumption of drinking water having lead & heavy metals.

**(b) What is noise pollution? What are the various effects of noise pollution?**

**Ans. Noise Pollution :** Compression & decompression of wave in any medium is called sound & unwanted & unpleasant sound that can create discomfort is called Noise pollution. It is measured by dB (dcsible). Normal audible range for human lies between 20 to 20000 hz.

**Effect :** The effects can be classified by two way.

**1. On the bases of Audition :**

(a) **Auditory Effect :** Impairement of hearing, Noise can affect the movement of hair cells due to which hearing capacity & body balance may affect, Auditory fatigue rely Reduction in hearing (opacity & feeling of continues buzzing in year) occurs at 4000 hz sound & permanent thresh hold shift occurs at 100 dB sound.

(b) **Non-Auditory effects :** Excess Noise increases the adrenalin harmone (Fear

harmore) in blood which makes skin pale, increases dealation of pupil of eye, blue caloration (cyanosis) in human.

**2. On the basis of general sympotoms :**

(a) **Physical effect :** permanent deafness, damage to ear drum Temporary impoirement of hearing

(b) **Physiological Effect :** Headche, Pain in heart due to contraction of vains, Reduction in Night vision due to dialahon of pupil.

(c) **Psycological Effect :** Depression, Disturbance in sleep, irritation etc.

**(c) What is solid waste? Discuss in brief the various ways of solid waste disposal methods.**

**Ans. Solid waste :** It is valuable raw material located at wrong place that can be converted in to useful substance by using appropriate techriologies. In other words we can say the solid wastes are those wastes which ate discarded & rendered useless by human being.

There are a number of methods to reduce the salid waste. Some of them are described below.

1. **Incineration :** It is the process in which all solid waste is burned at more than 400°C in presence of $O_2$ . But all the rubber substance present in waste formes Dioxins & furans waste is burned at 800 – 1000°C. At this temperature no dioxin & furans is formed. This process reduces the volure & weight of waste & convert it in to Ash & gasses.
2. **Pyrolysis :** It is similar to incineration but occur at below 400°C in absence of $O_2$. High temperature is flashed for a short duration that contracts the waste which can be used in road filling e.t.c purpose.
3. **Pulverization :** It is mechanical process in which all waste is finelly grinded & convert in to powder.

**6. (a) What is 'climate change'?**

**Ans. Climate Change :** The Climate of earth is variable. It reflects both cooling & warming trends. The trends changes rapidly due to change in temperature, moisture, & motion of earth e.t.c. Following records are the indicator of change in global climate over the past 1500 years.

1. The surface air temperature has varied up to ± 0.6°C on a decads scale.
2. A warming trend was observed from the year 1750 to 1940.
3. A cooling effect was observed from 1940 to 1960.
4. A global mean warming of $0.45 \pm 0.15$°C has been recorded over the last about 140 year.

All the climatic change is dependent of hotter & cooler zone. Due to industrilization & vehiclular emission the concentration of $CO_2$ & other pollutant (Green house gasses) are increasing which increases the temperature of earth & interfere in air pressure gradient.

**(b) Discuss the phenomenon of 'Green House Effect.**

**Ans. Green House effect :** Green house is a structure used in nursery to maintain the temperature & Humidity . Similarly our earth is enveloped by a gasseous blanket of $CO_2$. Which allows the short wavelength Infra red radiation to pass but when these radiation strikes to earth. It converts into long J.R. Which is not allowed to pass from $CO_2$ leges During this process heat is generated which increases the temperature of globe & increases the global warming.

**Effect :**

1. Summers become long & Hotter & winter becomes short & warmer.
2. Disbalance in climatic pattern appeans.
3. Appearence of New viral, Pathogenic disease e.g. the dengue fever was appear below 1000nt altitude in Andes mountain series but due to higher temperatre the dengue appears at more than 2000nt altitude range of Dractes.
4. $CO_2$ act as good natural fertilizer because it is used by green plants in photosynthosis. But due to higher concentration of $CO_2$ plants yeild increases suddenly & due to lacking of Nutrient soil become poorer & poorer.
5. Melting of glaciers & increase in water level at coastal areas.

**(c) Illustrate the photochemical reactions involved in the formation and destruction of ozone in the stratosphere.**

**Ans.** Ozone is blish, punjent & unstuble gas and occurs at altitude ranging from 15 – 30 km in stratosphere.

**Formation :** Anthropogenically ozone is formed by passing a high voltage through dry air. But in strarosphere it is formed naturally by following reaction.

$$O_2 + hV\ (\lambda < 240\,nm) \rightarrow O + O \quad ...(1)$$

$$O + O_2 + M \rightarrow O_3 + M \quad ...(2)$$

In reaction – 1 the formation of 2 moles of $O_{(g)}$ atom from one mole of $O_2$ (g) reguires 498.4 kg of energy. Which is provided by Ultravoilet radiation. Here m is neutral third body which acts as a catalyst (e.g. $N_2$)

**Destrction :** $O_3$ is destroyed by its reaction with Nitric oxide, $Cl^\circ$, & $OH^\circ$ in atmosphere.

$$O + H_2O \rightarrow 2OH^\circ \quad ...(1)$$

$$OH^\circ + O_3 \rightarrow O_2 + HOO^\circ \quad ...(2)$$

$$HOO^\circ + O \rightarrow OH^\circ + O_2 \quad ...(3)$$

$$O_3 + O \rightarrow O_2 + O_2$$

$$N_2 + O_2 \rightarrow 2NO \quad ...(4)$$

$$NO + O_3 \rightarrow NO + O_2 \quad ...(5)$$

$$NO_2 + O \rightarrow NO + O_2 \quad ...(6)$$

$$O_3 + O \rightarrow O_2 + O_2$$

$$CFCl_3 + hV \rightarrow CFCl_2 + Cl^\circ \quad ...(7)$$

$$Cl\,O^\circ + O_3 \rightarrow ClO^\circ + O_2 \quad ...(8)$$

$$ClO^\circ \rightarrow Cl^\circ + O_2 \quad ...(9)$$

$$ClO^\circ \rightarrow Cl^\circ + O_2$$

In the above reaction, reach on 1, 4, 7 are the source of for mation of radicles which reacts with ozone and in over all result ozone is converted into $O_2$ mulecule

**7. (a) What is the role of $NGO_s$ (Non Government Organization) in environmental protection?**

**Ans. Role of NGO's in Environmental protection :** There is a wide spectrum of Environmental NGO's categorizable in terms of their specific fields, level of operation & the extent to which they work to influence government. These groups are specialized in research, training, public education, information distribution & management of protected Areas in environmental field.

w.w.F India was the first wide basis. At a time the common objective of N.G.O are given below.

1. Encouraging the farmers to Non-conventional & Non polluting source of energy instead of thormal, hydel &nuclear energy.
3. Afforestation & social forestry
4. Rural Development
5. Conservation of wildlife & biological diversity
6. Environmental awareness & Education among people.
7. Rain water harvestim, Roof Gardning. e.t.c.

**(b) Enumerate various acts related to environmental protection.**

**Ans. Environmental Act :** There are a number of Acts to product the environment & its other components these are.

The Indian Forest Act (1927)

The wildlife Protection Act (1972)

The water Prevertion & contral of pollution Act 1974

The environmental protection Act 1986

The main objective of these act are

1. Prevention & control on destruction of these natural Resources.
2. Maintaining or restoring the whole someness of these Natural resourses.
3. Establishment of various Governmental to watch their deterioating components.
4. Upliftment of environment & Its all important component so that all links of environment can be saved.

**(c) How women education can help in environmental protection?**

**Ans. Women eduction :** Women are very important identities of human society.

The women are the creators of next generation. Women constitute almost half of the population in the world. But the masculine ideology made them suffer. Women education in India has also been a major pre occupation of both the government & civil society as educated women can play a very important role in the development of the country. Women not only help in the development of half of the human resource but improving the quality of life at home & outside. Women take participation actively in various environment was succeded due to participation of hilly women . If all the educated women get associated must of the environment problem may be eradicated because all kind of work are directly or indirectly linked with the house which is managed by a women. Hence women education may help in environmental protection.