

Assignment

Q.1) Define environment describe in brief different zone of atmosphere. Enlist different climatic factors in environment.

→ "Environment means the sum of total conditions which surround man at a given point in space and time."

• Zones of atmosphere :

- i) Hydrosphere :- 71% of earth surface is in water.
- ii) Lithosphere :- 30% of total earth surface solid rocky portion. Highly productive farming soil.
- iii) Biosphere :- In it life takes place i.e. exist depend on atm.
- iv) Pedosphere - Soil existing important for production of food and all animal depends on it.

• Climatic factors are :-

- 1) Precipitation or rainfall
- 2) Atmospheric humidity
- 3) Temperature
- 4) Radiation
- 5) Light
- 6) Atmosphere gases
- 7) Wind.

Q.2) Define natural resources and classify the natural resources.

→ Natural resources - "Natural resources are defined as all the accessible and available wealth of the universe man needs many things to live. All these things available from nature. These useful things present in nature are known as natural resources."

Classification

(A) On Continual Utility -

few natural resources are lost in a short time as other natural resources are lost for long period. Then depending upon availability of resources in nature classified as :-

i) Renewable (Inexhaustible) resources :-

<u>factors</u>	<u>Resources</u>
sun	Sun as a energy resource
water	Farth as a energy resource
soil	soil resources
Mineral	Forest resources
Climate	Water resources
Location	Energy resources

ii) Non-renewable resources :-

iii) Cyclic resources :- Those natural resources that can be used again & again are called cyclic resources.

B] Based on origin :- (i) Biotic Resources.

(ii) Abiotic resources.

(i) Biotic resources - Biotic resources are the flora and fauna of biosphere of nature. i.e. forest, crops, birds, animal, fish marine life that are renewable biotic resources. while coal, mineral oil or non-renewable.

(ii) Abiotic Natural resources - If abiotic natural resources are in the form of non-living organic matter are called abiotic resources i.e. soil, minerals.

c] Based on utility :-

i) Food resources - plant and animals are used as food resources, food harvested by man from the total biosphere is about 53320×10^{12} kcal/year (E.Podium 1971)

ii) Raw material - mineral metal, soil etc used as raw material

iii) As a energy :- Man discovered and used coal, oil thermal electricity nuclear electricity as a source of energy.

(Q.3) Enlist different acts describe the forest conservation at environment

→ ① The wildlife protection act, 1972

- 2) The water prevention control by pollution act 1974.
- 3) The forest conservation Act . 1980
- 4) The forest conservation control of pollution act 1974.
- 5) The air presentation & control by of pollution Act 1981
- 6) The environment protection Act 1986.
- 7) The public liability insurance act-1991.

(A)

Forest conservation Act (1980) provision

According to national forest policy 1952 one third of two geographic area of the country should be unclear forest the act came into force From

25th April the act enacted with a view to check indiscriminate deservation and diversion of forest land to non-forest purpose under this act prior to approximately of central government is require before any reserved forest is declared as clearreserved or forest land diverted to non forests purpose act includes following points.

- 1) Restriction on the dereservation of forest or use of Forest purpose.
- 2) Constitution of advisory committee.
- 3) Penality for contravention of the provision of the Act.

- 4) Offness by authorities and Govt. departments
 5) Power to make rules.

The forest conservation Act 1980

- 1) The dense Forest cover i.e. crown cover 40% (1951-52) has increased from 39% (1985-86) to 40% (1987-88)
- 2) During 1950-80 the rate of forest depletion was 15,00,000 ha/year : After FCA 1980
- 3) The price of timber and firewood for declined & become steady after 1988.
- 4) The area under forests was increased from 14.5% (1951-52) to 20% (1988-89)

This act having 8 regional officers are located at Bangalore, Bhopal, Bhubaneshwar, Lucknow, Shillong and Chandigarh.

- 5) Environment (protection) Act 1986 (EPA)
 principle of conference of PA was made for these things.

- i) To protect & improve the environment
- ii) To prevent hazard to human beings.
- iii) It was in respect of living creature plants and property.

The environment act come in force from 20th may 1986. It has 4 chapters and 26 section.

- 1) Planting & execution of nation wide programme.
- 2) laying down standards for the quality of environment.

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- 5) laying down standard for emission or discharge of environment pollution.
 - 4) Restriction of areas in which industry operation shall not be carried out
 - 5) laying down procedure and code guide for prevention of accidents.
 - 6) laying down procedure & set of guidelines for management & handling
 - 7) Examination of such manufacturing
 - 8) Carrying out & sponsoring investigation research.
 - 9) Collection & dissemination of information
 - 10) Preparation of manuals, codes or quicks relating
 - 11) Establishment or recognition of environmental lab
 - 12) Inspection of any premises plant equipment machinery
- Q.4) What do you mean by disasters?
Enlist the different type of disasters & explain any one of it.
- Disasters may be defined as those extreme events either natural or man-made introduced with exceed the tolerable magnitude within or beyond certain time limits make adjustment difficult result in catastrophic losses & properties etc. lives & become their headache.

of different news paper on media at world level.

- Types of disasters :-

- (1) Natural disasters.

- (i) Geological disaster.

- (ii) Atmospheric disaster

- (iii) other natural disaster.

- (2) Anthropogenic disaster.

- (i) Technological disaster

- (ii) Floods

- (iii) Earthquakes

- (iv) Cyclons.

- Natural disaster

These include earthquake, volcanic eruption, tsunami, landslides, floods, subsidence, impact with other space object.

q.5) Define environment science and write down its scope and importants.

→ ① Human ecology

② Organismic ecology study

③ Biome, energy and habitat study

④ Biotic communities & biogeography.

⑤ Seasonal annual, successional & geological studies

⑥ Biodiversity conservation

7) Conservation of nature

8) Population biology

9) Ethology

10) Ecosystem ecology

11) Physiological ecology

12) Evolutionary ecology

13) System analysis.

14) Applied ecology.

15) Social aspects of environment.

Importants.

- 1) Environment studies help to understand relation betn biotic and abiotic components of universe. It help in maintenance of life & health in self preservation & in protection of human race.
- 2) Environment studies help to understand different food chain, food web, ecological niche, so that ecological balance can be maintained.
- 3) Environment science help to understand & appreciable how environment help for marking a living structure & for promulgating material culture.
- 4) Environment management is key aspect of environment studies which is important of environment studies.
- 5) It help to understand beauty of nature & social value of nature.

- g) Environmental studies are going to help in saving problem & human attention towards population exhaustion of natural source & throw light on method of solving problem.
- 7) Environment is continuous system of out put & input of matter & energy.

q.6] What is biodiversity? Describe the significance of biodiversity. Enlist types of biodiversity.

→ "Biodiversity is the variability among living organism and the ecological complex of which they are part, including diversity within & between species and ecosystem."

• Significance of Biodiversity :-

- 1) Human depend on biodiversity for food, clean, air, water and fertile soil
- 2) A source of new crops.
- 3) A source of materials for breeding improved varieties.
- 4) A source of new biodegradable pesticides
- 5) A source of many product such as fuel, timber, fish, fodder, skirt, fruit.
- 6) Maintenance of ecological nature
- 7) Prevention of soil erosion.

• Types of Biodiversity :-

- 1) Genetic biodiversity.
- 2) Species biodiversity.
- 3) Ecosystem biodiversity.

Q.7] Define pollution. Enlist types of pollution. Give the detail classification of pollutant & explain water pollution, air pollution, noise pollution & marine pollution on the basis of source & remedial measure to control it -

→ Any undesirable change in physical, chemical and biological properties of air, water and soil which affects the environment and the living world adversely is known as pollution.

• Types of pollution :-

- 1) Air pollution
- 2) Water pollution
- 3) Soil pollution
- 4) Thermal pollution
- 5) Noise pollution
- 6) Marine pollution
- 7) Nuclear pollution.

• Classification of pollutant :-

- 1) Deposited matter. - root, smoke, dust, grit.
- 2) Gases - oxides of nitrogen and sulphur, carbon monoxide, halogen (Chlorine, Bromine)
- 3) Acidic droplets - Sulphuric acid & nitric acid.

- 4) fluorides - city and industrial sewage-water.
- 5) Metals - Mercury, lead, iron, zinc, nickel.
- 6) Agrochemical - Biocides (pesticides, herbicides, fungicides, bactericides, nematicides, weedicides)
- 7) Complex organic substance - Benzene ether, acetic acid.
- 8) Photochemical oxidants - photochemical smog, ozone, peroxy acetyl nitral (PAN).
- 9) Solid waste Domestic, municipal & industrial wastes.
- 10) Noise - unwanted & unpleasant sound.
- 11) Radioactive waste - cobalt.

* Control measures - (In water pollution)

① Sewage should be treated before discharge into river.

② When water polluted with oil, then oil slick formed to be skimmed off from its surface with suction device saw dust can be over oil slick for absorbing oil.

③ Solid wastes containing organic matter & effluent should not be thrown into water bodies.

④ Industrial waste be treated chemically to neutralized before discharge into river.

⑤ Domestic used coater not be mixed with water bodies of the areas.

⑥ Law of pollution implemented strictly

4 Air pollution :-

• Sources -

- (1) Carbon dioxide - Vehicles, burning of fuel for energy pond.
- (2) Carbon monoxide - Vehicles
- (3) Sulphur dioxide - Burning of coal, oil
Automobile exhaust.

• Control measures -

- (1) Proper selection of manufacturing site in order to disperse pollution source.
- (2) Proper selection of fuel i.e. Gobar, bio, LPG, gas, used.
- (3) There must be green belt around every town ship & industrial area.
- (4) Regular service of the vehicle, the engine should be well tuned.
- (5) Increasing used to renewable energy.

5 Noise pollution :-

• Source of noise pollution -

- (1) Domestic gadgets - Mixers, pressure, cookers, washing machine, desert cooker
 - (2) Agriculture operation - Harvest, threshers, tractors, pump sets, lawn.
 - (3) Community function - festival, marriage, political, social & religious function, public announcement, crackers, ~~cracker~~
- ### • Control measures :-
- 1) Control of noise at source designing

& Fabrication of silencing devices & their use in aircraft engine.

- ② Control of transmission - Covering room walls with sound absorbing material such as in installation of acoustic tiles.
- ③ Protection of exposed persons - protection on to worker exposed to noise louder than 85 dB.

Marine pollution :

• Source

- ① Oil & petroleum - leakage or accident or an tanker.
- ② Raw sewage - Coastal cities
- ③ Sediment - River
- ④ Thermal pollutant - Thermal & nuclear power plant.

• Control measure for marine pollution

① Source red? such as

- (a) Solid waste used for power generation.
- (b) Agricultural , chemicals must be minimized using biological control method should encourage

- ② Pollution prevention law were strictly follow.

③ Control of oil pollution

- ④ Antifouling paints coated in marine ship for controlling growth of attachment.

- ⑤ Ocean not considered as waste bin or dumping site.

Q.8] Explain Forest resources and source
remedial.

→ Forest - The largest complex and most
important resource land surface area.

Uses of forest or source

① Forest provide as a large number of
commercial goods which include timber,
firewood, pulpwood, food item, gum resin,
non-edible oils, rubber, fiber lac, bamboo
cones, fodder, medicine drugs etc.

(a) The total worth of which is estimated
to be more than \$ 300 billion per year

• Remedial

Two common management system are
use in forest ecosystem.

① Uneven age of forest. Stand of trees
are periodically harvested providing large
block of continuous forest dominated
by relatively mature tree.

2) Even age management - forest are the
retained to produce a crop growth little
or no difference in the age different age

Q.9) Define ecological pyramid? Explain types of
ecological pyramids with diagram.

Ans → Ecological pyramid :-

"It is the graphic representation
of the number, biomass & energy of the

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successive trophic level of an ecosystem."

Types of ecological pyramids:-

i) Pyramid of number - Graphical representation of the no. of individuals at successive trophic level of food chain per unit area at anytime.

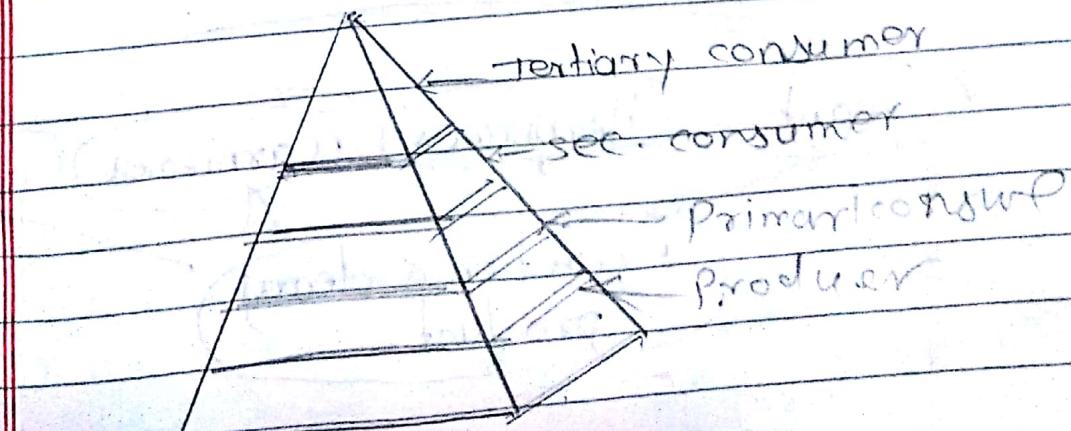
- In grassland the producer the maximum in No. thus pyramid become upright.

2) Pyramid of biomass - The amount of living material present in an organism called 'Biomass'.

- Measure both dry and fresh weight.

Terrestrial ecosystem always have upright biomass. In an aquatic ecosystem pyramid of biomass is inverted.

3) Pyramid of energy - Energy give the best picture of overall nature of an ecosystem
kind of pyramid is picture of rates of passing of food mass through Food chain



Q.10) Short notes.

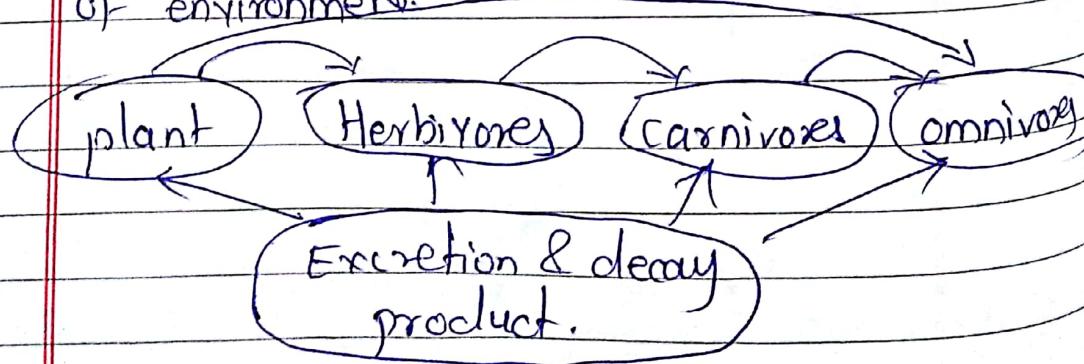
1) Rain Water Harvesting :-

- Rain water is free gift of nature
- Conservation and preservation of water resources are required. Due to available water resources are under tremendous pressure because increase demand.

Rain water harvesting is essential where rainy season very short drought condition take place. Essential mean collecting rain water rainy from the roof of building or courtyard & store it underground for later use. By water harvested from rooftops, water table rise and surrounding wells retain water throughout year.

2] Structure of ecosystem :-

Ecosystem includes populations communities habitat & environment. It particularly refers to the dynamic interaction among these all components of environment.



③ Acid rain

Oxides of sulphur and nitrogen are important gaseous air pollution. H_2SO_4 & HNO_3 i.e. Nitric acid when dissolved in water in atmosphere and fall to the ground as acid rain, it may remain in atmosphere in clouds & fogs.

Effect of acid rain:

- i) Increase soil acidity, effect flora & fauna.
- ii) Causes acidification of lakes and stream, affect aquatic life.
- iii) Affect crop productivity.
- iv) Building damage is seen.
- v) Bacteria's & algae killed.

4) Global warming:

- Under normal CO_2 concentration the temp. at the surface of earth is maintained by energy

- Due to heat absorbed by water vapour in atmosphere by energy

- There is green house effect.

- Increased CO_2 level tend to warm the air

- Industrialization creates air pollution

- Earth temp. is increased due to increases in CO_2 level.

5) Ozone layer :-

Ozone (O_3) layer in stratosphere in protect us from the harmful UV radiation from sun atmosphere ozone has now being regarded as potential danger to human health & crop growth effects.

- 1) It absorbs UV light and protect life on earth
- 2) Due to absorption of UV radiation the ozone layer thus hits the stratosphere causes temperature inversion.
- 3) Loss of immunity
- 4) Loss of vegetation

6) Biodiversity hotspot:

A biodiversity is a biological region with significant levels of biodiversity that is threatened with destruction. for example, forest are considered as biodiversity hotspot. The status is designated by international union for conservation of nature (IUCN).

Norman Myers wrote about the concept in two articles in "The Environment" 1988 & 1990 revised after through analysis by myers and others in hotspot Earth's biologically Richest and most Endangered Terrestrial Ecoregions & a paper published

in the journal nature.

To qualify as biodiversity hotspot as per 2000 edition of hotspot map a region must meet two strict criteria it must contain at least 0.5 to over 15,000 species of vascular plant as endemics & it has to have lost of least 70% of its primary vegetation. Around the world 36 years qualify under its definition. These sites support nearly 60% of the worlds plant, bird, mammals, reptile, birds & amphibian species with a very high share of these species as endemics.

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