


BIO - ZOOLOGY

Lesson - 5

ENVIRONMENTAL SCIENCE

One, Three and Ten Mark Question and Answers

 (Refer study material)
and Book

$$3 \times 1 = 3$$

$$1 \times 3 = 3$$

$$1 \times 10 = 10$$

$$\underline{16}$$

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Lesson - 5

BIO-ZOOLOGY

ENVIRONMENTAL SCIENCE

IMPORTANT TEN MARK QUESTION & ANSWERS

Questions:

- 1. Green house gases and their impacts on the environment.
- * 2. Ozone as a natural sun block - Discuss and also list out the ways of preventing ozone depletion.
- * 3. What is known as energy crisis? What are the steps to be taken to solve energy crisis.
- * 4. Give an account on poverty.
- * 5. Conservation of fresh water / Fresh water management. Discuss
- * 6. How will you manage hazardous waste?
- * 7. How will you manage non-hazardous waste?
- * 8. Give short note on conservation of Biodiversity.
- * 9. What are the impacts of new sources of energy. Dr. N.S
- * 10. Write the effects of global warming.
- * 11. Briefly describe the reasons for freshwater shortage.

* (12) Human population and explosion
 - Issues (notes : refer book)

3 x 1 = 3

1 x 3 = 3

1 x 10 = 10

16 Marks

* One mark, Three mark Question's Answers refer study material

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① Green house gases and their impacts on environment
Global warming (or) Green house effect

A) Global warming:- It refers to an average increase in the earth's temperature, which in turn causes changes in climate. During last century the average temperature has risen by 1°F. By the year 2100, the rise would be between 2.5 to 10.4°F.
(The average temperature of earth is 59°F (15°C))

B) Green house effect:-
The trapping of energy from the sun by certain gases in the atmosphere leading to rise in the earth's temperature is known as green house effect.

C) Green house gases:-
water vapour, carbon dioxide, nitrous oxide, methane. These gases act as a trap. They absorb and reflect infra-red waves radiated by earth. So they conserve heat as glass in a green house.

D) Carbon dioxide:- Dr. N.S
i) Most abundant green house gas.
ii) Source: volcanic eruptions, respiration of animals, burning and decay of organic matter such as plants, burning of fossil fuels, solid waste, wood and wood products.
iii) deforestation is also responsible for CO₂ increase because reduction in photosynthesis.
ii) CO₂ level in the atmosphere 281 PPM (1750).
Today CO₂ level in the atmosphere is 368 PPM (31% increase)

E) Methane:-
i) It traps 20 times more heat than CO₂
ii) Source: Emitted during the production and transport of coal, rotting organic waste in landfills, by product of digestion (cow)

F) Nitrous oxide:-
i) It traps 300 times more heat than CO₂
ii) Source: burning fossil fuels, ploughing farm soils
iii) since 1750 its level increased by 17%.

G) Hydrocarbons and chlorofluorocarbons are also responsible for global warming

H) A new gas called Trifluoromethyl sulphur penta fluoride traps more effectively than all other green house gases. The source of the gas is not yet identified P.T.O

I) Effects of global warming:-

- i) Due to the warming of oceans, sea level will rise. Such a rise will submerge many parts of countries. (21st century sea level will rise from 9-89cm)
- ii) Growing seasons will be longer in some areas.
- iii) Storms are expected to be more frequent and more intense.
- iv) Weather patterns would be less predictable and more extreme.
- v) Crops and woodlands may be affected by more insects and plant diseases.
- vi) Some types of forest may disappear.
- vii) More people will get sick or die from heat stress.

2) OZONE AS A NATURAL SUN BLOCK - Discuss.

J) Global warming control:-

i) Carbon sequestration:-

It is a strategy to control global warming. In this method CO₂ is kept out of the atmosphere by storing the gas or its carbon component somewhere else. (keep CO₂ out of the atmosphere)

- ii) Preserve trees and plants more (during photosynthesis the plants break CO₂ and store carbon in new wood). It need massive reforestation.
- iii) CO₂ sequestrated directly into deep ocean water/ into oil wells.
- iv) Alternate fuel usage - nuclear energy, solar power etc

2) OZONE AS A NATURAL SUN BLOCK - DISCUSS

A) Ozone O₃ is a form of oxygen. ozone blocks out the sun's uv-rays and act as a life saver

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B) OZONE - A NATURAL SUN BLOCK

- i) ultra violet radiation is potentially harmful to most living things since it can damage DNA.
- ii) ozone layer screens out the sun's harmful ultra violet radiation.
- iii) Even 1% reduction in the amount of ozone in the upper stratosphere leads to measurable increase in uv-radiation. (iv) All living things suffer radiation burns
- v) chloro fluoro carbons and hydro ~~fluoro~~ chloro fluoro carbons can destroy ozone much faster than it is formed. (Human activity changed the natural process)

C) OZONE HOLE:-

- i) The part of the atmosphere where ozone is most depleted is referred as ozone hole. (It is not a real hole, just a vast region where is less ozone than elsewhere)
- ii) ozone-poor air can spread out from the polar regions and move above other areas.

D) REASONS FOR THE ANTARTIC HOLE:-

- i) ozone hole in the Antarctic is due to the chlorinic and brominic compounds formed in the atmosphere.
- ii) These chemicals reach the atmosphere due to human activities.
- iii) Common ozone depleting substances (ODS)
chlorofluorocarbons (CFC), freon gases, nitrogen oxides, methyl bromide.
- iv) ODS - sources:
Air-conditioners, freezers, foam insulation, industrial solvents and pesticides

E) EFFECT OF OZONE DEPLETIONS:-

UV-B radiation is more dangerous.

- i) In plants UV-radiation affect crop yield and food productivity.
- ii) Effect on Animals: Damage to fish larvae and other small animals.
- iii) Effect on human health:
Non-melanoma skin cancer, melanoma, cataract, Acute erythema (sun burn), ocular abnormalities, Immune response reduction.

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F) PREVENTING OZONE DEPLETION:-

- i) CFC replaced by hydrochlorofluorocarbons (HCFC), hydrofluorocarbons, hydrocarbons, ammonia, water and steam.
- ii) Production, use and emission of ODS chemicals should be controlled.
- iii) Servicing and of refrigerators and air-conditioners should be regulated.
- iv) Refrigerants should be recaptured and used.
- v) Adopt protection measures from sun's radiation.

• Effects flow chart X.
(Refer book)

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④

③ What is known as energy crisis? What are the steps to be taken to solve energy crisis.

A) Introduction:-

- i) Energy may be defined as any property, which can be produced from or converted into work.
- ii) Energy crisis is due to the increase in population accompanied by rapid urbanization and industrialization.
- iii) petroleum and gas resources are dwindling day by day.
- iv) we will run out of petroleum and gas by about 2020, unless ^{by taking} one or more of following steps.

B) STEPS TO BE TAKEN:-

(i) Reduce the consumption of fuels:-

Fuel need for heating \rightarrow 18%, Transportation - 25%.
The consumption of fuel in these areas can be reduced by
a) Proper insulation of existing buildings
b) Improving the fuel economy of automobiles
c) using more efficient means of transportation.

(ii) Develop new sources of energy

wind energy, Geothermal, Mini hydel generation, Solar energy, nuclear energy, Biogas, Hydrogen, Ocean energy etc.

C) Wind energy:-

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(i) Wind power is of great significance in India (because the presence of large coastal, hill and desert areas).

(ii) Harnessing technology of wind energy:-

The ~~strong~~ strike of the blowing wind on a specially designed blades of a wind mill's rotator causes it to rotate. The rotation is the mechanical energy, when coupled turbine, drives the power generator.

(iii) Energy potential of Indian sub-continent:-

20,000 M.W.

(iv) Wind farms in India:- Tamil Nadu, Gujarat and Andhra Pradesh.

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V) Advantages of wind power:-

- power generation is cheaper.
- Free from pollution and environmental degradation.
- Investment is never idle.

D) Mini hydel generation:-

- India has a vast hydro electric potential.
- It is the most cheapest and reliable of all renewable energy sources.
- It can be harnessed conveniently from nearby canal or stream in an environmentally benign manner.

E) OCEAN ENERGY:-

- The various methods of extracting energy from oceans are a) Ocean winds b) Ocean waves c) Ocean currents d) Ocean thermal energy conversion (OTEC) e) Salinity gradient f) Bio conversion of sea weeds.
- India's first power plant generating electricity from ocean energy \rightarrow VIZHINJAM fishing harbour - Kerala \rightarrow 150 MW energy production/year.

F) SOLAR ENERGY

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i) solar energy, which is the primary source of all energy forms on the earth and it is the renewable form of energy.

ii) Earth receives from the Sun an enormous total of 5×10^{20} k.cal of energy.

iii) Advantages:-

- universal, decentralized and non-polluting energy
- It helps to maintain ecological balance
- It has none of the disadvantages found in the combustion of fossil fuels such as coal, oil or gas.

G) NUCLEAR ENERGY:-

i) It is the only energy source, known to be economically feasible in the present and for the near future.

ii) Nuclear fusion:- Light nuclei like deuterium (${}^2_1\text{H}$) and tritium (${}^3_1\text{H}$) combine to form a heavier stable nucleus. It is an ideal energy source for the future.

iii) Nuclear fission:- A heavy atom splits under neutron bombardment into smaller fragments, with the evolution of huge amount of energy.

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- iv) The disadvantage of nuclear fission \rightarrow disposal of nuclear waste remains is very difficult.
- v) But the nuclear fusion products are not radioactive. Fusion technology is not perfected by the scientists.

H) Other alternate energy sources

i) Hot ^{DRX} Rocks for energy generation (CHDR) suitable for India. Temperature of rocks inside the earth $200-250^{\circ}\text{C}$

ii) Bio gas or Goobar gas:

Goobar gas plants based on anaerobic fermentation of organic waste in the absence of air.

iii) Hydrogen - Source of power for future is

- a) It is found to be a good choice among all the alternative fuel options.
- b) It is more efficient and economical fuel.

4) Give an account on poverty.

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A) POVERTY - Definition:

(i) It is a condition of having insufficient resources or income.

(ii) poverty means lack of human needs such as adequate and nutritious food, clothing, housing, clean water and health services.

B) Extreme poverty, which threatens people's health or lives is known as destitution or absolute poverty

C) A condition of having fewer resources or less income than others within a society or country when compared to worldwide average is known as the relative poverty

D) Poor countries \rightarrow Africa, Asia, Latin America, Europe (in the developing areas)

E) Wealthier countries \rightarrow United States, Canada, Japan.

F) Poverty and Environmental Issues:

i) Argument \rightarrow poverty leads to environmental degradation / environmental degradation will lead to poverty.

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- ii) In many parts of the world, environmental degradation - the deterioration of the natural environment, including the atmosphere, bodies of water, soil and forests - is an important cause of poverty. have
- iii) Environmental problems lead to shortage of food, clean water, materials for shelter, and other essential resources.
- iv) Global environmental degradation may result from a variety of factors, including overpopulation and the resulting over use of land and other resources.
- v) Drastic environmental degradations may result in poverty.

G1) Measures to be taken to eradicate poverty in human society:-

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- i) Achieving self sufficiency by intensifying Agriculture, augmenting green revolution, increasing crop productivity through modern genetic and biotechnological approaches.
- ii) Increasing land and water resources. Expanding the area of able cultivable lands, transforming dry land into productive lands through irrigation watershed development.
- iii) Anti-poverty programmes and social security scheme by the governments.
- iv) Establishing more primary health centres, hospitals and orphanages for destitutes and diseased.
- v) Enforcement of strict family planning methods.

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5) Conservation of fresh water / Fresh water management . Discuss.

I. INTRODUCTION:-

i) clean fresh water is essential for nearly every human activity. ii) Almost all agricultural operations which supply food to humanity need water.

II Fresh water resources :-

i) of the total water available on earth only 3% is fresh water.

ii) Glaciers, Ice and snow, Ground water, Lakes and ponds, wet lands like bogs and Swamps are the important freshwater resources.

III Reasons for fresh water shortage:-

- i) Natural forces like poor rainfall, hot winds
- ii) Human Causes - increased population, rapid urbanization and over grazing
- iii) Depleting ground water for Agriculture and domestic use.
- iv) Salt water intrusion
- v) Loss of free flowing rivers etc.

IV Fresh water management:-

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A) Seeding clouds:-

i) Seeding clouds with dry ice or potassium iodide particles sometimes can initiate rain. ii) If water laden clouds and conditions that favour precipitation.

B) Desalination:-

i) The common methods of desalination are distillation and reverse osmosis.
 ii) evaporation and recondensation are the steps involved in distillation.
 iii) Forcing water under pressure through a semipermeable membrane whose tiny pores allow water to pass ~~out~~ but exclude most salt and minerals is said to be reverse osmosis.

iv) More expensive method.

v) But this method provides a welcome water supply in places like Dubai, oman and Bahrain

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C) Dams, Reservoirs, Canals and Aqueducts:-

- i) It is a common method to trap runoff water with dams and storage reservoirs
- ii) Then stored water is transferred from areas of excess to areas of deficit using canals, tunnels and underground pipes.

D) Water shed Management:-

- a) A series of small dams or tributary streams can hold back water before it becomes a great flood.
- ii) Ponds formed by these dams provide useful wild life habitat and stock watering facility.
- iii) Small dams can be built with simple equipment and local labour.

E) Better Agricultural Practices:-

- i) Sound farming and foresting practices can reduce runoff water.
- ii) Minimizing ploughing and forest cutting on steep slopes protects watersheds.
- iii) Wet land conservation preserves natural water storage capacity and aquifer recharge zones.

F) Domestic Conservation:-

Use of washing machines, dish washers and low volume shower heads can reduce water loss.

G) Industrial Conservation:-

- i) By installing dry cooling system the water usage is avoided in industries.
- ii) Industrial waste water should be treated, recycled and reused.

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H) Individuals role:-

- i) Take shorter showers
- ii) Don't wash car and two wheelers often.
- iii) Use water conserving appliances: low-flow showers and low-flush toilets.
- iv) Use recycled water for lawns, house plants and car washing.

I) Rain water harvesting:- (Diagram refer book) :-

- i) The activity of collecting rainwater directly or recharging it into ground to improve ground water storage in the aquifer is called rain water harvesting.
- ii) By rainwater harvesting the ground water can be conserved, water table depletion can be reduced and sea water intrusion can be arrested.
- iii) To recharge the ground water, rain water that falls in the terrace of the buildings and in the open space around the buildings may be harvested.
- iv) The Government of Tamil Nadu leads the nation in implementing rain water harvesting Programme.

6) How will you manage hazardous waste?

I Definition:

a) Waste like radioactive refuse, metallic compounds, organic solvents, acid asbestos, organic cyanides, disposable medical equipments may remain without any change for more than 1000 years.

b) These wastes cause dangerous effects on the environment and known as hazardous waste.

II Methods adapted for the disposal of hazardous waste

A) Land fill:

i) Land fills are permanent storage facilities for military related liquid and radioactive materials in secured lands.

ii) High level radioactive wastes are stored in deep underground storage.

iii) The land fill is capped with impervious clay to prevent infiltration and percolation of water through the fill.

iv) Fill bottom is lined and provided with drainage system to contain and remove any leakage that occurs.

v) Monitoring the wells provides a final check.

B) Deep well injection:

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i) It involves drilling a well into dry, porous material below ground water. Hazardous waste liquids are pumped into the well.

ii) They are soaked into the porous material and made to remain isolated indefinitely.

iii) However fractures in the impermeable layer may permit the injected wastes to escape and contaminate ground water.

C) Surface impoundments:

i) This method is used to dispose large amounts of water carrying relatively small amounts of chemicals wastes.

ii) Surface impoundments are simple excavated depressions (ponds) into which the liquid wastes are drained.

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- iii) Solid wastes settle and accumulate while water evaporates.
- iv) If the pond bottom is well sealed and if evaporation equals input, wastes may be stored in the impoundment indefinitely.

D) Incineration:

- i) The hazardous biomedical wastes are usually disposed off by means of incineration
- ii) Examples for bio-medical waste:- Human anatomical waste, discarded medicines, toxic drugs, blood, pus, microbiological waste etc.

E) Bioremediation:-

i) cleaning the environment with biological options such as microbes and plants is called bio remediation. eg: Pseudomonas, Giberella

ii) Some naturally occurring bacteria and other microbes have the capability to degrade or absorb or detoxify the wastes such as heavy metals.

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iii) Phytoremediation: plant materials successfully used as absorbents for xenobiotics eg: Giberella fuzarium able to break down cyanide and reduce it to a non-toxic form.

iv) Pseudomonas (Super bug) are capable of degrading variety of toxic compounds and also degrade oil.

7) How will you manage non-hazardous wastes?

Introduction:-

- i) Bio-degradable wastes are example for non-hazardous waste
- ii) These wastes are capable of being removed or degraded by biological or microbial action.
- iii) Example:- waste from Agricultural Products, animal wastes, wastes from food Processing, leather, fibre and wood etc

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II Methods adapted for the disposal of non-hazardous wastes. (13)

A) Sanitary land fills:-

- i) The refuse is spread in a hollow land or in a trench and compacted with a layer of clear sand fill.
- ii) The fills are far more desirable than open dumps but the ground water contamination is always a potential problem.
- iii) Periodical inspection is needed.
- iv) This land fills are suitable for recreational activities such as parks and play ground.

B) Incineration:-

- i) Municipal incinerators burn combustible solid waste and melt certain non-combustible material.
- ii) It is a good method because the high temperature destroys the pathogens and their vectors.
- iii) Incineration can reduce the volume of solid waste by 80-90%.

C) Reuse and recycling techniques:- (Notes refer book) Dr. N.S.

- i) The retrieval of valuable materials or energy from a waste is said to be resource recovery.
- ii) Recycling or Reclamation of waste:- The separating out of materials such as rubber, glass, paper and scrap metal from refuse and reprocessing them for reuse.
- iii) Recovery Percentage:-
Paper - 54%, Glass - 20%, Metals - 39%,
Plastics - 2.2%.
- iv) Food wastes and yard wastes (leaves, grasses) can be composted to produce human soil conditioner.
- v) old tyres can be remelted or shredded and incorporated into highway asphalt.

*** Add \rightarrow Book notes (Certain points present in the book) ***
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D) Waste water treatment and management

i) The steps involved in water-treatment plants are Coagulation, Settling, filtration to remove suspended particles, eration to remove the volatile substances and chlorination to ~~remove~~ kill the pathogens.

ii) Sewage treatment:-

Primary treatment consists of mechanical filtration, screening and settling followed by chlorination. It removes 50-65% of the suspended solids.

iii) Secondary treatment:-

organic wastes are converted into inorganic by bacteria in the treatment plant. Oxygen is provided by aeration.

iv) The sludge from the process, consisting of bacterial masses, is concentrated and processed further in an anaerobic digester.

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8) Give short note on conservation of Biodiversity

I. Introduction:-

i) Biodiversity means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are parts.

ii) Types:- Genetic diversity, species diversity and ecosystem diversity.

II Reasons for decline of Biodiversity

i) Natural cause → fossil records suggest that more than 99% of all species ever existed are now extinct due to greater disaster at the end of Permian period (250 million years ago)

ii) Human causes:- Natural areas are converted into farms, housing subdivisions, industrial centers etc.

III Why biodiversity conservation?

- i) Biodiversity is the back bone for agriculture, aquaculture, forestry and host of other applied branches of biology.
- ii) It ~~offers~~ offers new source of food, medicine and other human requirements in the coming years.
- iii) It is the fundamental requirement on which the new industrial developments and innovations are going to be based.
- iv) The species at the verge of extinction could be saved.

IV The ~~strategies~~ strategies are adapted to conserve biodiversity

A) International Conservation Strategies

- i) Biodiversity preserved as a common heritage of all humans.
- ii) The first strategy is conserving hotspots around the globe.
- iii) Hot spots are the areas ~~are~~ were high concentration of endemic species reported.
- iv) Identified hot spots → 25.

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B) National Conservation Strategies:-

- i) In situ and ex situ conservation efforts.
- ii) Documenting Indigenous knowledge and the application of science and technology
- iii) Effort to formulate national biodiversity action plan, with the help of several other government and non-governmental organizations and individuals.

C) Establishment of Biospheres:-

- i) A biosphere reserve is a unique concept which includes one or more protected areas and surrounding lands that are managed to combine both conservation and sustainable use of natural resources.
- ii) MAB → Man and Biosphere Programme. Launched in 1971. Support sustainable relationships between people and their environment.
- iii) Biosphere reserve act as a keystone of MAB
- iv) World Network of Biosphere Reserves included 495 sites in 95 countries.

D) Characteristics of a Biosphere Reserve:

- i) It is a land and/or coastal/marine area in which people are an integral component
- ii) It is a regional centre for monitoring, research, education and training on natural and managed ecosystems.
- iii) Each biosphere reserve is a symbol of voluntary cooperation and use of resources for the wellbeing of people everywhere.

E) Biosphere reserves in India:

i) Nilgiri Biosphere Reserve:

Area \rightarrow 5,520 sq-km. Rich in plant diversity. used to conserve in situ genetic diversity of species and restore degraded ecosystem.

ii) The Gulf of Mannar Biosphere Reserve:

It is chosen on the basis of its threatened status and richness of biological wealth. It encompasses 21 small islands. Biologists Paradise \rightarrow with 3600 species plants and animals.

Other Biospheres: a) Nokrek \rightarrow Meghalaya b) Namdapa \rightarrow Arunachal Pradesh c) Nanda Devi \rightarrow U.P
d) Sundarbans \rightarrow West Bengal e) Great Nicobar \rightarrow Andaman & Nicobar Islands.

F) organization involved in Biodiversity Conservation

- i) World Wildlife Fund (WWF)
- ii) Resources for the Future (RFF)
- iii) World Resources Institute (WRI) etc.

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G) organization functioning to Preserve and safeguard biodiversity in India:

- i) National Bureau of Plant Genetic Resources in New Delhi
- ii) National Bureau of Animal Genetic Resources at Karnal
- iii) National Bureau of Fish Genetic Resources in Allahabad.
- iv) World wide Fund for Nature, India etc.

9 Impacts of other sources of energy

I Thermal power:-

- i) It causes air, water and soil pollution in terms of fly ash, CO_2 , SO_2 , NO_2 and particulates etc.
- ii) Thermal power is becoming unacceptable in the environmentally conscious society.

II Hydel power:-

- i) New dams built may affect the ecosystem of the particular location.
- ii) This power generation is associated with displacement and resettlement of human population.
- iii) Considerable delay in the implementation of the project and escalation of its cost.

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III Nuclear power:-

- i) Radioactive pollutants released from the plants are chronically hazardous.
- ii) Critical accumulation of large number of long lived radionuclides in water.
- iii) Effluents acutely affect the aquatic ecosystem.
- iv) Soil and underground water pollution.
- v) Prone to accidents eg: Chernobyl disaster in USSR.

IV Solar energy:-

- i) Larger installations of solar power plants should be selected without reducing the forest cover.
- ii) CO_2 produced increase the atm. temperature causing green house effect.
- iii) Silicon dust \rightarrow Important occupational hazard.
- iv) Cadmium, using in fabricating thin film solar cells, poisonous and carcinogenic.

V Fossil fuels:-

(i) Burning of coal, oil, wood, dung cakes and petroleum products would cause environmental problems.

ii) Effect:-

- a) Increased CO_2 concentration \rightarrow Green house effect and global warming.
- b) Smoke \rightarrow Respiratory and digestive problems.
- c) NO_2 , SO_2 and CO_2 can cause acid rain.
- d) Fly ash ponds cause lot of environment problems.

10) Write the effects of Global warming

- a) Due to the warming of oceans, sea level will rise. Glacier ice will also melt causing further rise in sea level. The rise will submerge many parts of countries (9-88 cm rise in the 21st century)
- b) Growing seasons will be longer in some areas.
- c) Some types of forest may disappear.
- d) More people will get sick or die from heat stress.
- e) Storms are expected to be more frequent and more intense.
- f) Some regions of the world be more drier than before.
- g) Weather patterns would be less predictable and more extreme. Dr. No. 5
- h) Crops of woodlands may be affected by more insects and plant diseases.
- i) Wind blows will be harder and in different patterns. Hurricane would be more severe.
- j) Tropical diseases such as malaria, dengue fever, yellow fever and encephalitis will spread to other parts of the world.

11) Briefly describe the reasons for fresh water shortage.

I. Introduction:

- a) 20 percent of the world's population, lack safe drinking water.
- b) The WHO considers 53,000 gallons of good water per year to be minimum for a healthy life.
- c) of the total water available ~~on~~ on earth only 3% is fresh water.

II Reasons for fresh water shortage:

A) Natural forces:

- i) poor rain fall
- ii) Hot winds
- iii) Rivers changing courses

B) Human causes:-

- i) Increased population ii) Rapid urbanization
 iii) over grazing by cattle iv) improper cultivation methods
 v) poor sewage systems vi) Inadequate finances for providing infrastructure.

C) Evaporations, leakage and siltation:-

It happens in freshwater lakes, ponds and dams.

D) Loss of free flowing rivers:-

- i) Loss of free flowing rivers that are either drowned by reservoir impoundments
 ii) Rivers turned into linear, sterile irrigation channels.

E) Salt water Intrusion:-

Overuse of under ground freshwater reservoirs often allows salt water to intrude and affect the water table.

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F) Depleting Ground water:-

i) Ground water is the source of nearly 40% water for agricultural and domestic use in most of the countries.

ii) 95% of rural population depends on ground water for drinking and other domestic purposes.

iii) Over ~~usage~~ use of ground water leads to drying of wells, natural springs and disappearance of surface water features such as wetlands, rivers and lakes.

iv) A heavily pumped well can lower the ground water table so that nearby shallower wells go dry.

v) on a broader scale, heavy pumping can deplete a whole aquifer.

Diagram refer book.

ALL THE BEST
 "God bless you"