

**DHANALAKSHMI SRINIVASAN INSTITUTE OF REASERCH AND
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GE6351 - ENVIRONMENTAL SCIENCE AND ENGINEERING

2 MARK QUESTION WITH ANSWER

UNIT-I

1. Define eco system?

An ecosystem can be defined as an area within the natural environment consisting of community of living beings and the physical environment, both interacting and exchanging materials between them.

2. Define food chain and food web?

Food chain is defined as the sequence of organisms directly dependent on one another for food in an eco system.

Food web is defined as an interconnection of many food chains in an ecosystem.

3. What is ecological succession?

The gradual process of change in an ecosystem brought about by the progressive replacement of one community by another in a definite order until a stable community is established over a period of time.

4. What is ecological pyramid?

A pyramid-shaped diagram representing quantitatively the numbers of organisms, energy relationships, and biomass of an ecosystem;

5. What is bio diversity?

'Biodiversity' is defined as the variety of all biological life such as plants, animals, and microorganisms, the genes they contain and the ecosystems they live in.

6. Define genetic diversity and species diversity?

Genetic diversity refers to bio diversity due to genetic variation within each species.

Species diversity refers to the variety of different types of living things on earth.

7. What do you mean by hot spots of bio diversity?

Hot spots are the areas that are extremely rich in bio-diversity, have high level of endemism and are under constant threat of species extinctions and habitat destruction.

8. What is red data book?

Red Data Book is a book that provides data on population status of the endangered species of plants and animals.

9. What are endemic species?

Endemic species are those species of plants & animals which are found exclusively in a particular area and not anywhere else.

10. What are endangered species?

Endangered species are those species of plants & animals which are present in such small numbers that it is at risk of extinction.

11. What is flora and fauna?

All forms of plant life that live in a particular geographic region at a particular time in history is called flora.

All animal life that lives in a particular geographic region at a particular time in history is called fauna.

12. Give few examples of endangered and endemic species of india?

Endemic species

- 1 INDIAN DARTER or SNAKE –BIRD
2. LITTLE CORMORANT

Endangered species

1. Lion
2. Tiger

13. State the significance and scope of environmental education?

Importance/Significance of the Environmental Studies:

Environmental studies

- is concerned with the importance of wild life and its protection
- explains the significant role of biodiversity in establishing ecological balance
- deals with different types of ecosystems, biotic and abiotic factors and their role in the significance and sustenance of ecosystems.
- gives information relating to population explosion, growth and development, impact of population growth on the resource consumption and national economy.
- Explains the significance of forests and their products in the human routine and in country's economy.
- Gives information about water conservation, watershed management.

UNIT-II

1. Define pollutant and pollution?

Any substance which causes lowering the quality of environment is called pollutant.

Lowering of the quality of environment caused by natural and human activities is called environmental pollution.

2. What is air pollution?

The contamination of the air with dust, fumes, gas, mist, odor, smoke, or vapor which causes harmful effects on living organisms is called air pollution.

3. What do you understand by the term smog?

Smog is mixture of smoke and fog containing particulates.

4. Define photo chemical smog?

Smog produced by the reaction of nitrogen oxides with hydrocarbons in the presence of ultraviolet light from the sun is called photo chemical smog.

5. Define water pollution?

Water pollution is defined as any physical, chemical or biological change in quality of water which causes harmful effects on living organisms.

6. Define marine pollution?

Addition of harmful chemical substances and waste materials to ocean that makes it harmful to aquatic life is called marine pollution.

7. Define thermal pollution or heat pollution?

Addition of excess of undesirable heat to water that makes it harmful to aquatic life is called thermal pollution.

8. Define C.O.D& B.O.D?

C.O.D—Chemical Oxygen Demand

B.O.D—Biochemical Oxygen Demand

The amount of oxygen in water consumed for chemical oxidation of pollutants is called C.O.D

The amount of oxygen taken up by microorganisms that decompose organic waste matter in water is called B.O.D

9. What is soil pollution?

The contamination of soil by chemical or other waste materials resulting in the reduction of its fertility is called soil pollution.

10. What is incineration?

It is a treatment technology involving destruction of waste by controlled burning at high temperatures.

11. What is composting?

Composting is a process in which biodegradable materials are broken down by micro-organisms in the presence of oxygen. The stable granular decayed material obtained in this process is called compost. It is used as a fertilizer or soil additive.

12. What is Noise pollution?

The unwanted, unpleasant or disagreeable sound of high decibels which causes harmful effect on human health is called noise pollution.

13. What are primary and secondary air pollutants?

Primary air pollutants are those which are emitted directly to the atmosphere

Example: Carbon monoxide (CO), Oxides of sulphur (SO_x) and Oxides of nitrogen (NO_x) etc

Secondary air pollutants are those which are produced in the air by the interaction among two or more primary air pollutants or by reaction with normal atmospheric constituents.

Example: Ozone, photochemical smog etc.

14. What are the various sources of radioactive pollution or nuclear pollution?

- Cosmic rays from outer space
- Emissions from radioactive materials on the earth's crust
- Mining and processing of radioactive ores
- Use of radioactive isotopes in medical, industrial and research applications
- Use of radioactive materials in nuclear weapons.

15. Define solid waste?

Solid waste is a waste type that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area.

16. What is hazardous waste?

A substance, such as nuclear waste or an industrial byproduct, which is potentially damaging to the environment and harmful to humans and other living organisms, is called hazardous waste.

UNIT-III**1. What is deforestation?**

The destruction of forest resources by many natural or man-made activities is called deforestation.

2. What is soil erosion?

The detachment and movement of topsoil by the action of wind and flowing water.

3. What do you mean by overgrazing?

Overgrazing is grazing by livestock or wildlife to the point where the grass cover is depleted, leaving bare, unprotected patches of soil.

4. What is eutrophication?

The process by which body of water, commonly a lake or pond is enriched by nutrients which leads to excessive plant growth and oxygen depletion.

5. What is land degradation?

Land degradation refers to loss of fertility or productive capacity of the soil.

6. What do you mean by desertification?

Desertification is a slow process of land degradation that leads to desert formation.

7. What are landslides?

Rapid down ward movement of a mass of rock,earth or artificial fill or plant debris on a slope is called land slide.

8. What are renewable and non renewable energy resources?

Renewable energy resources are those natural resources which are in exhaustible and can be used to produce energy again and again.

Non renewable energy resources are those natural resources which are exhaustible and cannot be replaced once they are used.

9. State the role and responsibility of an individual in the prevention of pollution?

- Plant trees, shrubs, and groundcover on your property to benefit the environment.
- If you are on a septic tank system, prevent leakage by making sure it is regularly inspected and properly maintained.
- Avoid the usage of two wheelers or four wheelers, instead use public transport systems like bus or train.
- Use bicycle or travel by foot while going to near by places
- Buy recycled products

Unit –IV

1. Define sustainable development?

The development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

2. Define Acid rain?

Rain containing relatively high concentrations of acids produced by sulfur dioxide, nitrogen dioxide, and other such gases that result from the combustion of fossil fuels and from certain industrial processes.

3. Define Green house effect?

The phenomenon whereby the earth's atmosphere traps solar radiation, caused by the presence in the atmosphere of gases such as carbon dioxide, water vapor, and methane that allow incoming sunlight to pass through but absorb heat radiated back from the earth's surface.

4. What are Green house gases?

Any of the atmospheric gases that contribute to the greenhouse effect are called Green house gases. These gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), and water vapor.

5. What is global warming?

Global warming is the increase in the average temperature of Earth which causes more changes on the climate.

6. What is ozone hole or ozone layer depletion?

Ozone hole is an area of the upper atmosphere where the ozone layer is absent or has become unusually thin.

7. What is rain water harvesting?

Rainwater harvesting is a technology used for collecting and storing rainwater from rooftops, the land surface or rock catchments.

8. What is watershed management?

Watershed management is the process of creating and implementing plans, programs, and projects to sustain and enhance watershed functions

9. What is environmental ethics?

Environmental ethics is the ethical relationship between human beings and the environment in which they live.

Unit –V

1. Define population explosion?

A rapid increase in the size of a population caused by a sudden decrease in death rate or an increase in birth rate is called population explosion.

2. What is value education?

Value education is an education which teaches:

- How to live life well?
- How to find happiness?
- How to make others happy?
- How to behave and communicate with others?
- How to manage all kinds of people as well as happenings?
- How to grow and succeed in the right manner?
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3. Write the expansion for HIV and AIDS?

HIV- Human Immuno-Deficiency Virus

AIDS- Acquired Immuno-Deficiency Syndrome

4. What is doubling time?

The doubling time is the period of time required for a given population to double in size.

5. What are the objectives of family welfare programmes?

- To increase the female literacy rate.
- To enhance child survival through universal immunization.
- To reduce the birth rate

6. What do you mean by human rights?

Human rights are those basic rights which are essential for the development of human personality such as right to life, liberty, property and security of an individual.