

Section - A
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1. c) Biosphere
2. c) mining
3. d) food
4. b) wetland
5. d) forest
6. c) food web
7. d) food
8. c) coal
9. b) solid waste
10. c) French

Section - B

II. Types of environment

a.

* Environment is defined as, "the sum of total of all living and non-living things around us influencing one another."

* Environment can be divided into "two categories."

1. Natural environment
2. Man-made environment.

1. Natural Environment:-

* Natural environment is characterized by natural components. All biotic and abiotic components (non-living) are created through a natural process. Creation of those biotic and abiotic components do not require any human support.

⇒ Soil, water, air, trees, radiations, noise etc...

Man-made environment.

* Man is the most powerful environmental agent. He modifies the environment using modern technologies, according to his needs to great extent. Thus the man-made environment is created by man.

Example: House, road, schools, parks etc.

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a.

Environmental Awareness:-

* Environmental awareness means being aware of the natural environment and making choices that benefit the earth rather than hurt it. Some of the ways to practice environmental awareness include:

- * using safe and non-toxic building supplies
- * conserving energy and water
- * recycling

* activism and others.

3. Sustainable lifestyle resource utilization

a. * Sustainable living describes a lifestyle that attempts to reduce an individual's or society's use of the earth's natural resources and one's personal resources. It is often called as "earth harmony living" or "net zero living".

* Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

* Sustainable living is the practice of reducing your demand for natural resources by making sure that you replace what you use to the best of your ability.

* practitioners of sustainable living often attempt to reduce their carbon footprint by altering methods of transportation, energy consumption, and diet.

14. describe the food web:

b.

* A food web is the natural interconnection of food chains and a graphical representation of what-eats-what in an ecological community. Another name for food web is consumer-resource system.

* Ecologists can broadly lump all life forms into one of two categories called trophic levels.

* Autotrophs

* Heterotrophs

Example

The soil food web

* A food web shows the transfer of energy within an ecosystem. Energy is transferred between organisms when one organism eats another.

P = producer

1 = primary consumer

2 = Secondary consumer

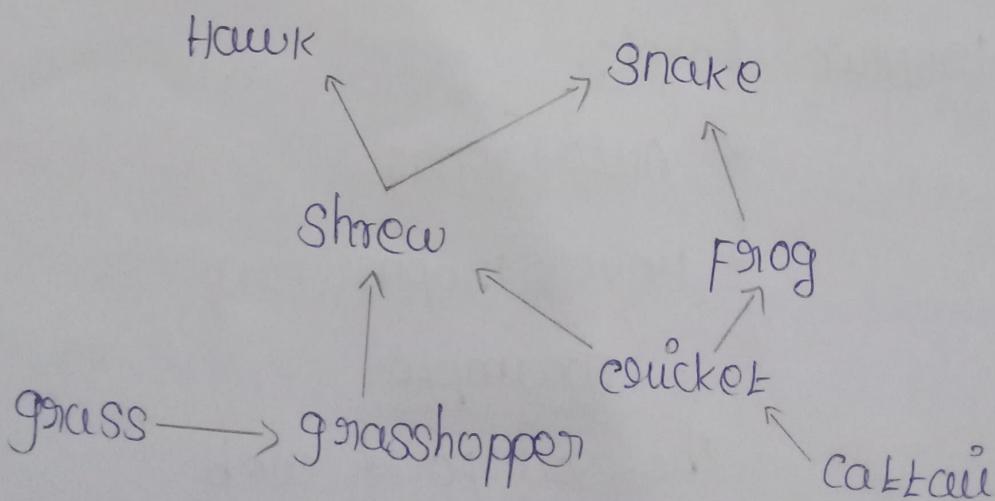
3 = Tertiary consumer

2. now label each animal as either

H = Herbivore C = carnivore

O = omnivore

This is an example of Food web
Example:



Q. bio-geographical classification of India:

a.

* Biogeographical of India is the division of India according to biogeographic characteristics. Biogeography is the study of the distribution of species, organisms and ecosystems in geographic space and through geological time. There are ten biogeographic zones in India.

* Biogeographic classification of India is the division of India according to biogeographic characteristic.

* India has different climate and topography in different parts and hence is termed as a mega diversity country. India occupies 10th place among plant-rich countries of the world. It is essential to acquire knowledge about the distribution and environmental interaction of flora and fauna of India.

* Bio-geographers have classified India into ten bio-geographic zones with each zone having characteristic climate, soil and biodiversity.

SECTION-C

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16. Environmental Science and Education:-

Environment:-

- * Includes all of the living and non-living things with which organisms interact.
- * The environment includes humans, although humans often forget that they are a part of the environment.
- * We cannot survive without a healthy environment. How we interact with the environment is important.

Environmental Sciences:

- * The study of how the natural world works, how environmental affect us, and how we affect our environment.
- * Objectives approach to environmental challenges and issues
- * Understanding the interactions between humans and the environment is the first step in understanding our environmental problems.
- * Multiple subject areas contribute to the study of environmental science.
- * Ecology, Earth science, chemistry, Biology, Economics, political science and more.
- * Therefore, environmental science is an interdisciplinary field. one that borrows expertise and techniques from many different backgrounds and experience.

* Environmental science is important because it enables you to understand how those relationships work.

Example: humans breathe out carbon dioxide, which plants need for photosynthesis. plants, on the other hand, produce and release oxygen to the atmosphere, which humans need for respiration.

* Scope of Environmental Studies

* Importance (or) Significance of Environmental studies.

Scope of Environmental Studies:-

* Environmental study is an important tool to educate the people for preserving quality environment. The main scope of environmental studies include.

1. To get an awareness and sensitivity to the total environment and its related problems

2. To motivate the active participation in environmental protection and improvement.
3. To develop skills for identifying and solving environmental studies.
4. To know the necessity of conservation of natural resources.
5. To evaluate environmental programmes in terms of social, economic, ecological, and aesthetic factors.

Importance (or) Significance of environmental studies:

* Air we breathe, water we drink, food we consume and land we live on are all contaminated by industrial activities. There is no zero pollution industry. Because of the lack of self discipline and not worrying about our future generation the valuable resources are polluted.

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* To solve the above problems, knowledge of environmental studies is very important.

1. By environmental studies, people will understand the concept of "need of development without destruction of environment".
2. Through environmental studies, people can gain the knowledge of different types of environment and the effects of different environmental hazards.
3. Environmental studies inform the people about their effective role in protecting the environment by demanding changes in laws and enforcement systems.
4. Environmental studies have a direct relation to the quality of life we live.
5. Environmental studies develop a concern and respect for the environment.

18. biodiversity.

- * Bio means "Life" diversity means "variety"
- * Bio diversity is the variety of life on earth.
- * For any kind of animal or plant each individual is not exactly the same as any other; nor are species or ecosystems.
- * Biodiversity is generally described at three levels: genetic diversity, species diversity and ecosystem diversity.

Types of Biodiversity:

There are three types of biodiversity

- * Genetic Biodiversity
- * Species Biodiversity
- * Ecosystem Biodiversity.

Importance of biodiversity:

* shelter

* food

* water

* health

* Land

* medicine

* Air.

Genetic diversity:-

* variation of genes the total genetic information contained in the genes of all species.

Species diversity:-

* variety of living species, refers to the number of species and the number of individuals in an ecosystem.

Ecosystem diversity:-

* variation of eco-system the variety of habitats natural communities and ecological processes.

Threats to biodiversity:

* Casual factors

1. Development pressure

2. Encroachment

3. Exploitation

4. Human induced disasters.

* Threats to genetic diversity

* Endangered plant and animal species

Need for conservation:

* Food security

* Fuel and wood

* Maintenance of water resources.

* Soil formation and fertility

* Natural resources

* Economic benefits

Bio diversity is important to humans for many reasons. Ecological life support - biodiversity provides functioning ecosystems that supply oxygen, clean air and water,

pollination of plants, pest control, waste water treatment and many ecosystem.

19. Natural Resources:-

19. Environmental pollutions:-

* Environmental pollution can be defined as any undesirable change in physical, chemical, or biological characteristics of any component of the environment i.e air, water, soil, which can cause harmful effect on various forms of life or property.

* POLLUTION: The term pollution can be defined as influence of any substance causing nuisance, harmful effects and uneasiness to the organisms.

* Pollutants: Any substance causing nuisance or harmful effects or uneasiness to the organisms, then that particular substance may be called as the pollutant.

Types of pollution:-

- * water pollution
- * Air pollution
- * Land pollution
- * noise pollution.

water pollution:-

- * water pollution can be defined as alteration in physical, chemical, or biological characteristics of water through natural or human activities and making it unsuitable for its designated use.
- * Fresh water present on the earth surface is put to many uses. It is used for drinking, domestic and municipal.
- * uses, agricultural, irrigation, industries, navigation, recreation.
- * This used water becomes contaminated and is called waste water.

Sources of water pollution:

- ⇒ Municipal waste water
- ⇒ Industrial waste
- ⇒ Inorganic pollutants
- ⇒ Organic pollutants
- ⇒ Agricultural wastes
- ⇒ Marine pollution
- ⇒ Thermal pollution.

⇒

Industrial waste:

* The major source of water pollution is the waste water discharged from industries and commercial bodies, these industries are chemical, metallurgical, food processing industries, textile, paper industries. They discharge several organic and inorganic pollutants. That prove highly toxic to living beings.

organic pollutants:-

* They include oils, fats, phenols, organic acids, grease and several other organic compounds.

Inorganic pollutants:-

* They include fine particles of different metals, chlorides, sulphates, oxides of iron, cadmium, acids and alkalies.

Agricultural wastes:-

* Chemical fertilizers and pesticides have become essential for present day high yielding crops.

Marine pollution:-

Oceans are the final sink of all natural and man-made pollutants. Rivers discharge their pollutants into the sea. The sewage and garbage of coastal cities are also dumped into the sea.

The other sources include, discharge of oils, grease, detergents, and radioactive wastes from ships.

Air pollution:-

* Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms or cause damage to the natural environment or built environment, into the atmosphere.

Cause of air pollution:-

* carbon-di-oxide thus happens because of deforestation and fossil fuel burning.

Sulfur-di-oxide - Due to the burning of sulfur containing compounds of fossil fuel.