

1. Difference between renewable and non-renewable resources with example?
2. Mention any two awareness programmes of environmental issues to students.
3. By means of neat sketch, Explain characteristics, multidisciplinary nature of Environment science?
4. write any three major resources. write about major natural resources?
5. By means of neat sketch, explain characteristics function of Eco system structure?
6. what is uses pyramid of energy and pyramid of number? Explain by means of sketch?
7. write characteristics features, structure & function.
 - * Forest ecosystem.
 - * Grassland ecosystem.
 - * Desert ecosystem.

1A) Renewable Resources	non-renewable resources.
1) It can be used again & again throughout its life. 2) These resources are present in unlimited quantity. 3) The total cost of these resources is low. 4) These resources are pollution free. 5) It is environment friendly as the carbon emission is low.	1) It can't be used again & again as it is limited which can be depleted in 1 day. 2) These resources are present in a limited quantity only. 3) The total cost of these resources is high. 4) These resources are not pollution free. 5) It is not environment friendly as the carbon emission is high.

2A) Environmental awareness can be defined as the understanding of the impact of human beings on the environment i.e., understand how daily actions influence the environment & how this affects the future of our space.

Many times when talking about environmental problems the destruction of the ozone layer, global warming the alarming increase in waste generation come to mind.

Need for Public Awareness:-

* Growing Population:-

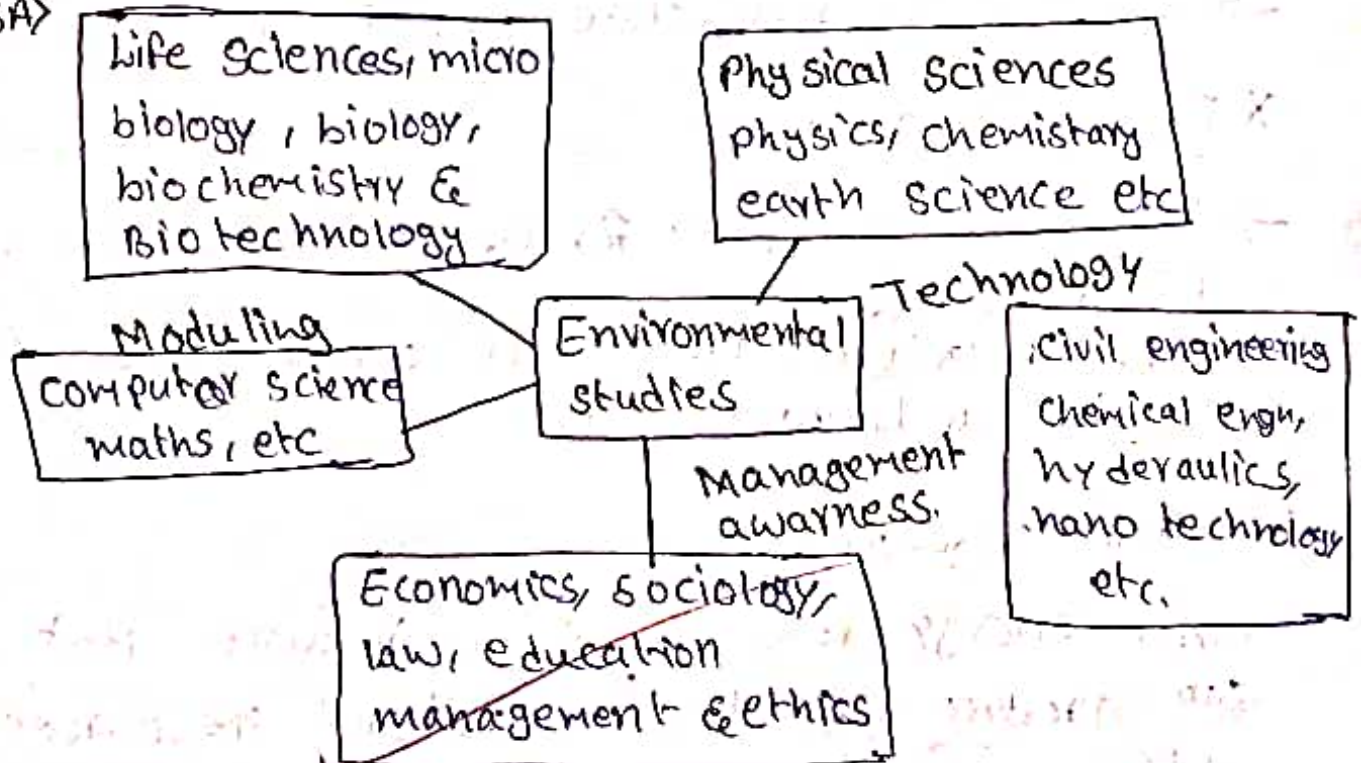
- Human Population - An explosive growth
- Human needs - limited resources.
- Our natural Environment under attack
- Roles of technology & engineering
- An uncertain future.

* Poverty:- India has often been described a rich land with poor people. The poverty & Environmental degradation are mixed with one another.

* Environment Degradation:-

It has adversely affected the poor who depend upon the resources of their immediate surroundings.

3A)



4A

- The resources that are derived from the environment are called as natural resources.
- Some of them are most essential for our living while most of them are used for satisfying our needs.
- They are used to promote the mankind.

Major Natural Resources

* Forest Resources:-

- Approximately $\frac{1}{3}^{\text{rd}}$ of the earth's surface area is covered by forest.
- In India forest area is 6,90,899 sq. km
- In India forest cover all $\% 21.02\%$.
- In Andhra Pradesh forest area is 36,91,469 km
- Andhra Pradesh state rank is 9th place.

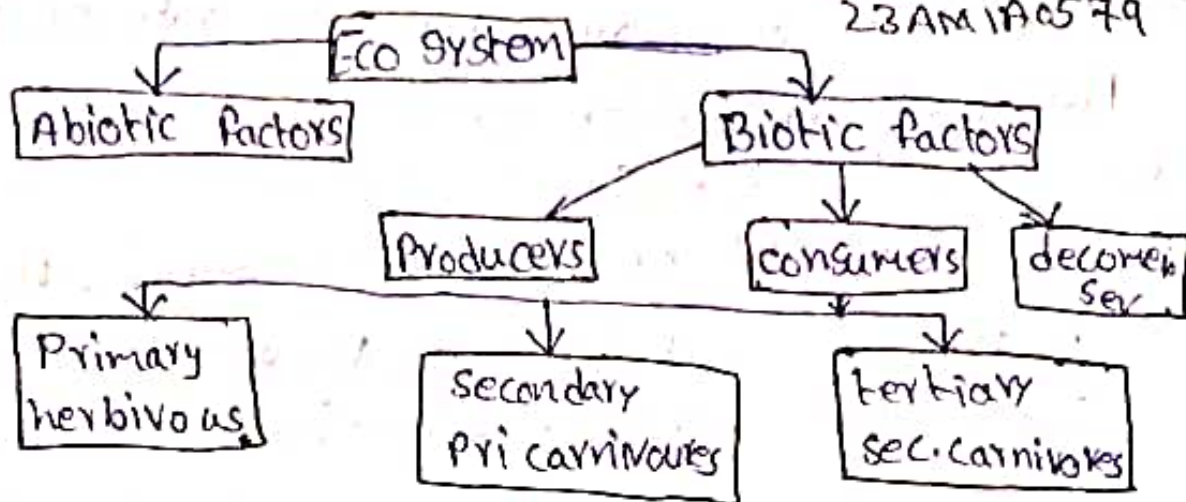
* Food Resources:-

- The basic necessity for the survival of human being is food.
- Main nutrients present in our food are protein, carbohydrates etc.

* Energy Resources:-

- An energy resource is a resource that can produce electricity, natural resources etc.
- These are energy sources: coal, solar, wind.

5A)



Concept of Eco System:-

An ecosystem is self regulating group of biotic communities of species interacting with one another & with their non-living environment exchanging energy and matter is study of ecosystem

* Some of all biotic & abiotic :-

Biotic (living things) Abiotic (Non-living things)

* Plants

a) visible b) invisible

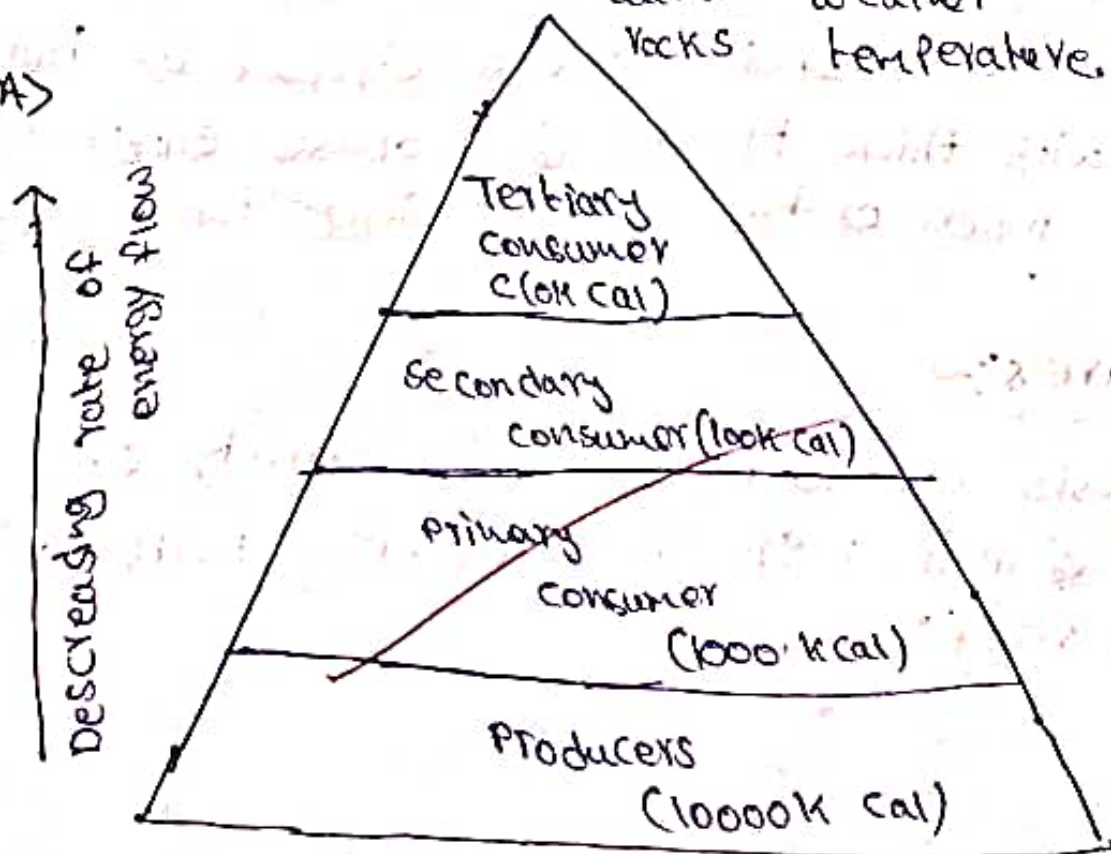
* Animals

Ex:- Soil Ex:- air

* Humans

water weather
rocks temperature.

6A)



Pyramid of energy.

→ The pyramid of energy shows the rate of energy flow & our production productivity at successive trophic levels.

→ The pyramid of numbers shows the relationship between producers & consumers at successive trophic levels.

7A) 1) Forest Ecosystem:-

Forests are ecosystem dominated by trees & can be found in different climatic regions around the world.

→ Forests are home to a diverse range of flora & fauna & play an important role in regulating the earth's climate.

* Characteristics:-

→ Forest ecosystems are characterised by tall trees with thick trunks & a dense canopy that blocks much of the sunlight from the forest floor.

* Features:-

→ Forests are home to a wide variety of plant & animal species including mammals, birds, reptiles etc.

* Structure:-

→ Forests have several layers starting with the canopy layer which consists of the tops of the tallest trees

* Functions:-

→ Forest ecosystem, provide a wide range of ecosystem services including regulating the climate, purifying air & water.

2) Grassland Ecosystem:-

→ Grasslands are ecosystems are dominated by grasses & other ~~herb~~ herbaceous plants with few or not less.

* Characteristics:-

→ Grassland ecosystems are ecosystems dominated by grasses & other plants.

* Features:-

→ Grassland are home to a wide variety of plants & animal species including birds, insects etc.

* Structure:-

→ Grasslands are typically divided into two types. Tall grass prairies.

* Functions:-

Grasslands ecosystems provide a wide range of ecosystem services including soil stabilization carbon sequestration

* 3 Deserts Ecosystem:-

→ Deserts are ecosystems characterized by a rid or semi-arid conditions with low & irregular rain fall

* Characteristics:-

→ Deserts are characterized by extreme temperature fluctuations low rainfall & high evaporation.

* Features:-

Deserts have a unique range of plants & animal species that have adapted to survive in the harsh conditions.

* Structure:-

Deserts have a distinct physical structure, with sparse vegetation & a sandy or rocky terrain.

* Functions:-

Desert ecosystems provide a range of ecosystem services including soil stabilization etc.

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