EVS

(MID-SEMESTER EXAMINATION)

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Name : Shivanshu Srivastava

Semester : IInd

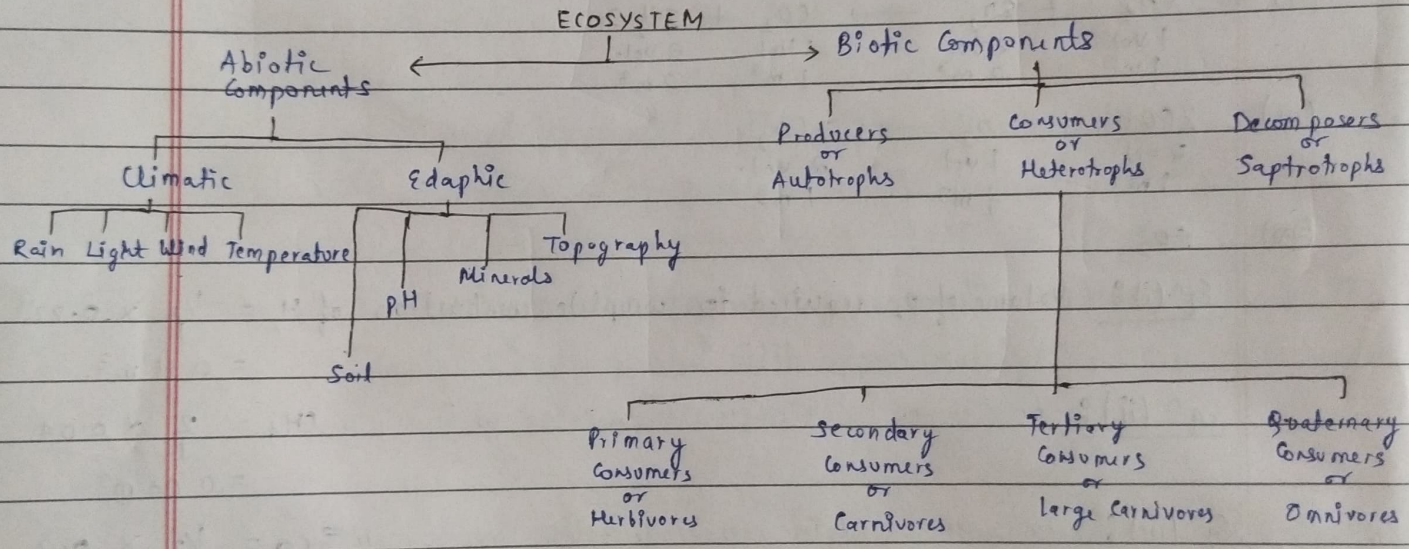
Enrollment No. : A2305220750

Section : CSE 3Y

Q. ② Discuss the structural function of ecosystem.

⇒ Structural component of an ecosystem is categorized into biotic and abiotic factors. The biotic and abiotic components are interrelated in an ecosystem. It is an open system where the energy and components can flow throughout the boundaries.

Schematic representation of the structure of an ecosystem :



→ Abiotic (Non-living) Components : They are the non-living components of an ecosystem. It includes air, water, soil, minerals, sunlight, temperature, nutrients, wind, altitude, turbidity, etc.

→ Biotic (Living) Components : They are the living components of an ecosystem.

Ⓐ Producers : They produce their own food through the process of photosynthesis
Eg : All autotrophs such as plants.

Ⓑ Consumers : They depend on other organisms for their food. Also known as heterotrophs.

(i) Primary Consumers : They rely on producers for food. Also known as Herbivores.

(ii) Secondary " : " " " Primary consumers for food. Also known as Carnivores.

(iii) Tertiary " : " " " Secondary " " " . Also " " large " .

Tertiary consumers can also be an omnivore.

(c) Decomposers : They directly thrive on the dead and decaying organic matter.
Eg: Saprophytes such as fungi and bacteria.

Q. (4) Discuss the ecological importance of forest.

⇒ The ecological importance of forests are :

(1) Regulation of global climate and Temperature : Forest cover absorb the solar radiations that would otherwise be reflected back into the atmosphere by bare surface of the earth. Also, Transpiration of plants increases the atmosphere humidity which affects the rainfall, cools the atmosphere and thus regulate the hydrological cycle.

(2) Reduction of global warming : The main green house gas CO_2 is used by forests for photosynthesis ~~process~~ process. The forests act as sink for CO_2, thereby reducing the green house effect due to CO_2.

(3) Production of oxygen : During photosynthesis, forest trees release oxygen, a very important gas for human survival.

(4) Conservation of soil : They prevent soil erosion by binding the soil particles tightly in their roots.

(5) Control of water flow : They act as giant sponge as they slow down run off, absorbing and holding water that recharges springs, streams and ground water.

(6) Habitat to wildlife : They provide the habitat for high wild life species.

(7) Absorption of air pollutants : They absorb many toxic gases and air pollutants and can help in keeping air pure. They are also known as carbon dioxide sink.

Q. (5) Mention few negative impacts of mining on environment.

⇒ Three positive impacts :

(1) Building materials : Sand, gravel, stone, cement, steel, aluminium, asphalt, glass.

(2) Plumbing and wiring : Iron and steel, copper, grass, lead, cement, asbestos.

(3) Appliances : Iron, copper, many rare metals.

Three negative impacts :

(1) Subsidence of land : mainly related to the g underground mining often leading to

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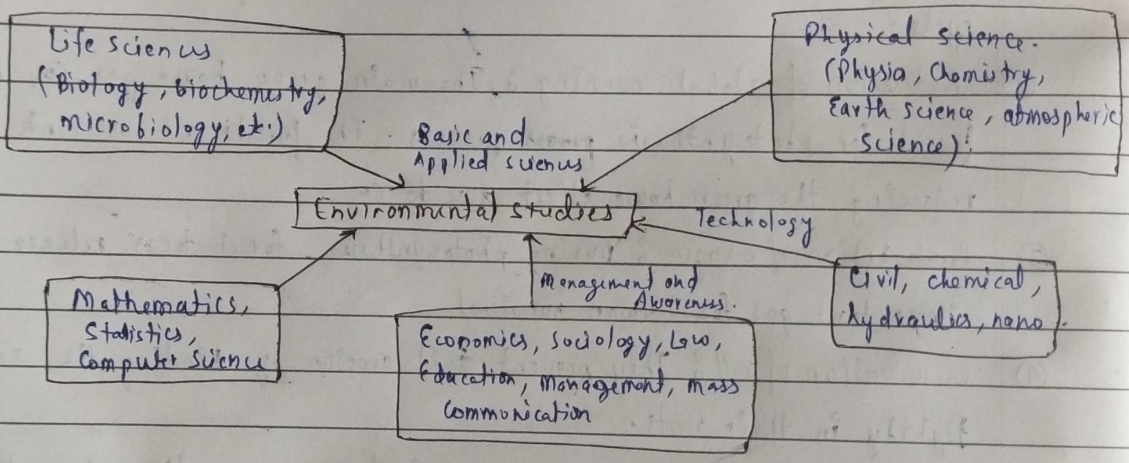
destruction of property and displacement of local habitants.

② Watershed disturbance: Mining activity disturb the natural hydrological process and pollute the ground water due to leaching of heavy metals and acids.

③ Noise pollution: Mining activity involves a lot of heavy machinery related to extraction and transportation of mineral ores resulting into increase noise level in the mining zones.

Q.① Discuss the interdisciplinary nature of environmental studies.

→ The interdisciplinary nature of environmental studies may be illustrated as:



Study of our environment which include both physical and biological component, interaction among its component, effect of this component on human well being and vice versa.

However, we can't study environment in isolation, environmental studies also had input from various other discipline of sciences, engineering, social science, law, governance.