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Environment Studies Assignment

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Ques. write a brief introduction about Yamuna Bio-diversity Park?

Ans. Yamuna Bio-diversity Park is located on Yamuna River front is a 9770 hectares in Delhi. It is development by Delhi development Authority (DDA) with the technical help of Centre of environmental management of degraded Ecosystem (CEMDE), University of Delhi.

BIODIVERSITY - the diversity among living organisms plays an essential role in ensuring the survival of life on earth. As far as cities are concerned, ecosystems provide three main kinds of service

- i - the providing of food, fibre & fuels
- ii - purification of water, soil & air
- iii - enriching the spiritual, aesthetic & social life.

* The Park features two major zone - the visitor zone and the nature reserve zone.

The front portion of the Yamuna biodiversity park, a 220m southward and 140m northward stretch from the main entry gate with 20-30m width is demarcated as domesticated biodiversity zone. Enclosed by a hedge of Populus, it features plants like Ailanthus, Butea and Bauhinia that have a continuous seasonal interest due to their long flower production throughout the season.

Aim of Yamuna Bio-diversity Park :- To provide regional level open and green spaces. Protect the national drainage of river Yamuna in Delhi. To protect the ground recharge zones like river Yamuna and Ridge.

Ques 2. Name any five plant species and discuss their ecological importance.

Ans. There are about 900 species of plants in Yamuna bio-diversity park.

i- SWAMP MILKWEEED :- one of the most beautiful native perennials with clusters of upturned pink flowers on 4-5' stems in June and July. The leaves of the weed milkweed are a preferred food source of monarch caterpillars.

ii- CARDINAL FLOWER :- Brilliant weed spikes set against green and purple-bronze coloured foliage. Each individual spike of scarlet flowers opens from bottom to top and stays in bloom for several weeks.

iii- WINDFLOWER :- Pure white, single flowers bloom above deep green foliage. A strong ground cover for moist, shady sites. Combines well with other spring-blooming perennials such as polemonium, Sisyanchium and Mentensia.

iv- MEXICAN HAT PLANT :- Mounds of fine textured green foliage give rise to masses of stems bearing flowers that feature long, prominent cones surrounded by reflexed petals in shades of deep reddish-brown, orange & yellow.

v- BLACK-EYED SUSAN :- It is the quintessential plant of prairies and meadows. It provides an extravagant floral display to the delight of butterflies and other beneficial insects.

Ques 3. Explain the function of Ecosystem?

An ecosystem is a geographic area where plants, animals, & other organisms, as well as weather and landscape, work together to form a bubble of life. Ecosystems contain biotic or living.

→ Ecosystem are complex dynamic system. They perform certain function. These are :-

- Energy flow through chain
- Nutrient cycling (biogeochemical cycles)
- Ecological succession or ecosystem development.
- Homeostasis (or cybernetic) or feedback control mechanisms.

FOOD CHAINS & FOOD WEB :-

A food chain describes the route by which energy and nutrients are transferred from the autotrophs through a series of organisms that consume and are consumed. Food chain is a linear sequence of organisms which starts from producer organisms and ends with decomposer species.

TYPES OF FOOD CHAINS :-

Within any ecosystem, either terrestrial or aquatic, two major types of food chains can be identified. They are:-

i - Grazing food chain

ii - Detritus food chain

1. Grazing food chain

It starts from green plant constitutes the grazing pathway.

Green plants



Herbivorous



First order carnivorous



Second order carnivorous

iii- Detritus food chain

The principal energy in but is not green plant but dead organic matter. These are called detritus food chain.

example - forest floor, a salt marsh, and the ocean floor in very deep areas.

Ques 4. what is Eutrophication?

Eutrophication is a big word that describes a big problem in the nation's estuaries.

Harmful algal blooms, dead zones, and fish kills are the results of a process called eutrophication, which occurs when the environment becomes enriched with nutrients, increasing the amount of plant and algae growth to estuaries and coastal waters.

65% of the estuaries and coastal waters in the contiguous U.S. that have been studied by researchers are moderately to severely degraded by excessive nutrient inputs. Excessive nutrients lead to algal blooms and low-oxygen (hypoxic) water that can kill fish and seagrass and reduce essential fish habits. Many of these estuaries also support bivalve mollusk populations (eg., oysters, clams, scallops), which naturally reduce nutrients through their filter-feeding activities.