

FIELD

REPORT

NAME - GURSIMRAN

KAUR

ROLL No. - BCP/18/152

Q1. Write a brief introduction about Yamuna Biodiversity Park ?

Yamuna biodiversity park located on Yamuna river front is a 9770 hectares biodiversity area in Delhi, India. It is developed by Delhi Authority. It is also designed to conserve the wild genetic resources of agricultural crops and enhance groundwater recharge and augment freshwater availability. Delhi has 784 hectares of fragmented forests which are depleted of wild animals due to the unplanned urbanisation and of the 400 wellands fewer than 3 or 4 were left fewer than 3 or 4 were left. In 2018, Delhi already had Annapurna Biodiversity Park and Yamuna Biodiversity Park. Phase-1 of Yamuna biodiversity park focused on barren floodplains in 2005 and phase-2 focused on the active flood plains commenced in 2015. The Yamuna Biodiversity park has become a home for a diversity of forest communities.

The Yamuna Biodiversity Park harbours a wide range of ecosystem indigenous to the Yamuna river basin and supports more than 1,500 plant and animals species. The diversity of birds has shown a remarkable increase with species no having risen from 87 to 196 since 2002, with reptiles have increased from 3 to 18.

The biodiversity park offers a variety of ecosystem services and have a great conservation, recreational and educational value. Yamuna Biodiversity Park (YBP) located in Wazirabad, Delhi, is the first local government initiated in the world to develop a fully functional nature reserve on once barren landscape. This park is spread over an area of 457 acres. The corridor allows animal mobilization in both phases during flooding and lean seasons. The constructed wetlands is the first of 12 such wetlands, which will be created in the biodiversity park.

Q2. Name any five native plant species and discuss their ecological importance.

i Santalum album :-

Santalum album or Indian Sandalwood, is a small tropical tree, and the traditional source of sandalwood oil. It is native to southern India. It is considered sacred in some religions and some cultures place great significance on its fragrant and medicinal qualities. The plant is long lived, but harvest is only viable after many years. It grows up to 4-9m tall. The trees have various uses like used for skin diseases and so on.

ii Sauvaca asoca :-

Sauvaca asoca is a plant belonging to the *Citanioidae* subfamily of the Legume family. It is an important tree in the cultural traditions of the Indian subcontinent and adjacent areas. It is sometimes incorrectly known as *Sauvaca indica*. The flower of Ashoka tree is the state flower of Indian state of Odisha. Its flowering season is around February to April. The ashoka flowers come in heavy, lush bunches.

iii Hardwickia :-

Hardwickia is a monotypic genus of flowering plant in the subfamily *Citanioidae* of the legumes. It is a native of India and

It is a medium or large deciduous ornamental tree. The bark of the tree is greyish brown in colour, rough with deep cracks and it darkens with age.

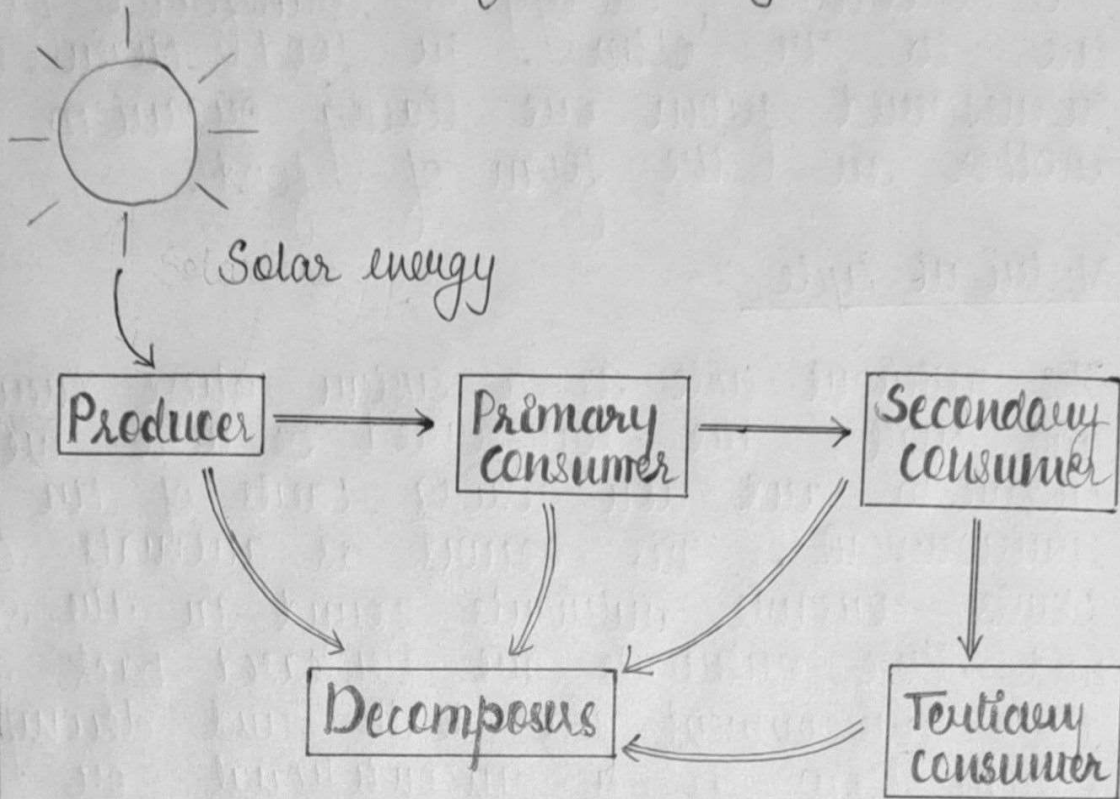
iv. Butea monosperma :-

Butea monosperma is native to India, flame of the forest is a medium sized trees growing 20-40 feet high and the trunk, is usually crooked and twisted with irregular branches and rough grey bark. In olden days, the flowers of this were used to make colour for the festival of Holi. It is a slow growing tree. The leaves are pinnate, with an 8-16 cm. The flowers are 2.5 cm long bright orange red.

v. Mesua ferrea :-

Mesua ferrea the Ceylon ironwood, India rose chestnut is a species in the family Calophyllaceae. This slow growing tree is named after the heaviness and hardness of its timber. It is a small medium size evergreen tree up to 13m tall often. The flowers are 4.75 cm diameter. The flowers are useful for asthma, cough, leprosy, fever etc. The seed oil is used for the skin diseases.

Q3. Explain functions of an ecosystem.



i. Energy cycle :-

An ecosystem is maintained by the cycling energy and nutrients obtained from different external sources. At first trophic level, primary producers use solar energy to produce organic material through photosynthesis. The herbivores at second trophic level use plant as food which gives them energy. The carnivores at the next trophic level feed on herbivores and derive energy for energy.

ii. Food chain :-

A food chain describes how energy and nutrients move through an ecosystem. At the basic level there are plants that produce the energy then it moves up to higher level.

organisms like herbivores. After that carnivorous eat herbivores, energy is transferred from one to the other. In food chain, energy transferred from one living organism to another in the form of food.

iii Nutrient cycle :-

The nutrient cycle is a system where energy and matter are transferred between living organism and non-living parts of the environment. This occurs as animals and plants consume nutrients found in the soil, and these nutrients are released back into the environment via death and decomposition. Energy flow is a unconditional or unconditional and noncyclic pathway, where as the movement of mineral nutrient is cyclic.

iv. Diversity :-

Ecological diversity includes the variation in both terrestrial and aquatic ecosystems. Ecological diversity can also take into account the variation in the complexity of a biological community, including the no. of different niches, the number of trophic levels and other ecological processes. Greater species diversity ensures natural sustainability for all forms of life.

V.

Evolution :-

Biologists have known for long that ecology, the interaction between organism and their environment, plays a significant role in forming new species and modifying living ones. The environment defines a template and the process of evolution by natural selection shapes organisms to fit that template.

Q4. What is Eutrophication?

Eutrophication, is the gradual increase in the concentration of phosphorus, nitrogen and other plant nutrients in aging aquatic ecosystem such as a lake. The productivity or fertility of such an ecosystem naturally increases as the amount of organic material that can be broken down into nutrients increases.

Eutrophication is predominantly caused by human actions due to their dependence on using nitrate and phosphate fertilizers. Agricultural practices and the use of fertilizers on lawns, golf courses and other fields contribute to phosphate and nitrate nutrient accumulation. This can be a problem in marine habitats and it can cause algal bloom, some algae even produce toxins that are harmful to higher forms of life.

The best, easiest way to prevent eutrophication is by preventing excess nutrients from reaching water bodies.