

BIOLOGY

NEET

CRASH COURSE

ECOLOGY

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ECOLOGY

Organism & Population

1. Ecology deals with the various principles which govern the relationships between organisms and their environment.
2. Temperature is the most ecologically relevant environmental factor.
3. Regulators are capable of homeostasis in the face of changing external environment. Others either partially regulate their internal environment or simply conform.
4. In case the organisms are faced with stressful conditions in their ambient environment for short duration, they have two options, migrate or suspend activities.
5. A population has certain attributes (birth rate, death rate, sex ratio, age distribution) that an individual organism does not.
6. The age pyramids show age distribution of males and females in a combined diagram. The shape of the pyramids reflects the growth status of the population.
7. Depending on the species population density may be expressed in numbers, biomass, percent cover etc.
8. Natality and immigration contribute an increase in population density while mortality and emigration to a decrease.
9. Growth pattern is exponential if resources are unlimited and it is logistic if resources are limiting.
10. The intrinsic rate of natural increase (r) is a very important parameter chosen for assessing impacts of any biotic or abiotic factor on population growth.
11. There is no habitat on earth that is inhabited just by a single species. Animals, plants and microbes cannot live in isolation but interact in various ways to form a biological community.
12. Both the species benefit to each other in mutualism while both species suffer in competition.
13. In both parasitism and predation only one species benefits.
14. In commensalism, one species benefits and the other is unaffected while in amensalism, one species is harmed while the other suffers.
15. Predation acts as 'conduits' for energy transfer across trophic levels. Predators keep prey populations under control.
16. Prey species have evolved various defences to lesser the impact of predation.
17. In competition, it is presumed that the superior type of species eliminates the inferior type, but many closely related species have evolved various mechanisms which facilitate their co-existence.
18. The most fascinating cases of mutualism in nature are seen in plant pollinifer interactions.

Ecosystem

1. An ecosystem is a functional unit of nature, where living organisms interact among themselves and also with the surrounding physical environment.
2. Inorganic nutrients, air, water and soil are abiotic components while producers, consumers and decomposers are biotic components.
3. Main structural features of an ecosystem are species composition and stratification.

4. The functional components of ecosystem are studied with aspects like productivity, decomposition, energy flow and nutrient cycling.
5. Primary productivity is the rate at which radiant energy is stored by producers.
6. It is divided into two types: gross primary productivity (GPP) and net primary productivity (NPP).
7. Secondary productivity is the rate of formation of new organic matter by consumers.
8. Complex organic matter is converted into inorganic substances by the decomposers.
9. This process is called decomposition.
10. Fragmentation, leaching and catabolism are important steps of decomposition.
11. In an aquatic ecosystem, GFC is the major conduit for energy flow while in a terrestrial ecosystem, a much larger fraction of energy flows through the DFC than through the GFC.
12. In most ecosystems, all the pyramids, of number, of energy, and biomass are upright.
13. Saprophytes are not given any place in ecological pyramids.
14. Atmosphere or hydrosphere is the reservoir for the gaseous type of cycle, whereas Earth's crust is the reservoir for sedimentary type.
15. Succession begins with invasion of a bare lifeless area by pioneers which later pave way for successors and ultimately a stable climax community is formed.

Biodiversity & Conservation

1. Sum total of diversity that exists at all levels of biological organisation is called biodiversity.
2. Conservation efforts are aimed at protecting diversity at all levels.
3. More than 1.5 million species have been recorded and nearly 6 million waiting to be discovered and named.
4. More than 70 percent of named species are animals of which 70% are insects.
5. Fungi has more species than all vertebrate species combined.
6. India with 45,000 species of plants and twice as many species of animals, is one of the 12 mega diversity countries of world.
7. Species diversity is highest in the tropics and decreases towards the poles.
8. Tropics provide a relatively constant environment, receive more sunlight so have greater productivity and species richness.
9. Species richness is also a function of area and species-area relationship is generally a rectangular hyperbolic function.
10. Communities with high diversity tend to be less variable, more productive and resistant to biological invasions.
11. Mass extinctions have occurred in the past but present rates are 100 to 1000 times higher largely due to human activities.
12. Nearly 700 species became extinct in recent times and more than 15,500 species (of which > 650 are from India) currently face threat of extinction.

13. Habitat loss and fragmentation, over-exploitations, biological invasions and co-extinctions are the main causes of extinction.
14. Biodiversity needs to be conserved for narrowly utilitarian, broadly utilitarian and ethical reasons.
15. Direct benefits are food, fibre, firewood, pharmaceuticals, etc.
16. Indirect benefits are through ecosystem services like pollination, pest control, climate moderation and flood control.
17. We have a moral responsibility to take good care of earth's biodiversity and pass it on in good order to our next generation.
18. Biodiversity conservation may be in situ as well as ex situ.
19. Endangered species are protected in their natural habitat in in situ conservation.
20. Total 34 'biodiversity hotspots' have been proposed in the world for intensive conservation efforts.
21. Western-Ghats-Sri Lanka, Himalaya and Indo-Burma cover India's biodiversity rich regions.
22. India's in situ conservatton efforts are reflected in its 14 biosphere reserves, 90 national parks, > 450 wildlife sanctuaries and many sacred groves.
23. Ex situ conservation methods include protective maintenance of threatened species in zoological parks, botanical gardens, in vitro fertilisation, tissue culture propagation and cryopreservation of gametes.

Environmental Issues

1. Burning of fossil fuel e.g., coal and petroleum in industries and in automobiles primarily causes air pollution.
2. The most common source of pollution of water bodies is domestic sewage which reduces dissolved oxygen but increases BOD.
3. Domestic sewage is rich in nitrogen and phosphorus which cause eutrophication and algal blooms.
4. Industrial waste waters are rich in heavy metals and organic compounds which harm living organisms.
5. Municipal solid wastes are disposed of in landfills.
6. Disposal of hazardous wastes like defunct ships, radioactive wastes and e-wastes requires additional efforts.
7. Agricultural chemicals e.g., pesticides and leachates from solid wastes primarily causes soil pollution.
8. Two major global environmental issues are increasing greenhouse effect, which is warming Earth and ozone depletion in stratosphere.
9. Increased emission of CO₂, methane, nitrous oxide, CFCs and deforestation cause enhanced greenhouse effect.
10. It may drastically change rainfall pattern and global temperature besides affecting living organisms deleteriously.
11. Emission of CFCs is depleting the ozone rapidly in stratosphere, thus increasing the risks of skin cancer, mutation and other disorders.

EXERCISE

- Q.1 Increase of population under optimum condition is termed.
 (1) Reproductive ability (2) Secondary production
 (3) Biotic potential (4) Biomass
- Q.2 What is true for individuals of same species :-
 (1) Live in same niche (2) Live in same habitat
 (3) Interbreeding (4) Live in different habitat
- Q.3 When the two ecosystems overlap each other the area is called.
 (1) Ecotone (2) Niche (3) Edge effect (4) Ecotypes
- Q.4 The community which starts succession at a place is termed
 (1) Climax community (2) Seral community (3) Pioneer community (4) Primary community
- Q.5 Competition for food, light and space is most severe in -
 (1) Closely related species growing in the same area (in the same niche)
 (2) Closely related species growing in different habitat
 (3) Distantly related species growing in the same habitat
 (4) Distantly related species growing in different habitat
- Q.6 Most successful parasites are those which do not
 (1) Grow free (2) Kill their host (3) Reproduce sexually (4) Survive in soil
- Q.7 Large ecosystems are called -
 (1) Biomes (2) Ecotone (3) Ecads (4) Biocoenosis
- Q.8 The maximum energy is stored at following tropical level in any ecosystem -
 (1) Producers (2) Herbivores (3) Carnivores (4) Top carnivores
- Q.9 Largest ecosystem of the world are
 (1) Forests (2) Grass lands (3) Great lakes (4) Oceans
- Q.10 Which of the following is a man made artificial ecosystem
 (1) Grassland ecosystem (2) Forest ecosystem
 (3) Ecosystem of artificial lakes & dams (4) None of these
- Q.11 Nepenthes (Insectivorous pitcher plant) is -
 (1) Producer (2) Consumer (3) Both 1 & 2 (4) None of these
- Q.12 Which biotic components mainly help in recycling of minerals -
 (1) Producers (2) Consumers (3) Decomposers (4) All the above
- Q.13 Trophic levels are formed by -
 (1) Only plants (2) Only carnivores
 (3) Only animals (4) Organisms linked in food chain
- Q.14 The ecological pyramid of numbers in pond ecosystem is -
 (1) Upright (2) Inverted
 (3) May upright or Inverted (4) First upright then inverted
- Q.15 Which ecosystem has maximum number of producers in an unit area -
 (1) Pond (2) Grassland (3) Forest (4) Tundra

- Q.16 The storage of energy at consumer level is known as-
 (1) Grass primary production (2) Secondary productivity
 (3) Net primary productivity (4) Net productivity
- Q.17 Gross primary productivity is -
 (1) Rate at which organic molecules are formed in an autotroph
 (2) Rate at which organic molecules are used up by an autotroph
 (3) Storage of organic molecules in the body of an autotroph
 (4) Rate at which organic molecules are transferred to next higher trophic level
- Q.18 Which is best for plant growth -
 (1) Loamy soil (2) Silt (3) Sandy soil (4) Clay soil
- Q.19 A good soil is that which -
 (1) holds whole of the water entering into it (2) Allows limited amount of water into it
 (3) Allows the water to percolate slowly into it (4) Allows the water to pass very quickly from it
- Q.20 The soil near the surface is usually darker than the soil about one meter down. This is because the top soil is
 (1) Young & wet (2) Richer in organic matter
 (3) Richer in Ca & Mg (4) Dry
- Q.21 What is the best pH of the soil for cultivation of plants:-
 (1) 3.4 – 5.4 (2) 6.5 – 7.5 (3) 4.5 – 8.5 (4) 5.5 – 6.5
- Q.22 Forests near equator region are called -
 (1) Deciduous (2) Tropical rain forests
 (3) Coniferous forests (4) Temperate forests
- Q.23 Grass lands with scattered trees are called -
 (1) Pampas (2) Steppes (3) Prairies (4) Savanna
- Q.24 Autumn colouration of leaves appear only in -
 (1) Tropical regions (2) evergreen plants
 (3) temperate deciduous plants (4) deserts
- Q.25 A biosphere is composed of
 (1) Living organisms
 (2) Living organisms + Lithosphere
 (3) Living organisms + lithosphere + atmosphere
 (4) Living organisms + lithosphere + atmosphere + hydrosphere
- Q.26 Bloom occurs in -
 (1) Oligotrophic lake (2) Eutrophic lake (3) Fast flowing river (4) Rain water
- Q.27 What is not useful to increase agriculture production
 (1) Mechanisation of agriculture (2) Enhanced irrigation facilities
 (3) use of fertilizers (4) Deforestation
- Q.28 Which is normally not an air pollutant -
 (1) CO (2) SO₂ (3) Hydrocarbons (4) CO₂
- Q.29 Acidic rains are due to -
 (1) O₃ (2) SO₂ + NO₂ (3) CO (4) CO₂

- Q.30 Lichens in a habitat indicates -
 (1) Zinc in soil (2) Copper in soil
 (3) Carbon monoxide in air (4) Lack of air pollution
- Q.31 Green house effect mainly due to -
 (1) SO₂ (2) CO₂ (3) CO (4) O₂
- Q.32 Which pollutant exhibits biomagnification in food chain -
 (1) DDT (2) SO₂ (3) CO (4) PAN
- Q.33 Which of the following is the main factor of water pollution -
 (1) Smoke (2) Industrial waste (3) Detergent (4) Ammonia
- Q.34 Removal of the soil by the action of wind and water is known as -
 (1) Erosion (2) Fossilization (3) Leaching (4) Calcification
- Q.35 Eutrophication refers to -
 (1) High production in an aquatic ecosystem (2) Low production in an aquatic ecosystem
 (3) Low production in a terrestrial (4) Stable production in a terrestrial ecosystem
- Q.36 The major source of BOD in the river Ganga is -
 (1) Leaf litter (2) Fishes (3) Human waste (4) Aquatic plants
- Q.37 All the following contribute to pollution except -
 (1) Thermal power plant (2) Automobiles
 (3) Nuclear power plant (4) Hydroelectric power project
- Q.38 Spraying of DDT on crops produces pollution of -
 (1) Soil and water only (2) Air and soil only
 (3) Air, soil and water (4) Air and water only
- Q.39 Radiation is a health hazard because it occurs
 (1) Pneumonia (2) Leukaemia (3) Hemophilia (4) Anaemia
- Q.40 What is B.O.D. ?
 (1) The amount of O₂ utilised by organisms in water
 (2) The amount of O₂ utilized by micro organisms for decomposition
 (3) The total amount of O₂ present in water
 (4) All of the above
- Q.41 Most hazardous metal pollutant of automobile exhaust is :
 (1) Hg (2) Cd (3) Pb (4) Cu
- Q.42 Phytotron is a device by which -
 (1) electrons are bombarded (2) protons are liberated
 (3) plants are grown in controlled environment (4) Mutations are produced in plants
- Q.43 Biosphere refers to
 (1) Plants of the world (2) Special plants
 (3) Area occupied by living beings (4) Plants of a particular area
- Q.44 Red data book is famous for -
 (1) Extinct plants and animals (2) Extinct plants only
 (3) Endangered plants and animals (4) Extinct animals only

- Q.45 The method by which endangered plant species are conserved in a botanical garden or in some controlled circumstances -
 (1) Afforestation (2) In situ conservation
 (3) Ex situ conservation (4) None of the above
- Q.46 The main aim of plant conservation is -
 (1) To conserve the necessary ecological activities and life supporting systems
 (2) To conserve species diversity and range of genetic material
 (3) Both the above
 (4) None of the above
- Q.47 One of the following is associated with the conservation of forests
 (1) Kaziranga (2) Ghana (3) Silent valley (4) Gir
- Q.48 Which one of the following is a pair of endangered species
 (1) Garden lizard and Mexican poppy (2) Rhesus monkey and Sal tree
 (3) Indian peacock and carrot grass (4) Hornbill and Indian Aconite
- Q.49 A lake with an inflow of domestic sewage rich in organic waste may result in
 (1) Drying of the lake very soon due to algal bloom
 (2) An increased production of fish due to lot of nutrients
 (3) Death of fish due to lack of oxygen
 (4) Increased population of aquatic food web organisms
- Q.50 Minamata disease was caused due to the consumption of
 (1) Sea food containing lot of cadmium (2) Fish contaminated with mercury.
 (3) Oysters with lot of pesticide (4) Sea food contaminated with selenium
- Q.51 One of the ex situ conservation methods for endangered species is :-
 (1) Wildlife Sanctuaries (2) Biosphere Reserves (3) Cryopreservation (4) National Parks
- Q.52 If CO₂ is absent in atmosphere of earth then :-
 (1) Temperature will decrease (2) Temperature will increase
 (3) Plants will flourish well (4) No effect
- Q.53 Reason for elimination of wild life is :-
 (1) Deforestation (2) Forest fire (3) Floods (4) Less Rain fall
- Q.54 Temperature variation in Pacific ocean in present time is called :-
 (1) Cyclone effect (2) Alnino effect (3) Green house effect (4) Gaudikov's effect
- Q.55 Percentage energy transferred to higher trophic level in food chain is :-
 (1) 1% (2) 10% (3) 90% (4) 100%
- Q.56 Species diversity is maximum in :-
 (1) Tropical rain forest (2) Temperate forest (3) Deserts (4) Hill slops
- Q.57 Which of the following is secondary pollutant
 (1) PAN (2) CO (3) NO₂ (4) SO₂
- Q.58 According to forestry comission report-1997 the total forest cover of India :-
 (1) 11% (2) 19.5% (3) 17% (4) 18.7%
- Q.59 Insectivorous plants grow in the soil which is deficient in:-
 (1) Mg (2) Ca (3) P (4) N

- Q.60 Maximum DDT in birds feeding on :-
 (1) Fishes (2) Meat (3) Insects (4) Seeds
- Q.61 Green house effect is :-
 (1) Gardening outside the house (2) Global cooling.
 (3) Global warming. (4) Green colour house
- Q.62 What will be happen if the number of organism increased at a place:-
 (1) Inter species competition (2) Intra species competition
 (3) Both (4) None
- Q.63 Blood analysis of a patient reveals an unusually high quantity of carboxyhaemoglobin content. Which of the following conclusions is most likely to be correct? The patient has been inhaling polluted air containing unusually high content of
 (1) Carbon monoxido (2) Carbon disulphide (3) Chloroform (4) Carbon dioxide
- Q.64 Identify the correctly matched pair –
 (1) Kyoto Protocol – Climatic change
 (2) Montreal Protocol – Global warming
 (3) Basal Convention – Biodiversity Conservation
 (4) Ramsar Convention – Ground water pollution
- Q.65 Biodiversity Act of India was passed by the Parliament in the year –
 (1) 2002 (2) 1992 (3) 1996 (4) 2000
- Q.66 Photosynthetic Active Radiation (PAR) has the following range of wavelengths :
 (1) 340 - 450 nm (2) 400 - 700 nm (3) 500 - 600 nm (4) 450 - 950 nm
- Q.67 The 'blue baby' syndrome results from
 (1) excess of dissolved oxygen (2) excess of TDS (total dissolved solids)
 (3) excess of chloride (4) methaemoglobinaemia
- Q.68 Montreal Protocol which calls for appropriate action to protect the ozone layer from human activities was passed in the year
 (1) 1988 (2) 1985 (3) 1986 (4) 1987
- Q.69 Photochemical smog pollution does not contain
 (1) Carbon dioxide (2) PAN (peroxy acyl nitrate)
 (3) Ozone (4) Nitrogen dioxide
- Q.70 Which of the following is considered a hot-spot of biodiversity in India ?
 (1) Eastern Ghats (2) Aravalli Hills (3) Western Ghats (4) Indo-Gangetic Plain

AIIMS Special

Instructions for following questions (Q.71 to Q.163).

- (1) If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1).
- (2) If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark (2).
- (3) If Assertion is true statement but Reason is false, then mark (3).
- (4) If both Assertion and Reason are false statements, then mark (4).

Organism & Population

- Q.71 **Assertion :** Holistic approach explains the environmental interactions.
Reason : All environmental factors are integrated with no limits of time and space.
- Q.72 **Assertion :** Some organisms can maintain internal homeostasis by means of physiological processes and are called 'Regulates'.
Reason : 'Regulates' can maintain internal homeostasis only upto a limit of stressful conditions.
- Q.73 **Assertion :** Population ecology is a link of ecology to population genetics and evolution.
Reason : Natural selection operates at population level to evolve the desired traits.
- Q.74 **Assertion :** Under unlimited resource condition a population can show a exponential growth curve.
Reason : A maximum possible number of individuals can always be supported when enough resources are available.
- Q.75 **Assertion :** Insects contribute maximum in total diversity of animals.
Reason : Angiosperms and insects are coevolved to perform a plant-pollinator interaction.
- Q.76 **Assertion :** Drought resistant plants are not true xerophytes.
Reason : Drought resistant plants always have physiological dryness.
- Q.77 **Assertion :** In winter and summer season growth of phytoplankton is low in any lake.
Reason : Amount of nutrients and oxygen is less in lake during summer and winter.
- Q.78 **Assertion :** Chemical which repel other animals called allomones.
Reason : These are beneficial substances for others.
- Q.79 **Assertion :** In mangrove plants, negatively geotropic roots come out of the mud called pneumatophores.
Reason : Mangrove plants grow in water-logged marshy conditions so there is problem of aeration in roots of these plants.
- Q.80 **Assertion :** Loam soils are ideal for vegetation.
Reason : Loam soils have clay but no sand.
- Q.81 **Assertion :** Mangroves have breathing roots.
Reason : Soil air is almost negligible in swamps.
- Q.82 **Assertion :** Profundal zone of a lake harbours have only heterotrophs.
Reason : Autotrophs fail to grow in deep water due to lack of light.
- Q.83 **Assertion :** Ecads appear different.
Reason : They lives in different environmental conditions.
- Q.84 **Assertion :** Heliophytes are shade loving plant. They requires poor light intensity.
Reason : They are found in lower level of stratification.
- Q.85 **Assertion :** Epiphytes can be absorb atmospheric humidity.
Reason : Velamen tissue presents in thier hanging roots.
- Q.86 **Assertion :** Well developed chlorenchyma is present in aquatic plants
Reason : Photosynthetic root are present in Trapa plant.
- Q.87 **Assertion :** Water holding capacity of the soil depends upon structure of soil.
Reason : Water holding capacity of sandy soil is best.
- Q.88 **Assertion :** Human regulated environment is called noosphere.
Reason : Human is the main cause for pollution in our cosystem due to exploitation of natural resources.
- Q.89 **Assertion :** Ehiphytes are completely autotrophic plants which grow on other plants.
Reason : Epiphytes are found in Sariska national park.
- Q.90 **Assertion :** Psychrophytes are also known as hekistotherms plants.
Reason : Cold soil is physiologically dry habitat.
- Q.91 **Assertion :** Photosynthesis process is absent in aphotic zone of ocean.
Reason : Aphotic zone is the deepest zone of ocean without oxygen.

- Q.92 **Assertion :** Solar energy is the best pollution free form of energy.
Reason : It can be produced in a nuclear reactor in large amount from a tiny amount.
- Q.93 **Assertion :** Planktons are free floating organism on the surfaces of water.
Reason : All Planktons belongs to animal kingdom.
- Q.94 **Assertion :** Hygroscopic water is hold by soil colloids.
Reason : It can be utilized by plants.
- Q.95 **Assertion :** Undifferentiated and living xylem is found in aquatic plants (suspended).
Reason : Phloem is less developed in aquatic plants.

Ecosystem

- Q.96 **Assertion :** Agriculture and aquacultures are man maintained ecosystems.
Reason : All biotic and abiotic factors are managed by humans in these ecosystems.
- Q.97 **Assertion :** Warm and moist environment can enhance the rate of decomposition.
Reason : Warm and moist climate leads to create anaerobic condition which promotes decomposition.
- Q.98 **Assertion :** Detritus food chain begins with detritus.
Reason : Detrivores like fungi and bacteria are major decomposers in such food chains.
- Q.99 **Assertion :** Ecological pyramids cannot explain all the vital functions of any ecosystem.
Reason : Pyramids actually does not explain the role of organisms working at more than one trophic levels.
- Q.100 **Assertion :** Successional process starts only in those areas, where no living organisms ever existed.
Reason : These areas are not supported by physical environmental conditions.
- Q.101 **Assertion :** Energy flow in ecosystem is bidirectional.
Reason : Amount of energy increase with each and every trophic levels.
- Q.102 **Assertion :** Biotic and abiotic components constitute ecosystem.
Reason : Sun is the ultimate source of energy in ecosystem.
- Q.103 **Assertion :** Predators directly depend on producers for food.
Reason : Tertiary consumers are green plants.
- Q.104 **Assertion :** In predation, one organism is killed by other organism and used as food
Reason : In this type of association predator lives on interest.
- Q.105 **Assertion :** In ecosystem, the function of producers is to convert organic compounds to inorganic compounds.
Reason : Consumers are directly dependent on solar energy.
- Q.106 **Assertion :** Biosphere consist of hydrosphere, lithosphere and atmosphere.
Reason : Biosphere is formed of only nonliving matter.
- Q.107 **Assertion :** Crop field is a natural ecosystem.
Reason : Complex food chain is found in this ecosystem.
- Q.108 **Assertion :** Agro-ecosystem is man-made and stable ecosystem.
Reason : It can be maintained by biological control.
- Q.109 **Assertion :** Pyramid of biomass in aquatic ecosystem is inverted.
Reason : Number of phytoplanktons are maximum in aquatic ecosystem.
- Q.110 **Assertion :** Lion is a ecologically weakest animal.
Reason : 90% energy is lost. When it transfered from one trophic level to another trophic level.
- Q.111 **Assertion :** Earth is a closed system for mineral cycle.
Reason : Mineral cycle is take place between abiotic and biotic component of earth .
- Q.112 **Assertion :** Pyramid of energy is always upright.
Reason : There is a gradual decrease in energy at successive trophic levels.
- Q.113 **Assertion :** Ecological efficiency always decrease.
Reason : The percentage energy transferred one to another trophic level always increases.

- Q.114 **Assertion :** In ecosystem energy flow is always unidirectional.
Reason : In food web energy flow from different pathway.
- Q.115 **Assertion :** According to Lindeman in food chain only 90% of energy transferred from one to next trophic level.
Reason : 10% energy is lost at each trophic level due to respirations & heat.
- Q.116 **Assertion :** Those ecosystem which have complex food web are more stable.
Reason : In complex food web every organism have more than one option for getting food.
- Q.117 **Assertion :** Decomposers play a significant role in mineral cycle.
Reason : Decomposers are not included in the food chain.
- Q.118 **Assertion :** In ecosystem energy cycle runs between producers and consumers.
Reason : Energy goes to producers through decomposer.
- Q.119 **Assertion :** Vulture is decomposer.
Reason : Vulture is scavenger not predator.
- Q.120 **Assertion :** All predators are carnivores.
Reason : All carnivores are not predators.

Biodiversity & Conservation

- Q.121 **Assertion :** Western ghats are included among the hot spots of biodiversity.
Reason : Western ghats have greater amphibian diversity than eastern ghats.
- Q.122 **Assertion :** Tropical regions are more diversity rich in comparison to temperate areas.
Reason : Availability of more solar energy directly affects the presence of more species in these areas.
- Q.123 **Assertion :** Process of extinction is random.
Reason : Any species not adapted to environmental conditions cannot survive.
- Q.124 **Assertion :** Habitat destruction is the main reason of loss of biodiversity.
Reason : This actually cause the increase in edge area and reduction in core area.
- Q.125 **Assertion :** Pristine forests are among in-situ conservation strategies.
Reason : These are sacred grooves where biota is protected on site.
- Q.126 **Assertion :** In In-situ conservation speices are protected in botanical gardens
Reason : In-situ conservation also take place in zoos
- Q.127 **Assertion :** Desert shows poor biodiversity and their productivity is minimum
Reason : Annual rain fall is very less in desert.
- Q.128 **Assertion :** In India, Mangrove vegetation is found in Sunderban.
Reason : Marshy land of Sunderban is physically dry.
- Q.129 **Assertion :** Sunderbans have mangrove community.
Reason : Only mangrove vegetation present in it.
- Q.130 **Assertion :** Corals are responsbile to form rocks in the sea.
Reason : Coral reef is the best example of stable marine ecosystem.
- Q.131 **Assertion :** There is no noise in the forest during night in silent valley.
Reason : Animals are not found there.
- Q.132 **Assertion :** Seed, gene banks come under ex-situ conservation.
Reason : This is the conservation of plants outside their habitat.
- Q.133 **Assertion :** The silent valley is so called because it is silent during the night.
Reason : There is no human activity is allowed in night time.
- Q.134 **Assertion :** Alpha diversity is diversity with in a community.
Reason : Diversity depends upon the rate of replacement of species along a gradient of habitats.
- Q.135 **Assertion :** In per unit area maximum productivity occur in tropical rain forest.
Reason : Maximum number of producers found in Tropical rain forest in per unit area.

- Q.136 **Assertion :** Western ghats are included among the hot spots of biodiversity.
Reason : Western ghats have greater amphibian diversity than eastern ghats.
- Q.137 **Assertion :** Tropical regions are more diversity rich in comparison to temperate areas.
Reason : Availability of more solar energy indirectly affects the presence of more species in these areas.
- Q.138 **Assertion :** Process of extinction is random.
Reason : Any species not adapted to environmental conditions cannot survive.
- Q.139 **Assertion :** Habitat destruction is the main reason of loss of biodiversity.
Reason : This actually cause the increase in edge area and reduction in core area.
- Q.140 **Assertion :** Pristine forests are among in situ conservation strategies.
Reason : These are sacred grooves where biota is protected on site.

Environmental Issues

- Q.141 **Assertion :** Euro-II norms are framed to reduce the content of CO and aromatic compounds from fuels.
Reason : These compounds leads to reduce visibility and carboxyhemoglobin formation .
- Q.142 **Assertion :** Sewage discharge in a water body causes eutrophication.
Reason : This increases the organic content in water body and hence growth of algal blooms.
- Q.143 **Assertion :** Biomagnification of DDT can enhance the decline in bird population.
Reason : DDT causes thinning of egg shell and their premature breaking by disturbing calcium metabolism.
- Q.144 **Assertion :** Ecological sanitation is a sustainable system for handling human excreta.
Reason : It is a practical and hygienic method of using dry composting toilets.
- Q.145 **Assertion :** El Nino is a climatic change which causes deleterious environmental changes.
Reason : Increased tropospheric ozone due to El Nino cause shift of climatic regions.
- Q.146 **Assertion :** Degree of water pollution is measured in terms of BOD.
Reason : BOD value is low when water is highly polluted.
- Q.147 **Assertion :** Soil erosion is caused by running water.
Reason : It is biological method of soil conservation.
- Q.148 **Assertion :** Long chain phenolic compounds, glass and plastic etc. are persistent pollutants.
Reason : These pollutants are not decomposed naturally or by activity of micro-organisms thus are not recycled back into the environment.
- Q.149 **Assertion :** D.D.T. is biologically magnified.
Reason : D.D.T. causes water, soil and air pollution.
- Q.150 **Assertion :** In the presence of Chlorella in water, water become free from bacteria.
Reason : It shows proto cooperation.
- Q.151 **Assertion :** Natural gas is a pollution free source of energy.
Reason : In India natural gas is maximum utilised source.
- Q.152 **Assertion :** B.O.D. value is low when water is highly polluted.
Reason : High amount of fertilizer found in oligotrophic lake.
- Q.153 **Assertion :** PAN is secondary pollutant
Reason : PAN is formed by chemical reaction of secondary pollutants.
- Q.154 **Assertion :** Oxygen is very less in amount in nutrient rich lake.
Reason : B.O.D. is high in such lakes.
- Q.155 **Assertion :** Grazing animal are the renew-able resources.
Reason : It is exhaustible resources.
- Q.156 **Assertion :** Los Angeles smog is a photochemical smog requires high temperature.
Reason : Los Angeles smog occurs mainly due to sulphure oxide.

- Q.157 **Assertion :** Plants and animals are renewable resources.
Reason : These are exhaustible resources.
- Q.158 **Assertion :** The global mean temperature has increased by 0.6°C during 20th century.
Reason : There has been a progressive increased combustion of fossil fuels generating more green house gases.
- Q.159 **Assertion :** Ozone protects the earth from U.V. radiations from sun.
Reason : Ozone is Tropospheric pollutant.
- Q.160 **Assertion :** Ozone is the Tropospheric pollutant.
Reason : Ozone protects us from the harmful U.V. radiation.
- Q.161 **Assertion :** Air pollutants are always gaseous.
Reason : Because it is always released from chimneys.
- Q.162 **Assertion :** Suspended particulate matter (SPM) is an important pollutant released by diesel vehicles.
Reason : Catalytic converters greatly reduce pollution caused by automobiles.
- Q.163 **Assertion :** Presently, the global atmosphere is warming up.
Reason : The depletion of stratospheric ozone layer has resulted in increase in ultraviolet radiations reaching the earth.

ANSWER KEY

Q.1	3	Q.2	3	Q.3	1	Q.4	3	Q.5	1	Q.6	2	Q.7	1
Q.8	1	Q.9	4	Q.10	3	Q.11	3	Q.12	3	Q.13	4	Q.14	1
Q.15	1	Q.16	2	Q.17	1	Q.18	1	Q.19	3	Q.20	2	Q.21	4
Q.22	2	Q.23	4	Q.24	3	Q.25	4	Q.26	2	Q.27	4	Q.28	4
Q.29	2	Q.30	4	Q.31	2	Q.32	1	Q.33	2	Q.34	1	Q.35	1
Q.36	3	Q.37	4	Q.38	3	Q.39	2	Q.40	2	Q.41	3	Q.42	3
Q.43	3	Q.44	3	Q.45	3	Q.46	3	Q.47	3	Q.48	4	Q.49	3
Q.50	2	Q.51	3	Q.52	1	Q.53	1	Q.54	2	Q.55	2	Q.56	1
Q.57	1	Q.58	2	Q.59	4	Q.60	1	Q.61	3	Q.62	3	Q.63	1
Q.64	1	Q.65	1	Q.66	2	Q.67	4	Q.68	4	Q.69	1	Q.70	3
Q.71	3	Q.72	3	Q.73	1	Q.74	2	Q.75	1	Q.76	3	Q.77	1
Q.78	3	Q.79	1	Q.80	3	Q.81	1	Q.82	1	Q.83	2	Q.84	4
Q.85	1	Q.86	2	Q.87	3	Q.88	2	Q.89	3	Q.90	2	Q.91	3
Q.92	3	Q.93	3	Q.94	3	Q.95	2	Q.96	1	Q.97	3	Q.98	3
Q.99	2	Q.100	4	Q.101	4	Q.102	2	Q.103	4	Q.104	3	Q.105	4
Q.106	3	Q.107	4	Q.108	4	Q.109	2	Q.110	1	Q.111	1	Q.112	1
Q.113	4	Q.114	2	Q.115	4	Q.116	1	Q.117	2	Q.118	4	Q.119	2
Q.120	2	Q.121	2	Q.122	3	Q.123	4	Q.124	3	Q.125	1	Q.126	4
Q.127	1	Q.128	3	Q.129	3	Q.130	2	Q.131	3	Q.132	1	Q.133	3
Q.134	2	Q.135	3	Q.136	1	Q.137	1	Q.138	3	Q.139	3	Q.140	4
Q.141	4	Q.142	2	Q.143	1	Q.144	1	Q.145	3	Q.146	3	Q.147	3
Q.148	1	Q.149	2	Q.150	4	Q.151	3	Q.152	4	Q.153	3	Q.154	1
Q.155	2	Q.156	3	Q.157	2	Q.158	1	Q.159	2	Q.160	2	Q.161	4
Q.162	2	Q.163	2										