



# All India Civil Services Coaching Centre

(Under the aegis of Government of Tamil Nadu)

## TEST BOOKLET

### Test 1 – NCERT Environment

**Time Allowed: 2 Hours**

**Maximum Marks: 200**

## INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET
2. You have to enter your Name on the Test Booklet
3. This Test Book contains 100 items (questions). Each it comprises four responses (answers). You will select the response, which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response, which you consider the best. In any case, choose ONLY ONE response for each item.
4. You have to mark all your response ONLY on the separate sheet provided along with the Test Booklet.
5. All items Carry equal marks. There will be **penalty (negative marking)** for wrong answers marked by you in the Answer sheet.
6. There are four alternatives for the answers to every question. For each question for which a wrong answer has been given by the candidate, one third ( $\frac{1}{3}$ ) of the marks assigned to that question will be deducted as penalty.
7. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will same penalty as above for that question.
8. If a question is left blank i.e., no answer is given by the candidate, there will be no penalty for that question.

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- Which of the following statements best define the term 'Ecology'?
  - It is a scientific study of the living organisms.
  - It is a scientific study of the relationship of the living organisms with each other.
  - It is a scientific study of the relationship of the living organisms with each other and with their environment.
  - None of the above
- Consider the following statements regarding different kinds of Ecosystem:
  - Grasslands rarely receive enough rain to support trees and does not possess enough soil nutrients to feed large, grassy expanses.
  - Tundra is the treeless environment of the Arctic Circle.
  - The taiga is a region of subarctic forest south of the Arctic Circle.Which of the above statement/s is/are correct?
  - 1 and 2 only
  - 3 only
  - 2 and 3 only
  - 1 only
- Which of the following best describes the term 'Environment'?
  - It is the sum total of the living things around us.
  - It is the sum total of the non-living things around us.
  - Everything that surrounds or affects an organism during its life time.
  - None of the above
- With respect to productivity of an ecosystem, consider the following statements:
  - Gross primary productivity of an ecosystem is the rate of production of organic matter during photosynthesis.
- Secondary productivity is defined as the rate of formation of new organic matter by producers.

Which of the above statement/s is/are incorrect?

  - 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2
- Which of the following constitutes the 'abiotic component' of the environment?
  - Water
  - Non-Green Plants
  - SoilSelect the correct answer using the code given below:
  - 1 and 2 only
  - 2 and 3 only
  - 1 and 3 only
  - 1, 2 and 3
- Which of the following statements is not correct regarding producers and consumers?
  - In a terrestrial ecosystem, major producers are herbaceous and woody plants.
  - If the animals eat other animals which in turn eat the plants (or their produce) they are called tertiary consumers.
  - Primary consumers will always be herbivores.
  - Those animals that depend on the primary carnivores for food are labelled secondary carnivores.
- With regard to the levels of organisation in ecology, the term 'population' can be defined as:

- (a) It is a group of organisms usually of the same species, occupying a defined area during a specific time.
- (b) It is a community of organisms interacting with each other and with their environment.
- (c) It is a body made up of organs, organelles, or other parts that work together to carry out on the various processes of life.
- (d) None of the above
8. With respect to Ecological Pyramids, consider the following statements:
1. The pyramid of productivity is more accurate than the pyramid of numbers and pyramid of biomass.
  2. The pyramid of biomass in sea is always inverted because the biomass of fishes far exceeds that of phytoplankton.
- Which of the above statement/s is/are correct?
- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2
9. In the context of ecology, which of the following is considered as the basic unit of taxonomy?
- (a) Population  
(b) Individual  
(c) Community  
(d) None of the above
10. Consider the following statements regarding Ecological Succession:
1. The gradual and fairly predictable change in the species composition of a given area is called ecological succession.
  2. In the successive seral stages there is a change in the diversity of species of organisms, increase in the number of species and organisms as well as an increase in the total biomass.
  3. Hydrarch succession takes place in wetter areas and the successional series progress from hydric to the mesic conditions.
- Which of the above statement/s is/are correct?
- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3
11. With reference to the levels of organisation in ecology, consider the following statements:
1. The biosphere includes all living organisms on earth, together with the dead organic matter produced by them.
  2. The population growth rate of species in an ecosystem is always positive.
  3. An organism is an individual living being that has the ability to act or function independently.
- Which of the above statements is/are incorrect?
- (a) 1 only  
(b) 2 only  
(c) 2 and 3 only  
(d) 1 and 3 only
12. With respect to Pioneer Species, which of the following statements is/are correct?
1. During primary succession on land, alders, birches and chir pine and many grass species are the most common pioneer species.
  2. Pioneers of secondary successions often encounter resource-rich environments where competition with existing vegetation is increased.
- Select the correct option from the codes given below:
- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 and 2
13. Which of the following statements correctly define the term 'Ecosystem'?
- (a) It is a large naturally occurring community of flora and fauna occupying a major habitat.
- (b) It is a structural and functional unit of biosphere consisting of community of living beings and the physical environment, both interacting and exchanging materials between them.
- (c) It is a group of organisms usually of the same species, occupying a defined area during a specific time.
- (d) None of the above

14. Which of the following services is/are provided by the ecosystem?

1. Regulation of climate
2. Building of knowledge and the spreading of ideas
3. Erosion and flood control
4. Biomass production
5. Soil formation and retention

Select the correct option from the codes given below:

- (a) 1, 4 and 5 only
- (b) 3, 4 and 5 only
- (c) 1, 2, 3, 4 and 5
- (d) 1, 2 and 3 only

15. Which of the following statements about Ecology, Environment and Ecosystem is incorrect?

- (a) Ecology is a scientific study of the relationship of the living organisms with each other and with their environment.
- (b) An ecosystem is a functional unit of the environment.
- (c) An environment is a group of ecosystems.
- (d) None of the above

16. Which of the following is/are the in-situ methods of conservation?

1. Biosphere Reserve
2. Community Reserve
3. National Parks
4. Seed Banks

Select the correct answer using the code given below:

- (a) 1 and 3 only
- (b) 1, 2 and 3 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

17. With reference to the abiotic component of ecosystem, consider the following statements:

1. These are the inorganic and non-living parts of the world.
2. It includes physical processes like volcanoes, earthquakes, floods, forest fires, climates, and weather conditions.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only

- (c) Both 1 and 2
- (d) Neither 1 nor 2

18. Which of the following Biosphere Reserves is incorrectly matched with the state in which it is located?

- (a) Dehang - Dibang - Arunachal Pradesh
- (b) Pachmarhi - Odisha
- (c) Panna - Madhya Pradesh
- (d) Nokrek – Meghalaya

19. Consider the following statements about the 'biotic component' of ecosystem:

1. Biotic component includes only the living organisms of the ecosystem.
2. All biotic components of the ecosystem produce their own food.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

20. Which of the following invasive alien species are found in India?

1. Water Hyacinth
2. Thorn Apple
3. Viper grass

Select the correct answer using the code given below:

- (a) 1 only
- (b) 1 and 3 only
- (c) 2 only
- (d) 1, 2 and 3

21. Which of the following are the Goods and Services provided by ecosystems?

1. Provision of food, fuel and fibre
2. Detoxification and decomposition of wastes
- Pollination of plants

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

22. Which of the following is/are Indian biodiversity hotspots?

1. Himalaya

2. Indo-Burma
3. Sundalands
4. The Western Ghats & Sri Lanka

Select the correct answer using the code given below:

- (a) 1 and 4 only
- (b) 1, 2 and 3 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

- (c) The climate determines the boundaries of a biome
- (d) The most important climatic factors for a biome are temperature and precipitation.

23. Match the following statements:

**List I**

- A. Reproductive Niche
- B. Habitat Niche
- C. Food Niche

**List II**

1. How and when it produces
2. Where it lives
3. What it eat or decomposes

Select the correct option using the code given below:

- (a) A-1, B-2, C-3
- (b) A-2, B-1, C-3
- (c) A-3, B-2, C-1
- (d) A-3, B-1, C-2

24. "Ecotone is a transitional area between two different ecosystems", consider the following statements with respect to the Ecotone:

1. An Ecotonal area has a higher density organism of one species and a greater number of species than are found in either flanking community.
2. Ecotones don't appear where one body of water meets another.
3. Grasslands represent an ecotone between forest and desert ecosystem.

Which of the above statements are correct?

- (a) 2 and 3 only
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

25. Which of the following statement about Biome is incorrect?

- (a) Biomes are characterized by climate, vegetation, animal life, and general soil type.
- (b) The aquatic part of the biosphere is divisible into enormous regions called biomes.

26. Which of the following statements defines the difference between food chain and food web?

1. A food web indicates all possible transfer of energy and nutrients among the organisms in an ecosystem whereas a food chain traces only one pathway of the food.
2. Food web increases the stability of the ecosystem whereas separate food chain increases the instability of the ecosystem.
3. Both do not have any effect on improving the adaptability and competitiveness of the organism.

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

27. Which of the following statement about Estuary is incorrect?

- (a) Coastal bays, river mouths and tidal marshes form the estuaries.
- (b) In estuaries, fresh water from rivers meet ocean water
- (c) Estuaries are more productive as compared to the adjacent river or sea.
- (d) None of the above

28. Consider the following statements regarding biodiversity hotspots:

1. Biodiversity hotspot regions have high levels of species richness and high degree of endemism.
2. Western Himalayas and Eastern Ghats are the biodiversity hotspots in India.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

29. Match the following:

**Aquatic Ecosystem Characteristics**

- |               |   |
|---------------|---|
| A. Estuaries  | 1. Littoral forest ecosystem  |
| B. Coral reef | 2. Made up of the skeletons of minute sea organisms called 'polyps' |
| C. Mangrove   | 3. Fresh water from rivers meet ocean water                         |

- |     | A | B | C |
|-----|---|---|---|
| (a) | 1 | 2 | 3 |
| (b) | 3 | 2 | 1 |
| (c) | 2 | 1 | 3 |
| (d) | 2 | 3 | 1 |

30. Consider the following:

1. Hydro Carbons
2. Oxides of Sulphur
3. Carbon monoxide

Which of the above pollutants is/are Carcinogenic (Cancer causing) in nature?

- (a) 1 only
- (b) 1 and 3 only
- (c) 3 only
- (d) 2 and 3 only

31. Consider the following statements:

1. Lithosphere is found on both land and oceans.
2. Hydrosphere comprises of all forms of water bodies on earth including oceans, seas, rivers, lakes, ponds, streams etc.
3. Atmosphere is gaseous layer enveloping the Earth.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

32. Which of the following are the causes of Biodiversity Losses?

1. Habitat Loss and Fragmentation
2. Over-exploitation of natural resources
3. Alien Species Invasions
4. Co-extinctions

Select the correct answer using the code given below:

- (a) 1 and 3 only
- (b) 2, 3 and 4 only
- (c) 1, 3 and 4 only

(d) 1, 2, 3 and 4

33. Consider the following statements regarding patterns of Biodiversity:

1. Tropics harbour more species than temperate or polar areas.
2. A forest in a tropical region has up to 10 times as many species of vascular plants as a forest of equal area in a temperate region.

Which of the above statement is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

34. The term Bioprospecting means:

- (a) using living microorganisms to degrade the environmental contaminants.
- (b) exploring molecular, genetic and species level diversity for products of economic importance.
- (c) the modification of the environment to stimulate existing bacteria capable of bioremediation.
- (d) In-situ remediation technology

35. Which of the following are the examples of Biomes?

1. Grasslands
2. Desert
3. Estuaries
4. Coral reefs
5. Tropical Rain Forest
6. Mangroves

Select the correct answer using the code given below:

- (a) 1, 2 and 5 only
- (b) 1, 4 and 6 only
- (c) 2, 3, 5 and 6 only
- (d) 1, 2, 3, 4, 5 and 6

36. Which of the following statements is correct regarding the Energy Flow in an Ecosystem?

- (a) Sun is the only source of energy for all ecosystems on the Earth, except for the deep-sea hydrothermal ecosystem.
- (b) Of the total incident solar radiation, more than 70 percent is Photosynthetically Active Radiation (PAR).

- (c) Plants capture the entire PAR for the process of photosynthesis.
- (d) Energy flows through the trophic levels from producers to subsequent trophic levels is bidirectional.

37. Consider the following statements regarding the Trophic level interaction in an Ecosystem:

1. The pyramid of biomass in the sea is generally inverted.
2. Ecological pyramids take into account the same species belonging to two or more trophic levels.
3. The food web represents all the possible paths of energy flow in an ecosystem.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

38. Consider the following statements regarding the types of Food Chains in an Ecosystem:

1. The detritus food chain starts with decomposers, which are heterotrophic organisms.
2. In a terrestrial ecosystem, a much larger fraction of energy flows through the grazing food chain in comparison with the detritus food chain.
3. In an aquatic ecosystem, the detritus food chain is the major conduit for energy flow.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 1 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

39. Which among the following is correct regarding the detritus food chain in an Ecosystem?

- (a) Grasses are eaten by herbivores which are eaten by carnivores and are an example of the detritus food chain.
- (b) This type of food chain starts from the food chain, utilising the plant or plant part as their food.
- (c) In a terrestrial ecosystem, a much larger fraction of energy flows through the grazing food chain than through the detritus food chain.

- (d) This type of food chain starts from the organic matter of dead and decaying animals.

40. Which of the following statements about the food web is/are correct?

1. A food web refers to all possible transfers of energy and nutrients among the organisms in an ecosystem.
2. The presence of complex food webs leads to instability in the ecosystem.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

41. Consider the following differences between Parasitism and Predation:

1. A parasite kills a prey whereas a predator does not cause death to the host.
2. In parasitism the weak feed on the strong while in predation the strong feed on the weak.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

42. Which of the following is not a characteristic of the pyramid of biomass?

- (a) A pyramid of biomass is a graphical representation of biomass present in a unit area of various trophic levels.
- (b) It can be upright or inverted.
- (c) A pyramid of biomass is a more accurate representation of energy flow in a food chain than a pyramid of numbers.
- (d) Pyramid of biomass represents the total weight of all organisms at each trophic level at a particular time.

43. In the context of ecology, Antibiosis refers to

- (a) competition between organisms of the same species.

- (b) an association between two species, where one species kills to feed on the other.
- (c) a relationship in which one organism is benefited by direct utilization of another.
- (d) secretions by an organism which are harmful to others.

44. Which of the following statements is/are correct regarding the pyramid of energy?

- 1. Pyramid of energy is always inverted.
- 2. The energy pyramid concept helps to explain the phenomenon of biological accumulation.

Select the correct answer using the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

45. Which of the following is/are the features of Grassland Ecosystems?

- 1. Grasslands have a rich variety of animals.
- 2. Optimum conditions for the growth of trees
- 3. Soil in grasslands are characterized by thin podzols.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 only

46. Which of the following statements is incorrect regarding bio-magnification?

- (a) Bio-magnification refers to the tendency of pollutants to concentrate as they move from one trophic level to the next.
- (b) In order for bio-magnification to occur, the pollutant must be long-lived, mobile, soluble in fats, biologically active.
- (c) Pyramid of biomass helps to explain the phenomenon of biological magnification.
- (d) None of the above

47. Which of the following are potential benefits of coastal marshes and wetlands?

- 1. They act as migration areas for birds and animals.

- 2. They purify and recharge groundwater.
- 3. They prevent contamination of wells in the coastal areas.
- 4. They protect the coastlines from storms and cyclones.

Select the correct answer using the code given below.

- (a) 1, 2, 3 and 4
- (b) 1, 2 and 4 only
- (c) 2, 3 and 4 only
- (d) 1 and 3 only

48. Which of the following are the components of Photochemical Smog?

- 1. Ozone
- 2. Formaldehyde
- 3. Peroxyacetyl Nitrate (PAN)

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

49. Which of the following statements is incorrect regarding the Biogeochemical Cycle?

- (a) The biogeochemical cycle refers to the continuous movement of elements and compounds between the Earth and its organisms.
- (b) Gaseous cycle and sedimentary cycle are two types of biogeochemical cycles.
- (c) Biogeochemical Cycle includes the carbon cycle, the nitrogen cycle and the hydrogen cycle but not the water cycle.
- (d) The sulphur and the phosphorus cycles are examples of the sedimentary type of biogeochemical cycle.

50. Which of the following are the sources of Nitrogen in an ecosystem?

- 1. Agricultural land
- 2. Fossil fuel
- 3. Livestock
- 4. Urban waste

Select the correct answer using the code given below.

- (a) 1 and 4 only
- (b) 2, 3 and 4 only
- (c) 1, 2 and 3 only

(d) 1, 2, 3 and 4

51. Consider the following statements regarding the carbon cycle:

1. Carbon from the atmosphere moves to green plants by the process of photosynthesis.
2. By the process of respiration and decomposition of dead organic matter, it returns to the atmosphere.
3. The process of photosynthesis, respiration, and decomposition can be classified as the long term carbon cycle.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

52. Which of the following is/are greenhouse gases (GHG)?

1. Water vapour
2. Carbon Dioxide
3. Nitrous Oxide

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

53. Consider the following statements regarding the Nitrogen cycle:

1. Plants get nitrogen through assimilation only.
2. Nitrification is the process by which ammonium is converted into nitrates by bacteria.
3. Combustion of fossil fuels can release nitrogen into the environment

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

54. Consider the following statements with respect to ozone:

1. Tropospheric ozone is a greenhouse gas.

2. Ozone in the stratosphere is a product of UV radiation acting on dioxygen (O<sub>2</sub>) molecules.

3. Ozone is thermodynamically stable than oxygen.

Which of the statements given above are correct?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

55. Consider the following statements regarding the Sulphur Cycle:

1. Atmospheric sulphur is found in the form of sulphur dioxide
2. The dissolution of sulphur in the atmosphere can cause acid rain.
3. The weathering of sulphur-containing rocks is the only way to release sulphur into the atmosphere.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

56. Which of the following are examples of intraspecific interactions?

1. Aggregation
2. Colonisation
3. Proto-cooperation
4. Symbiosis

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 4 only
- (d) 2 and 4 only

57. Which of the following can be the causes of depletion of resources?

1. Non-equitable distribution of resources
2. Technological and Industrial development
3. Overpopulation

Select the correct answer using the code given below.

- (a) 1, 2 and 3
- (b) 3 only
- (c) 2 and 3 only

(d) 1 and 2 only

58. Which of the following conditions is/are suitable for high rate of decomposition?

1. High Temperature
2. Low Moisture content
3. Detritus rich in nitrogen

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

59. Consider the following statements regarding Biogas:

1. It is produced by the fermentation of biodegradable materials such as biomass, manure, municipal waste and green waste in the presence of air.
2. It primarily consists of methane and carbon dioxide.
3. It has very low calorific value and cannot be used as a fuel

Which of the statements given above is/are not correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 only

60. Consider the following pairs:

Type of Pollutant	Disease Caused
1. Arsenic	: Cholera
2. Mercury	: Itai-Itai
3. Cadmium	: Minamata Disease

Which of the pairs given above is/are correctly matched?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) None

61. Which of the following organisms act as a biological agent in increasing the plant growth of farmland?

1. Praying Mantis
2. Desert Locusts
3. Chalcid Wasps
4. Soldier Beetle

Select the correct answer using the code given below.

- (a) 1, 2, 3 and 4
- (b) 1, 3 and 4 only
- (c) 1 and 4 only
- (d) 2 and 4 only

62. Which of the following may be the implications of the destruction of forest cover?

1. Reduction in the oxygen
2. Loss of biodiversity
3. Lowering of water table

Select the correct answer using the code given below.

- (a) 1 and 3 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

63. These are called the "rainforests of the ocean". They cannot survive above water level and are mostly confined between 25 degrees North and South on the globe. They are generally attached to submarine platforms of islands that are submerged.

Which of the following is best described by the passage given above?

- (a) Phytoplanktons
- (b) Mangroves
- (c) Coral Reefs
- (d) Seagrass

64. Which of the following measures can be taken for the abatement of soil pollution?

1. Sanitary Landfills
2. Increased use of pesticides
3. Composting

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) None of the above

65. Which of the following is/are the adaptation features found in plants and animals of the Desert ecosystem?

1. Hard and thick waxy leaves.
2. Long and spreading root systems
3. Concentrated body fat

4. Overactive sweat glands

Select the correct answer using the code given below.

- (a) 2 and 4 only
- (b) 1 and 3 only
- (c) 1, 2 and 4 only
- (d) 1, 2 and 3 only

(a) 2 and 4 only

(b) 1 and 3 only

(c) 1, 2 and 4 only

(d) 2, 3 and 4 only

66. With reference to Genetic Biodiversity, consider the following statements:

- 1. It refers to the variation of genes among different species.
- 2. Higher genetic biodiversity leads to lesser flexibility in adaptation to environmental changes.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

67. Discharge of which of the following into water bodies can cause Eutrophication?

- 1. Domestic Sewage
- 2. Industrial effluents
- 3. Agricultural fertilizers

Select the correct answer using the code given below.

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

68. Which of the following explains the shorter ears and limbs of mammals from colder climates to minimize heat loss?

- (a) Bergman's rule
- (b) Gause's Hypothesis
- (c) Allen's Rule
- (d) Gloger's rule

69. Which of the following characteristics are associated with a eutrophic lake?

- 1. Low amount of nutrients
- 2. Loss of Biodiversity
- 3. High amount of dissolved oxygen
- 4. Excessive growth of algae

Select the correct answer using the code given below.

70. Which of the following causes are responsible for Desertification?

- 1. Lack of vegetation cover
- 2. Water erosion
- 3. Slash and burn agriculture
- 4. Overgrazing

Select the correct answer using the code given below.

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3 and 4

71. Which of the following statements is not correct with respect to acid rain?

- (a) Acid rain is resulted from the emission of oxides of sulphur and nitrogen.
- (b) Acid rain dissolves and washes away nutrients needed for the growth of crops.
- (c) Acid rain has a pH value of between 6 and 7.
- (d) Acid rain corrodes water pipes resulting in the leaching of heavy metals into drinking water.

72. Which of the following are examples of a lotic water ecosystem?

- 1. Springs
- 2. Swamps
- 3. Marshes
- 4. Streams

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1 and 4 only

73. Which of the following are the likely impacts of ecosystem destruction?

- 1. Increasing evapo-transpiration
- 2. Declining levels of underground water table
- 3. Loss of species and biomass

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

74. Consider the following pairs:

<b>Biotic Interactions</b>	<b>Example</b>
1. Predation	: Pitcher plant consuming insect
2. Competition	: Plants in evergreen forest
3. Parasitism	: Cattle egret and grazing cattle
4. Amensalism	: Sparrow eating Seeds

Which of the pairs given above are correctly matched?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

75. In an ecological succession, the entire sequence of communities that successively change in a given area is called sere. In the successive seral stages, which of the following parameters witness an increase?

- 1. Number of species
- 2. Number of organisms
- 3. Total biomass

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

76. Consider the following statements about the Tundra biome:

- 1. For most of the year, there are no trees in this biome.
- 2. Reptiles and amphibian species are few in number.
- 3. Most of the animals exhibit the presence of thick cuticle and epidermal hair or fur.

Which of the statements given above is/are correct?

- (a) 3 only
- (b) 1, 2 and 3
- (c) 2 only
- (d) 1 and 3 only

77. Which of the following correctly describes the 'Amensalism' type of ecological interaction ?

- a) Secretion of chemicals by a plant that harms the growth or kills neighbouring plants.
- b) Pilot fishes swim along with the sharks and feed on the left overs of the shark's prey.
- c) Nitrogen fixation by fungi.
- d) Pollination and seed dispersal by the insects and birds.

78. Which of the following Indian Ramsar site(s) is/are human-made wetlands?

- 1. Pong Dam Lake
- 2. Nandur Madhameshwar
- 3. Thol Lake

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

79. With reference to Black Carbon, consider the following statements:

- 1. It is a gaseous substance that results from the incomplete combustion of fossil fuels and biomass.
- 2. It remains in the atmosphere for a shorter period of time and contributes to climate change.
- 3. It lowers the albedo of Earth's surface that causes temperature rise.

Which of the statements given above is/are correct?

- (a) 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

80. Which of the following wetlands of North Eastern India are included in the Ramsar list of wetlands?

- 1. Manas
- 2. Deepor Beel
- 3. Kaziranga
- 4. Rudrasagar

Select the correct answer using the code given below.

- (a) 1 and 2 only

- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 and 4 only

81. Indoor air pollution is the degradation of indoor air quality by harmful chemicals and other materials. In this context, which among the following are the indoor air pollutants:

1. Radon
2. Asbestos
3. Carbon Monoxide
4. Formaldehyde

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

82. Consider the following pairs:

Protected Area	River
1. Manas National park	: Barak
2. Panna National Park	: Ken
3. Papikonda National Park	: Krishna
4. Silent Valley National Park	: Cauvery

Which of the pairs given above is/are correctly matched?

- (a) 1, 2 and 4 only
- (b) 2 only
- (c) 1, 3 and 4 only
- (d) 3 and 4 only

83. Which of the following correctly describes 'Carbon Intensity Indicator'?

- (a) Amount of carbon emissions by a power plant per unit of energy produced.
- (b) Amount of carbon emissions generated by a healthy human being during his/her lifetime.
- (c) Amount of carbon emissions generated by a Ship in doing one unit of transport work.
- (d) Potential loss of carbon sequestration due to rapid melting of glacial sheets.

84. Consider the following statements with respect to differences between pioneer community and climax community:

1. Growth rate in pioneer community is lower than climax community.

2. Species diversity in pioneer community is higher than climax community.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

85. Consider the following pairs:

Wildlife Sanctuary	State
1. Tirthan Wildlife Sanctuary	: Uttarakhand
2. Bhadra Wildlife Sanctuary	: Karnataka
3. Turtle Wildlife Sanctuary	: West Bengal

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1, 2 and 3

86. Consider the following statements regarding peatlands:

1. They are one of the largest natural terrestrial carbon stores.
2. Peatland acts as a natural filter for removing water pollution.
3. A bog is a type of peatland.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
- (b) 3 only
- (c) 2 only
- (d) 1, 2 and 3

87. Consider the following statements regarding Sea Buckthorn:

1. It is a native plant species of India, found predominantly in the Krishna and Godavari delta.
2. It has an extensive root system which can fix atmospheric nitrogen and also help in soil conservation.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

88. The number and relative abundance of species found in a given biological organisation refers to:

- (a) Genetic Diversity
- (b) Species Diversity
- (c) Ecosystem Diversity
- (d) None of the above

89. In which among the following National Parks, one is likely to find Snow Leopard in India?

- 1. Hemis National Park
- 2. Dachigam National Park
- 3. Gangotri National Park
- 4. Govind Pashu Vihar National Park

Select the correct answer using the code given below.

- (a) 1 and 3 only
- (b) 1, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

90. Which of the following statements best describes the term 'Allopatric Speciation'?

- (a) It is the formation of new species due to genetic modification of a single ancestor.
- (b) It occurs when small groups of individuals break off from the larger group and form a new species.
- (c) It occurs when a group of species separates into two separate groups which are isolated from one another due to a geographical barrier.
- (d) It occurs when there are no physical barriers preventing any members of a species from mating with another, and all members are in close proximity to one another.

91. Consider the following pairs:

<b>Bird species</b>	<b>Region</b>
1. Jerdon's courser	: Arunachal Pradesh
2. Black-necked crane	: Ladakh
3. Great Indian Bustard	: Rajasthan

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1 and 3 only

92. Consider the following statements regarding Mangroves:

- 1. They are a salt tolerant evergreen forest ecosystem.
- 2. They exhibit only oviparity mode of reproduction.
- 3. They produce blind roots to secrete excess salt.

Which of the statements given above is/are correct?

- (a) 3 only
- (b) 2 and 3 only
- (c) 1 only
- (d) 1 and 2 only

93. Consider the following pairs:

<b>Elephant Reserves</b>	<b>State</b>
1. Mayurjharna Elephant Reserve	: West Bengal
2. Baitarni Elephant Reserve	: Odisha
3. Lemru Elephant Reserve	: Arunachal Pradesh
4. Mahanadi Elephant Reserve	: Chhattisgarh

Which of the above-given pairs is/are correctly matched?

- (a) 1 and 2 only
- (b) 1, 3 and 4 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4

94. Consider the following statements regarding habitat:

- 1. Several habitats can be a part of an ecosystem.
- 2. There is no natural habitat on earth that is inhabited only by a single species.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

95. Consider the following scales of measuring species diversity:

- 1. Alpha diversity refers to the diversity within a particular area or ecosystem and is usually expressed in number of species.

2. Beta diversity is a comparison of diversity between the ecosystems and different communities, usually measured as change in amount of species.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

96. Consider the following statements with reference to the relationship between corals and zooxanthellae:

- 1. The zooxanthellae are fast growing plants where as corals are slow growing colonies of animals.
- 2. The coral and zooxanthellae share a symbiotic relationship.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

97. Consider the following animals:

- 1. Sea horse
- 2. Sea cow
- 3. Jellyfish
- 4. Sea lion

Which of the above are marine mammals?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 4 only
- (d) 2 and 4 only

98. Why does the tropical region have high biodiversity?

- 1. The tropical soils are high in fertility.
- 2. Seasonal variation in tropical climate is less.
- 3. Solar energy is abundantly available in tropics.
- 4. Tropical areas had a long evolutionary time for species diversification.

Select the correct answer using code given below.

- (a) 1 and 2 only
- (b) 2, 3 and 4 only
- (c) 1 and 3 only

- (d) 1, 2, 3 and 4

99. Which of the following are the functions of a wetland?

- 1. Filtration of harmful waste including heavy metals from water
- 2. Groundwater recharge
- 3. Recycling of nutrients
- 4. Flood Control

Select the correct answer using the code given below.

- (a) 1 and 3 only
- (b) 2, 3 and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 4

100. Which one of the following is the best description of adaptive radiation?

- (a) It is a gradual change in an organism to survive in an environment.
- (b) It is the process by which new species are formed abruptly through genetic mutation.
- (c) It is the small changes that take place in the body of single organism over short periods to overcome minor problems.
- (d) It is a process in which organisms diversify from an ancestral species into a multitude of new forms.