

TARGET PT - 2023 ENVIRONMENT - 1

Test No.

01

Time Allowed: One Hour

Maximum Marks: 100

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. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number carefully without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.**
3. You have to enter your Roll Number on the test booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
4. This Test Booklet contains **50** items (questions). Each item is printed in English. Each item 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.
5. You have to mark all your responses **ONLY** on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet in response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer Sheet**. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers:**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.
 - (ii) 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 be same penalty as above to that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no** penalty for that question.

1. With reference to ecological succession, 'seres' refer to:
- The entire sequence of communities that successively change in a given area.
 - A relatively stable community in equilibrium with the environment.
 - Species that invade a bare area.
 - Gradual and sequential change in the species composition of a given area.

2. Match the following regarding the Ecosystem Services:

List I

- Provisioning Services
- Regulating Services
- Cultural Services
- Supporting Services

List II

- Pollination
- Nutrient cycling
- Drinking Water
- Ecotourism

Select the correct answer using the code given below:

	A	B	C	D
(a)	1	3	2	4
(b)	3	1	4	2
(c)	2	4	1	3
(d)	4	2	3	1

3. Consider the following statements regarding an ecotone:

- It is the transitional zone between two or more diverse ecosystems.
- It often contains species not found in adjoining communities.
- It may exist along a broad belt or in a small pocket.

Which of the above statements is/are correct?

- 1 only
- 1 and 3 only
- 3 only
- 1, 2 and 3

4. Which of the following activities can threaten the health and existence of an ecosystem?

- Habitat Destruction
- Eutrophication
- Overharvesting

- UV Radiation
- Existence of foreign species

Select the correct answer using the code given below:

- 1, 2 and 3 only
- 3, 4 and 5 only
- 1, 2 and 5 only
- 1, 2, 3, 4 and 5

5. Which of the following approaches can be used for rebounding/restraining an ecosystem?

- Reversing the degradation of soils, agricultural areas, forests and watersheds.
- Maintaining ecosystem structure and function to support food provisioning.
- Practicing regenerative agriculture.
- Rebuilding natural processes and the complete or near complete food-web at all trophic levels.

Select the correct answer using the code given below:

- 1 and 4 only
- 2 and 3 only
- 1, 2 and 4 only
- 1, 2, 3 and 4

6. With reference to tropical forests in India, consider the following statements:

- Tropical moist deciduous forests are found throughout India except in the western and the north-western regions.
- Tropical dry evergreen forests are found throughout the northern part of the country except in the North-East.
- Tropical dry deciduous forests are found along Tamil Nadu, Andhra Pradesh and Karnataka coast.

Which of the above statements is/are correct?

- 1 only
- 1 and 2 only
- 2 and 3 only
- 1, 2 and 3

7. With which of the following is the Bonn challenge associated?

- Protection of migratory species
- Prevention of desertification

- (c) Reducing emissions from deforestation
- (d) Reduction of greenhouse gas emissions

8. Consider the following statements.

1. Only lakes can be included in the Montreux Record.
2. The National Plan for Conservation of Aquatic Ecosystems is aligned to cater to protection of wetlands and lakes only.
3. Chilika Lake is the India's largest Ramsar site among the currently listed under the Montreux Record.

Which of the above statements is/are **incorrect**?

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

9. Which of the following statements is/are **incorrect**?

1. Standing crop is the total amount of biomass present in an ecosystem whereas; the standing state is only the amount of inorganic nutrients.
2. Only the standing state can, and the standing crop cannot, circulate in the ecosystem.

Select the correct answer using the codes given below:

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

10. Given below are two statements, one is labelled as Assertion (A) and other is as Reason (R):

- A. Primary succession is much more difficult to observe than the secondary succession.
- R. There are very few places on earth that do not already have communities of organisms.

Select the correct answer from the codes given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but, R is not the correct explanation of A.

(c) A is true, but R is false.

(d) A is false, but R is true.

11. Consider the following statements regarding speciation:

1. Speciation is the process by which new species are formed and evolution is the mechanism.
2. The most common way a population undergoes speciation is by geographic isolation.

Which of the above statements is/are correct?

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

12. Which of the following statements is **incorrect**?

- (a) Charles Sutherland Elton coined the term "Ecological niche".
- (b) The term "Ecosystem" was coined by Arthur Tansley.
- (c) Ernst Haeckel was the first to coin the term "Ecology".
- (d) None of the above

13. Consider the following statements regarding Niche:

1. It is the sum of all the activities and relationships of a species by which it uses the resources in its habitat.
2. Two species having the same niche can have the same habitat.

Which of the above statements is/are correct?

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

14. Consider the following statements regarding pollutants in the trophic level:

1. In bioaccumulation, there is an increase in the concentration of a pollutant from one link in a food chain to another.
2. Biomagnification can occur only if the pollutant is fat-insoluble.

Which of the above statements is/are correct?

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

15. Consider the following statements regarding Nutrient Cycle:

- 1. The nutrient cycle of an ecosystem is unidirectional.
- 2. Most gaseous cycles are generally considered as perfect cycles.

Which of the above statements is/are correct?

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

16. Consider the following statements regarding the Ecological Pyramids:

- 1. The pyramid of biomass in sea is generally inverted.
- 2. Pyramid of energy is always upright, can never be inverted.

Which of the above statements is/are correct?

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

17. Consider the following statements regarding Carbon stock in India:

- 1. Soil Organic Carbon (SOC) represents the largest pool of carbon stock in the forests of India.
- 2. Madhya Pradesh has the largest forest cover, hence, has the largest carbon stock 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

18. Which of the following statements regarding coral reefs are correct?

- 1. Corals generally flourish in clear temperate oceans.
- 2. Warmer water temperatures can result in coral bleaching.
- 3. Not all bleaching events are due to warm water.

Choose the correct option 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

19. Consider the following levels of the ecology:

- 1. Ecosystem
- 2. Population
- 3. Community
- 4. Biosphere
- 5. Biome

Arrange the above levels of the ecology into ascending order of their study:

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

20. Consider the following statements regarding the adaptations:

- 1. Many tribes living in the high altitude of Himalayas have a higher red blood cell count, is an example of the physiological adaptation.
- 2. The effects of adaptations pass onto the next generations.

Which of the above statements is/are correct?

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

21. Which of the following statements is *incorrect*?

- (a) Species richness is the number of species within a community whereas; species evenness is the relative abundance.

- (b) All species are equally important in each community.
- (c) Each community has a group of autotrophic plants as well as heterotrophic animals.
- (d) Each community has a trophic structure that determines the flow of energy and material.
- 22.** Which of the following properties are required for a species to be a dominant species?
1. Aggressive nature
 2. Greater adaptability to environmental variables
 3. Compete more successfully than others
 4. Larger population than others
- Select the correct answer using the code given below:
- (a) 1 and 4 only
- (b) 2 and 3 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4
- 23.** Which of the following statements regarding Tolerance range of species are correct?
1. An organism with a narrow tolerance range is said to be "eury" whereas, that with a wide tolerance range is said to be "steno".
 2. The tolerance ranges against all the abiotic factors comprise the organism's niche.
 3. An overwhelming majority of animals and nearly all plants cannot respond to the intolerant factors by homeostasis.
- Choose the correct option 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
- 24.** A phenomenon where the top consumer/predator controls the primary consumer population is called:
- (a) Predation cycles
- (b) Parasitism
- (c) Interspecific competition
- (d) Trophic cascades
- 25.** Nitrogen deficiency can be prevented by using organic methods which requires time, but it result in a more even distribution of the added nitrogen over time. Which of the following organic methods are used for adding nitrogen to the soil?
1. Adding composted manure to the soil
 2. Planting a green manure crop, such as borage
 3. Planting nitrogen fixing plants like peas or beans
 4. Adding coffee grounds to the soil
 5. Adding Nitrogen as a Plant Fertilizer
- Select the correct option using the codes given below:
- (a) 1, 2 and 5 only
- (b) 3, 4 and 5 only
- (c) 1, 3 and 5 only
- (d) 1, 2, 3 and 4 only
- 26.** If a wetland of international importance is brought under the 'Montreux Record', what does it imply?
- (a) Changes in ecological character have occurred, are occurring or likely to occur in the wetland as a result of human interference.
- (b) The country in which the wetland is located should enact a law to prohibit any human activity within 5 kilometers from the wetland.
- (c) It is given the status of 'world heritage site'.
- (d) The fauna in it is classified as critically endangered species.
- 27.** Vulnerability of a species to extinction depends on which of the following factors?
1. Species with small population sizes.
 2. Species that requires large habitat.
 3. Species with low genetic variability.
- Select the correct answer using the codes given below:
- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

28. Which of the following statements regarding Photic and Aphotic Zone of aquatic ecosystem are correct?

1. Photic Zone is the upper layer of the aquatic ecosystems
2. Only photosynthesis, and not respiration, takes place in the photic zone.
3. Aphotic zone is a region of oxygen consumption.

Choose the correct option 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

29. Which of the following statements are correct regarding Mangroves?

1. Mangrove plants have Pneumatophores roots which help to enhance deposition of sediment in area.
2. Mangroves grow in areas with low-oxygen soil.
3. They grow luxuriantly in the places where freshwater mixes with seawater and where sediment is composed of accumulated deposits of mud.

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

30. Consider the following statements with respect to the adaptations made by animals in the Desert ecosystem:

1. Desert plants show phenomenon of Allelopathy.
2. Most of the desert plants store water in fleshy leaves, stems or roots.

Which of the above stated adaptations is/are correct?

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

31. Consider the following statements about the Tundra region:

1. The diurnal range of temperature in the tundra region is high, but the annual range is quite low.
2. Blizzards are a common phenomenon in the Tundra region.
3. The region is marked by high precipitation in the form of snow.

Which of the statements given above is/are correct?

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

32. Which of the following statements is correct with reference to the India state of Forest Report 2021?

- (a) It is an annual publication of the Forest Survey of India.
- (b) The total forest and tree cover of the country has increased to above 25 percent of the total geographical area of the country.
- (c) An assessment of forest cover in the Tiger Reserves and Lion Conservation areas in India has been added in the ISFR 2021.
- (d) Arunachal Pradesh has the largest forest cover in the country as a percentage of total geographical area.

33. With reference to the Tropical Forest Alliance (TFA), consider the following statements:

1. The Tropical Forest Alliance is an individual organization dedicated to reducing deforestation associated with the production of palm oil, soy, beef and paper.
2. It is entirely funded by the World Bank.
3. TFA is hosted by the World Economic forum.

Which of the above given statements is/are correct?

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

34. Consider the following statements with regards to the term 'Red Dunes' which was in the news recently:

1. Red dunes consist of sediments made of glacial deposits.
2. They have very low water and nutrient retention capacity.
3. They are locally called theri and found in Andhra Pradesh.

Which of the following statements is/are correct?

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

35. Consider the following statements about Banni grassland:

1. Banni Grassland is the largest in Asia and is situated near the Great Rann of Kutch in Gujarat.
2. It was formed from uncontrolled grazing and widespread ingress of exotic tree species.
3. The vegetation in Banni is dominated by forbs and graminoids.
4. Maldhari tribal community resides in these grasslands.

Which of the above given statements is/are **incorrect**?

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

36. Consider the following statements regarding decomposition.

1. The decomposition rate is slower if detritus is rich in nitrogen and water-soluble substances like sugars.
2. Bio-Digester toilets are based on decomposition mechanized toilet systems.

Which of the above statements is/are correct?

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

37. Consider the following statements with respect to the flow of energy in ecosystem:

1. Unlike in the Grazing food chain, energy flow in the Detritus food chain is bidirectional.
2. Difference between the energy at two trophic levels is in the form of unusable heat.
3. Ecosystems are "open systems" as they need a net inflow of energy from the Sun to continue over time.

Which of the above statements is/are **incorrect**?

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

38. Consider the following statements regarding pollutants in the ecosystem:

1. A bio-indicator is an organism that is used to qualitatively assess an environmental change.
2. A bio monitor is used to quantitatively measure responses and changes in the environment that indicate pollution.
3. If the amount of chlorophyll in a lichen decrease, it indicates that air pollution is present.

Which of the above statements is/are correct?

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

39. Consider the following statement regarding the ecological succession:

1. In Autogenic succession, some plants thrive at certain times of the year, and lay dormant the rest.
2. Allogenic succession is succession driven by the abiotic components of an ecosystem.
3. Cyclic succession refers to ecological succession driven by biotic factors.

Which of the above statement is/are correct?

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

- (c) 3 only
- (d) 1, and 3 only

40. Which of the following statements regarding ecotone is/are correct?

1. Greater number of landscape elements and vegetation complexity result in lesser density and biodiversity along the ecotones.
2. Floodplains and elephant corridors are examples of ecotones.

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 statements:

1. A niche comprises of conditions created by the biotic (living) and abiotic (non-living) components of an ecosystem that influence how successfully the species can reproduce and obtain necessary resources.
2. Ecological niches allow species to function without high competition for shared and limited resources.

Which of the statement(s) given above is/are correct?

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

42. Consider the following statements:

1. Solar radiation is the main driving force of the all the ecosystems including the deep-sea hydrothermal ecosystem.
2. The energy flow in an ecosystem is unidirectional and it flows from higher trophic level to the lower trophic levels.
3. At every level there is about 90% loss of energy and the energy transferred from one trophic level to the other is only about 10%.

Which of the statement(s) given above is/are **incorrect**?

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

- (c) 3 only
- (d) 2 and 3 only

43. Consider the following statements:

1. Ecological succession is defined as an orderly process wherein an initial pioneer community goes through transition to culminate into a climax community.
2. Hydrosere or hydrarch succession starts in a water body like pond where the pioneer community consists of lichens and mosses.
3. Xerosere (Xerarch) succession starts on a bare rock where the pioneer community consists of phytoplankton.

Which of the statement(s) given above is/are correct?

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

44. Consider the following statements:

1. Species richness of most taxa decreases towards the equator.
2. The diversity of plants and animals is not uniform throughout the world but shows an uneven Distribution.
3. Constant environments having less seasonal variation promote niche specialisation and lead to a greater species diversity.

Which of the statement(s) given above is/are correct?

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

45. Consider the following statements:

1. Desertification refers to the expansion of existing deserts.
2. As per the most recent UN estimates, up to 40 per cent of our planet's land is degraded.
3. The United Nations Convention to Combat Desertification (UNCCD) is a non-binding international agreement linking environment and development to sustainable land management.

Which of the statement(s) given above is/are correct?

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

46. Which of the following is **not** a feature of human modified ecosystems?

- (a) Highly complex
- (b) Low Species diversity
- (c) Small Food chains
- (d) Highly unstable

47. Which of the following properties are required for a species to be a dominant species?

- 1. Aggressive nature
- 2. Greater adaptability to environmental variables
- 3. Compete more successfully than others
- 4. Larger population than others

Select the correct answer using the code given below:

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

48. Which of the following statements regarding Tolerance range of species are correct?

- 1. An organism with a narrow tolerance range is said to be "eury" whereas, that with a wide tolerance range is said to be "steno".
- 2. The tolerance ranges against all the abiotic factors comprise the organism's niche.

- 3. An overwhelming majority of animals and nearly all plants cannot respond to the intolerant factors by homeostasis.

Choose the correct option 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

49. Consider the following statements regarding stratification of ecological community:

- 1. The gradients in the physical environment of the community cause horizontal zonation as well as vertical stratification.
- 2. The animals living in geographically separated but similar substratum are called Ecological Equivalent.

Which of the above statements is/are correct?

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

50. Consider the following statements:

- 1. Homeostasis is the process by which organisms maintain their internal environment despite varying external environmental conditions.
- 2. The process by which zooplankton species cope up with external environmental conditions is known as aestivation.

Which of the above statements is/are correct?

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



Space for Rough Work

GS SCORE