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Test Booklet Series

TEST BOOKLET

C

GENERAL STUDIES (P) 2020 – Test–2970

Time Allowed: Two Hours

Maximum Marks: 200

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TURN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.
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 **100** 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 with 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 direction in the answers sheet.
6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of **correct responses** marked by you in the answer sheet. For **every incorrect** response **1/3rd of the allotted marks** will be deducted.
7. Before you proceed to mark in the Answer sheet the response to various items in the Test booklet, you have to fill in some particulars in the answer sheets as per instruction sent to you with your Admission Certificate.
8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.
9. Sheet for rough work are appended in the Test Booklet at the end.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO

1. With reference to animal and plant biodiversity on earth, consider the following statements:

1. Animals constitute more than two-thirds of the total species on earth.
2. There are more types of fishes than types of insects.
3. India is one of the megadiverse countries in the world with 20 percent of the total global species diversity.

Which of the statements given above is/are correct?

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

2. An intermediate stage found in ecological succession in an ecosystem depicting the diversity of species of organisms, an increase in the number of species and organism as well as an increase in total biomass in a given area is termed as

- (a) Sere
- (b) Hydrarch Succession
- (c) Xerarch Succession
- (d) Ecological niche

3. Photoperiod is the duration of light received daily and seasonally by living organisms. It impacts:

1. Coordination of opening of buds and flowers in a plant
2. Migration cycles of birds
3. The breeding time of mammals

Select the correct answer using the code below.

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

4. In the polar regions, small-sized animals are rare. What is the reason behind this?

- (a) Small animals have less fur than large-sized animals.
- (b) The lack of vegetation in the polar regions is a challenge as small animals are primarily herbivorous.
- (c) Small sized animals easily fall prey to their larger counterparts and thus their population cannot flourish.
- (d) Small-sized animals have a larger surface area relative to their volume and thus they tend to lose heat very fast.

5. With reference to National Board for Wildlife, consider the following statements:

1. It has been constituted under the Wildlife Protection Act, 1972.
2. It is headed by Minister of Environment, Forest and Climate Change.
3. Its recommendations are binding on the union government.

Which of the statements given above is/are correct?

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

6. With reference to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), consider the following statements:

1. It aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
2. It was adopted under the aegis of United Nations Framework Convention on Climate Change.
3. It is legally binding on the Parties.

Which of the statements given above is/are correct?

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

7. Which of the following species are extinct?

1. Dodo
2. Quagga
3. Passenger Pigeon
4. Steller's Sea Cow

Select the correct answer using the code given below.

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

8. Which of the following is/are examples of ex-situ conservation methods?

1. National parks
2. Botanical gardens
3. Zoological parks

Select the correct answer using the code given below.

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

9. Consider the following pairs:

<i>Microbes</i>	<i>Used in production of acid</i>
1. Aspergillus niger	: Acetic acid
2. Clostridium butylicum	: Lactic acid
3. Saccharomyces cerevisiae	: Ethanol

Which of the pairs is/are correctly matched?

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

10. Consider the following statements regarding corals:

1. They are mainly found in tropical oceans and seas.
2. Most fishes lay eggs in coral colonies.
3. Coral reefs have greater biodiversity than tropical rainforests.

Which of the statements given above is/are correct?

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

11. Consider the following statements regarding Biosphere Reserves:

1. They are areas of terrestrial and coastal ecosystems promoting balance between their conservation and sustainable use.
2. The "Man and the Biosphere (MAB) Programme" for establishing a coordinated World Network of biosphere reserves is an initiative of Convention on Biological Diversity (CBD).

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

12. With reference to Zoological Survey of India (ZSI), consider the following statements:

1. It is a statutory body under Ministry of Environment, Forest and Climate Change.
2. It undertakes Environmental Impact Assessments with regard to fauna.
3. It prepares the Red Data Book, Fauna of India and Fauna of States.

Which of the statements given above is/are correct?

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

- 13.** Emissions from which of the following sources can cause acid rain?
1. Volcanoes
 2. Swamps
 3. Plankton in the ocean
 4. Power generation from fossil fuels
- Select the correct answer using the code given below.
- (a) 1, 2 and 3 only
 - (b) 2, 3 and 4 only
 - (c) 1 and 4 only
 - (d) 1, 2, 3 and 4
- 14.** With reference to the agricultural practices, consider the following statements:
1. Inter-cropping method involves growing different crops simultaneously within the same plot.
 2. Mulching is the practice of cultivation of leguminous crops between the cropping seasons.
- 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
- 15.** Which among the following is the main assumption of the Limits to Growth theory?
- (a) Environment cannot support rising resource utilization beyond its carrying capacity.
 - (b) Certain animal species cannot grow beyond their population threshold.
 - (c) Landforms do not degrade beyond the base level.
 - (d) Environmental degradation limits the growth of flora of Tropical rain Forests.

- 16.** In the context of environment and ecology, *Surangam* and *Zing* are:
- (a) living root bridges made by the Khasi and Jaintia tribes of the mountainous terrain along the southern part of the Shillong Plateau.
 - (b) traditional water harvesting practices used in the Western Ghats and Ladakh respectively.
 - (c) shifting cultivation practices in Manipur and Nagaland.
 - (d) terrace farming practices in the hilly regions of Shiwaliks.
- 17.** Consider the following statements:
1. The total amount of water received in the form of rainfall over an area is called rainwater harvesting potential.
 2. The amount of water that can be effectively harvested out of total water received is called rainwater endowment.
- 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
- 18.** With reference to homeostasis, consider the following statements:
1. It refers to the maintenance of the constancy of an organism's internal environment despite varying external environmental conditions.
 2. Only mammals are capable of maintaining homeostasis.
- 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

19. Which of the following statements regarding the effects of gaseous air pollutants is **not** correct?

- (a) Sulphur Dioxide causes stiffness of flower buds which fall off from the plants
- (b) The red haze in traffic is due to existence of oxides of Nitrogen
- (c) Hydrocarbon pollutants are formed by incomplete combustion of fuel
- (d) Carbon dioxide binds with haemoglobin in blood to form carboxyhaemoglobin

20. Sacred Groves in India can be best defined as

- (a) The patches in Sunderban mangroves where man-eater tigers are worshipped out of fear.
- (b) The plantation of trees like coconut and banana that produce fruits which are used as offerings to deities.
- (c) Tracts of forest in which all the trees and wildlife within are venerated and given total protection
- (d) Forests where wild animals are sacrificed as a part of a ritual.

21. Which of the following microbes can be used as an insecticide?

- 1. Bacteria
- 2. Fungi
- 3. Virus

Select the correct answer using the code given below.

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

22. Consider the following statements:

- 1. While eurythermal organisms are those organisms which can survive in a wide range of temperatures, stenothermal organisms are restricted to a narrow range of temperatures.
- 2. While all vertebrates are stenothermal, all invertebrates are eurythermal.

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

23. Which of the following are non-point sources of pollution in rivers?

- 1. Surface drains carrying municipal sewage
- 2. Run-off from agricultural fields
- 3. Dumping of un-burnt/half-burnt dead bodies
- 4. Dhobi ghats
- 5. Effluents from industries

Select the correct answer using the code given below.

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

24. Rain-soaked Meghalaya forests, deep ocean trenches, torrential streams and boiling thermal springs are examples of:

- (a) Populations
- (b) Ecotones
- (c) Realms
- (d) Habitats

25. Communities rich in species diversity are considered as stable communities. Which of the following is/are features of stable communities?

1. High variation in productivity from year to year.
 2. Resistance to occasional anthropogenic disturbances.
 3. Resistance to invasion by alien species
- 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

26. Consider the following pairs :

<i>International initiative</i>	<i>Focus</i>
1. Kyoto Protocol	: Reduction of greenhouse gases
2. Stockholm Conference	: Reduce the movements of hazardous waste between nations
3. Sendai framework	: Disaster Management

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

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

27. Which of the following form abiotic components of an ecosystem?

1. Temperature
2. Moisture
3. Soil

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

28. With reference to inter-species interaction, consider the following pairs:

Interaction type Effect

1. Mutualism : Both the species benefit
2. Predation : One species benefits and other is harmed
3. Amensalism : One species benefits and other is unaffected

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

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

29. With reference to Grazing Food Chain (GFC) and Detritus Food Chain (DFC), consider the following statements:

1. GFC begins with producers while DFC begins with dead organic matter.
2. In a terrestrial ecosystem, a larger fraction of energy flows through the GFC than through the DFC.

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

30. In the context of biodiversity, the 'rivet popper hypothesis' is used to explain the

- (a) movement of nutrients and energy for an ecosystem.
- (b) process of ecological succession.
- (c) impact of loss of species richness on biodiversity.
- (d) features adopted by organisms to adjust to the climate change.

- 31.** With reference to tropical and temperate forests, consider the following statements:
1. Tropical Forests consists of very high tree species as compared to temperate forests.
 2. Temperate forests have a thin canopy of trees whereas tropical forests have a thick canopy.
- 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
- 32.** Which of the following are examples of the sedimentary biogeochemical cycle?
1. Nitrogen cycle
 2. Carbon cycle
 3. Sulphur cycle
 4. Phosphorous cycle
- Select the correct answer using the code given below.
- (a) 1 and 2 only
(b) 3 and 4 only
(c) 1, 2 and 3 only
(d) 1, 3 and 4 only
- 33.** Which of the following micro organisms are used as bio-fertilizers?
1. Nostoc
 2. Anabaena
 3. Cyanobacteria
 4. Oscillatoria
- Select the correct answer using the 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

- 34.** With reference to the photochemical smog, consider the following statements:
1. It occurs in a cool humid climate.
 2. It is formed by the action of sunlight on unsaturated hydrocarbons and nitrogen oxides.
 3. Ozone is an important component of Photochemical smog.
- Which of the statements given above are correct?
- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3
- 35.** Consider the following statements regarding the Basel Convention, 1989:
1. It regulates the import and export of hazardous waste among the parties to it.
 2. It establishes a legally binding agreement for waste management.
- 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
- 36.** Consider the following statements regarding Photosynthetically Active Radiation (PAR):
1. It is part of the electromagnetic radiation in the range from 400 nm to 700 nm.
 2. Plants need to absorb at least 80-85% of PAR to sustain the entire living world.
 3. PAR changes seasonally and varies depending on the latitude and time of day.
- Which of the statements given above are correct?
- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

37. With reference to the biotic community, consider the following statements:
1. Phagotrophs are organisms that consume producers directly or indirectly.
 2. Saprotrophs are organisms that obtain nutrition from the dead organic matter.
- 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
38. Consider the following statements regarding Humus:
1. It serves as a reservoir of nutrients.
 2. It is highly resistant to microbial action.
- 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
39. Consider the following statements, with reference to Environment Protection Act, 1986:
1. The act empowers the Central government to coordinate actions of State Governments and lay down standards for the quality of the environment.
 2. National parks, Sanctuaries, Tiger reserves and Biosphere reserves are set up by the Government of India under this act.
- 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

40. Consider the following statements:
1. An ecosystem is a functional unit of nature where living organisms interact among themselves and also with the surrounding physical environment.
 2. There is an exchange of materials and energy within the ecosystem as well as between adjoining ecosystems.
 3. The vast network of all the interconnected ecosystems constitutes a niche.
- Which of the statements given above are correct?
- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3
41. With reference to Compressed Natural Gas (CNG), consider the following statements:
1. It is a mixture of hydrocarbons consisting of approximately 80 to 90 percent methane in gaseous form.
 2. It is lead-free and lighter than air.
- 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. Consider the following statements regarding biodiversity hotspots:
1. Biodiversity hotspots are biogeographic regions where mostly exotic species of plants are found.
 2. Globally, the total number of biodiversity hotspots has witnessed a decline over the years.
 3. The Himalayas and the Western Ghats are the only two biodiversity hotspots in India.
- Which of the statements given above is/are **not** correct?
- (a) 1 and 3 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

- 43.** World Conservation Strategy, adopted in 1980 aimed at :
1. Maintenance of essential ecological processes.
 2. Protection of genetic diversity.
 3. Sustainable use of species and ecosystem.
- 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

- 44.** With reference to the primary productivity of an ecosystem, consider the following statements:
1. Gross primary productivity is the rate of formation of biomass or organic matter during photosynthesis.
 2. Net primary productivity is the rate of formation of new organic matter by consumers.
- 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

- 45.** With reference to hibernation, consider the following statements:
1. It refers to temporary movements of organisms from the stressful habitat to a more hospitable area.
 2. The temperature of the animal body increases during hibernation.
- 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

- 46.** Consider the following statements regarding bioremediation:
1. It is a process which uses micro-organisms to detoxify the pollutants in soil.
 2. It is a technique used to clear oil spills.
- 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

- 47.** Which of the following statements best describes the term ecology?
- (a) It is the study of human beings and their immediate surroundings.
 - (b) It is the scientific study of plants and animals in relation to each other and to their environment.
 - (c) It refers to the scientific study of plants, their classification and economic importance.
 - (d) It is the study of wild animals and birds in their natural habitats only.

- 48.** Eutrophication in a pond ecosystem can lead to:
1. burgeoning of plant and animal lives
 2. reduction in the lake's temperature
 3. increase in the depth of the lake
- Select the correct answer using the code given below.
- (a) 1 only
 - (b) 1 and 2 only
 - (c) 3 only
 - (d) 2 and 3 only

49. With reference to the Neritic zone of the marine ecosystem, consider the following statements:

1. It extends between the highest high tide and lowest low tide levels.
2. This area is rich in density and diversity of organisms due to the presence of light and nutrients.

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

50. Consider the following statements regarding 'Agenda 21':

1. It was adopted in the Earth Summit at Rio de Janeiro in the year 1992.
2. It is a plan to encourage sustainable development in the 21st century.
3. It emphasises on the role of 'women' and 'indigenous people' to achieve development-related goals.

Which of the statements given above are correct?

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

51. With reference to primary and secondary succession, consider the following statements:

1. Primary succession takes place in areas which have lost all the living organisms that existed there whereas secondary takes place in areas where no living organisms ever existed.
2. Rate of secondary succession is much slower compared to primary succession.

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

52. In the context of biodiversity, 'The Evil Quartet' refers to the set of four:

- (a) events of mass extinction in the Geological Timescale.
- (b) major countries which have witnessed maximum biodiversity loss in the last ten years.
- (c) types of industries which emit the maximum greenhouse gas emissions.
- (d) major causes of biodiversity loss.

53. Which of the following is/are constituents of fly ash?

1. Black soot
2. Lead
3. Cadmium
4. Nickel

Select the correct answer using the codes given below.

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

54. Consider the following pairs:

<i>Temperate grasslands</i>	<i>Location</i>
1. Veldts	: Hungary
2. Pustaz	: South Africa
3. Pampas	: Argentina

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

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

55. Which of the following statements best describes the term 'Antibiosis'?
- It is a type of interaction in which one organism is unaffected but the other is damaged or killed by a chemical secretion.
 - It is a type of interaction in which one organism kills to feed on the other.
 - It is a type of interaction which is beneficial for both species where they totally rely on one another.
 - It is a type of association which is beneficial for both species but is not essential for their survival.

56. Consider the following statements:
- Coal gas is a mixture of methane, carbon monoxide and hydrogen.
 - Coke is a coal-derived product which burns without smoke.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

57. Which of the following was/were provided by 'Wildlife Protection Act 1972'?
- Captive breeding programmes for critically endangered species.
 - A complete ban on trade and commerce of wildlife species.
 - Strengthening management and protection of infrastructure of National parks and sanctuaries.

Select the correct answer using the code given below:

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

58. Which of the following statements are correct regarding the ozone layer?
- Ozone layer present in the upper troposphere acts as a protective layer against harmful ultraviolet rays.
 - The polar stratospheric clouds prevent the spread of the ozone hole.
 - The thickness of the ozone layer is measured in terms of Dobson units (DU).

Which of the statements given above is/are correct?

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

59. With reference to the decomposition of detritus or dead matter, consider the following statements:

- Low temperature (<10 degree Celsius) with a high soil moisture content favours high rate of decomposition.
- The presence of nitrogen in detritus increases the decomposition rate.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

60. 'Access and Benefit Sharing Agreement' is a core part of which of the following treaties or conventions?

- International Treaty on Plant Genetic Resources for Food and Agriculture
- International Plant Protection Convention
- Convention on Biological Diversity
- Convention on International Trade in Endangered Species of Wild Fauna and Flora

61. Consider the following statements regarding 'Central Pollution Control Board':
1. It has been established as an autonomous body under the Environment Protection Act, 1986.
 2. It coordinates the activities of state pollution control boards and resolves disputes among them.
- 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
62. Which of the following are adaptive features in plants to minimize the loss of water?
1. Presence of thick cuticle on the leaf surface
 2. Absence of leaves in some plants
 3. Arrangement of stomata in deep pits
- 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
63. With reference to estuaries, consider the following statements:
1. These are transitional zones between the sea and rivers.
 2. They are nutrient-rich regions.
 3. The fauna in the estuary regions has the ability to maintain salt and water balance.
- Which of the statements given above is/are correct?
- (a) 1 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3

64. Consider the following sources:
1. Cosmic rays
 2. Nuclear Fuels in atomic reactors
 3. X-ray waste
- Which of the sources given above cause Radioactive pollution?
- (a) 1 and 2 only
 - (b) 1 and 3 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3
65. In the context of environment and ecology, what is common between *ladybird beetle*, *syrphid fly*, and *soldier beetle*?
- (a) They are categorised under the list of extinct species of the International Union for Conservation of Nature (IUCN) Red list.
 - (b) They are species endemic to the Western Ghats.
 - (c) These are used as effective predators to control agricultural pests.
 - (d) They are species found helpful in segregating wastes.
66. Which of the following statements regarding the Ozone layer is **not** correct?
- (a) Ozone layer is the product of UV radiations acting on dioxygen molecules
 - (b) Ozone layer is thermodynamically unstable and decomposes into molecular oxygen
 - (c) The main reason for Ozone layer depletion is the release of Freons
 - (d) Depletion of ozone layer (i.e. Ozone hole) was first reported in North Pole

67. Which of the following type of living organisms are *not* invertebrates?
- Crustaceans
 - Molluscs
 - Insects
 - Reptiles
68. Oceans contain vast quantities of materials that presently serve as major resources for humans. Which of the following resources is/ are found in the oceans?
- food resources
 - fuel minerals
 - building or construction materials
 - non-conventional energy resources
- Select the correct answer using the code given below.
- 3 and 4 only
 - 1 and 2 only
 - 3 only
 - All the given resources are found in the oceans
69. Which of the following can be classified as natural disasters?
- Building fires
 - Volcanic eruption
 - Avalanche
 - Drought
- Select the correct answer using the code given below.
- 2 and 4 only
 - 2, 3 and 4 only
 - 1, 3 and 4 only
 - 1, 2 and 3 only

70. Which of the following is/are regarded as particulate pollutants?
- Bacteria
 - Fungi
 - Algae
 - Dust
- Select the correct answer using the code given below.
- 1, 2 and 3 only
 - 2 and 4 only
 - 4 only
 - 1, 2, 3 and 4
71. Consider the following statements regarding captive breeding:
- It is the process of breeding animals outside their natural environment in restricted areas like zoos and aquariums.
 - The sole aim of captive breeding programs is to exhibit interesting species.
 - The Nandankanan Zoological Park is the only zoological park to have captive-bred white tigers in India.
- Which of the statements given above is/are correct?
- 1 only
 - 2 and 3 only
 - 3 only
 - 1 and 3 only
72. Consider the following pollutants:
- Carbon Monoxide (CO)
 - Oxides of nitrogen (NOX)
 - Suspended Particulate Matter (SPM)
 - Unburnt hydrocarbons
- Which of the pollutants given above are released from vehicular emissions?
- 1, 2 and 3 only
 - 2 and 3 only
 - 1 and 4 only
 - 1, 2, 3 and 4

73. Consider the following statements regarding Environmental Impact Assessment (EIA):
1. The rules for EIA have been notified under the provisions of the Environment(Protection) Act, 1986.
 2. National Biodiversity Authority is the nodal authority to review the EIA application for all new projects.
 3. It is mandatory to involve the public while making the environment impact assessment.
- Which of the statements given above is/are correct?
- (a) 1 only
 - (b) 1 and 3 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3
74. Consider the following statements regarding Sanitary Landfills:
1. Depletion of organic matters takes place under anaerobic condition.
 2. Carbon dioxide and Hydrogen sulphide are generated in the depletion process.
- 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
75. Which of the following certification marks issues quality mark for food products?
1. Agricultural Marketing (Agmark)
 2. ISI mark by Bureau of Indian Standards (BIS)
 3. Fruit Product Order Mark
- 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

76. Consider the following pairs:
- | <i>Mechanism to control air pollution</i> | <i>Targeted Pollutant</i> |
|---|---------------------------|
| 1. Electrostatic precipitator | : particulate matter |
| 2. Scrubber | : Sulphur Dioxide |
| 3. Catalytic converters | : unburnt hydrocarbon |
- Which of the pairs given above is/are correctly matched?
- (a) 1 only
 - (b) 1 and 2 only
 - (c) 3 only
 - (d) 1, 2 and 3
77. "This is one of the zones of the pond ecosystem. This zone is found in the deep-water part of the pond. This zone is cold and dense. Little light reaches this zone. The fauna in this zone eat dead organisms and use oxygen for cellular respiration."
- Which of the following is described in the paragraph above?
- (a) Littoral Zone
 - (b) Limnetic Zone
 - (c) Profundal Zone
 - (d) None of the above
78. Which of the following projects uses "Run of the river systems" for the purpose of generating electricity?
1. Tidal energy project
 2. Small-scale hydro power project
 3. Large reservoir based hydro power project
- Select the correct answer using code given below.
- (a) 1 and 2 only
 - (b) 1 and 3 only
 - (c) 2 only
 - (d) 1, 2 and 3

- 79.** Which of the following statements best describes the term catabolism?
- It refers to the degradation of detritus into simpler inorganic substances.
 - It is the transformation of larvae into full-grown insects.
 - It is the act of consumption of another individual of the same species.
 - It is the process of fat accumulation in living organisms.

- 80.** Consider the following statements with respect to Ecological Pyramid:
- The pyramid of biomass in a sea is generally inverted.
 - The pyramid of energy in any ecosystem can never be inverted.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

- 81.** Which of the following part of electromagnetic spectrum of sunlight is/are responsible for heating of solar cooker and solar water heater?

- Infrared waves
- UV-A waves
- UV-B waves
- UV-C waves

Select the correct answer using the codes given below

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

- 82.** With reference to the photovoltaics, consider the following statements:

- This method uses the principle of photosynthesis to generate electricity.
- Traditional solar cookers employ this technology for heating food.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

- 83.** Which of the following statements is correct regarding the 'Environmental Pollution (Prevention and Control) Authority?

- It was established under Water (Prevention and Control of Pollution) Act, 1974 to oversee pollution by industries.
- It is a Supreme court mandated body to control air pollution in National capital region.
- It has been established as an interim body for management of Compensatory Afforestation Fund.
- It was established by Central government in 1994 in aftermath of Rio Earth Summit.

- 84.** 'Joint Forest Management ' initiated by the Government of India, aims at

- collaborating with neighboring countries to protect and manage forests.
- collaborating with private sector in forest conservation projects.
- joint implementation of forest conservation programs by Central and state governments.
- working closely with the local communities for protecting and managing forests.

85. In the context of biodiversity in India, which of the following species is **not** an invasive alien species?
- Water hyacinth
 - Carrot grass
 - African catfish
 - Red hibiscus

86. Which of the following are the possible impacts of Climate Change?

- Improved agricultural yield in higher latitudes
- Reduction in biodiversity in the alpine regions
- Reduction in corals in the tropical oceans

Select the correct answer using the code given below.

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

87. In the context of environment and ecology, '*standing crop*' refers to:

- the mass of living material at a particular time at any trophic level.
- a community of herbs and shrubs.
- a growing crop ready for harvest.
- the mass of inorganic nutrients found in an ecosystem

88. With reference to Gene Therapy, consider the following statements:

- It involves the delivery of a normal gene into the individual to compensate for the non-functional gene.
- It allows correction of a gene defect that has been diagnosed in an embryo.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

89. Which of the following are examples of a lentic water ecosystem?

- Ponds
- Marshes
- Rivers
- Springs

Select the correct answer using the code given below.

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

90. Consider the following statements regarding the harmful effects of water pollutants:

- Fluoride causes erosion of bones and teeth.
- Lead is associated with liver and kidney damage.
- Blue-baby syndrome is associated with potassium contamination.

Which of the statements given above are correct?

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

91. Which of the following is the correct sequence of food chain in an Agroecosystem?

- Mustard crop-aphid-beetle-bird
- Mustard crop-beetle-aphid-bird
- Mustard crop- aphid-bird-beetle
- Mustard crop-beetle-bird-aphid

92. Consider the following statements regarding Thermal Pollution:

1. Thermal power plants release recycled hot water into rivers leading to thermal pollution.
2. The dissolved oxygen level decreases with the increase in water temperature.

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

93. Consider the following pairs:

<i>Food</i>	<i>Adulterant</i>
1. Black Pepper	: Papaya seeds
2. Turmeric	: Metanil yellow
3. Milk	: Urea

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

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

94. What is/are the significance(s) of wetlands in an ecosystem?

1. They are breeding and nesting areas for birds and animals.
2. They protect coastlines from erosion and reduce damage from storms and cyclones.
3. They help in purifying water.

Select the correct answer using the code given below.

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

95. Consider the following statements regarding Biochemical Oxygen Demand (BOD):

1. The polluted water has less BOD than cleaner water.
2. It is a measure of chemical and organic pollutants.

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:

1. Food adulteration means the addition of any substance to a food item to improve its flavour, colour and shelf life.
2. Currently there is no act to regulate food adulterants in India.

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. Which of the following was the first conference/convention on the depletion of the Ozone layer?

- (a) United Nations Framework Convention on Climate Change (UNFCCC)
- (b) Saving the Ozone Layer conference
- (c) Convention on Biological Diversity
- (d) Vienna Conference

98. The correct sequence of the following Greenhouse Gases in order of increasing global warming potential (in a time horizon of 20 years) is:

1. Methane
2. Carbon dioxide
3. Nitrous Oxide
4. Sulphur hexafluoride

Select the correct answer using the code given below.

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

99. Macronutrients are important components required by living organisms. In this context, consider the following pairs:

Macronutrient	Function
1. Potassium	: Major solute in animal cells
2. Magnesium	: The structural component of Chlorophyll
3. Calcium	: Regulator of cell permeability

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

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

100. It is a potent greenhouse gas. The transpiration and evaporation increase its concentration in the atmosphere. Its concentration greatly varies from season to season and region to region. It is one of the highest contributors to the warming of the earth due to its capacity to absorb both incoming and terrestrial radiation.

The greenhouse gas being described here is:

- (a) Chlorofluorocarbons(CFCs)
- (b) Nitrogen oxide
- (c) Water vapour
- (d) Carbon dioxide

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