

Ph. D. ENTRANCE TEST (PET) 2025

Signature of Invigilator

Roll.
No.

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

Paper - II
Environmental Sciences

Maximum Marks: 50

No. Of Printed Pages: 8

Instruction for the Candidate:

1. This paper consists of **FIFTY (50)** multiple choice type questions. Each Question carries **ONE (1)** mark.
2. There is no Negative Marking for Wrong Answer.
3. A separate OMR Answer Sheet has been provided to answer questions. Your answers will be evaluated based on your response in the OMR Sheet only. No credit will be given for any answering made in question booklet.
4. Defective question booklet or OMR if noticed may immediately replace by the concerned invigilator.
5. Write roll number, subject code, booklet type, category and other information correctly in the OMR Sheet else your OMR Sheet will not be evaluated by machine.
6. Select most appropriate answer to the question and darken appropriate oval on the OMR answer sheet, with black / blue ball pen only. **DO NOT USE PENCIL** for darkening. In case of over writing on any answer, the same will be treated as invalid. Each question has exactly one correct answer and has four alternative responses (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.
Example: (A) ● (B) ● (C) ● (D) ● where (B) is correct response.
7. Rough Work is to be done in the end of this booklet.
8. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
9. Calculators, Log tables any other calculating devices, mobiles, slide rule, text manuals etc are **NOT** allowed in the examination hall. If any of above is seized from the candidates during examination time; he/ she will be immediately debarred from the examination and corresponding disciplinary action will be initiated by the Center Supervisor as deemed fit.
10. **DO NOT FOLD** or **TEAR** OMR Answer sheet as machine will not be able to recognize torn or folded OMR Answer sheet.
11. **You have to return the OMR Answer Sheet to the invigilator at the end of the examination compulsorily** and must not carry it with you outside the Examination Hall. You are however, allowed to carry original question booklet on conclusion of examination.

Paper - II
Environmental Sciences

Note: This paper contains **FIFTY (50)** multiple-choice questions. Each Question carries **ONE (1)** mark.

| | | | |
|--|---|---|---|
| 1. Which of the following sentences correctly describes the difference between Active and Passive Remote Sensing? | | | |
| A | Active remote sensing is based on reflected sunlight while passive remote sensing emits its own energy source | B | Active remote sensing emits its own energy source while passive remote sensing is based on reflected sunlight |
| C | Active remote sensing can only be performed at night while passive remote sensing during day time | D | Active and passive remote sensing are based on reflected sunlight only |
| 2. Which of the following has highest albedo? | | | |
| A | Water surface | B | atmospheric gases |
| C | Vegetation | D | fresh snow |
| 3. Tetroon is a tool to study ----- pattern in meteorology. | | | |
| A | Pressure pattern | B | precipitation pattern |
| C | wind pattern | D | temperature pattern |
| 4. The atmosphere is said to be absolutely stable if ---- | | | |
| A | Environmental lapse rate is less than the moist adiabatic lapse rate | B | Environmental lapse rate is greater than the dry adiabatic lapse rate. |
| C | Environmental lapse rates are between the moist and dry adiabatic lapse rates | D | Environmental lapse rate is independent of adiabatic lapse rate |
| 5. The descent of oceanic lithosphere into the mantle is the process of _____? | | | |
| A | accretion | B | Subduction |
| C | Submersion | D | Contraction |
| 6. Cadmium toxicity causes | | | |
| A | Itai Itai disease | B | Minamata disease |
| C | Beri beri disease | D | Acai Acai disease |
| 7. A Gas chromatograph can have | | | |
| A | Liquid as stationary phase | B | Solid as stationary phase |
| C | Solid or liquid as stationary phase | D | Solid as stationary phase and liquid as mobile phase |
| 8. The Convention on the Conservation of Migratory Species of Wild Animals is known as | | | |
| A | Ramsar Convention | B | Bonn Convention |
| C | Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) | D | Convention on Biological Diversity (CBD) |
| 9. The increased variety and density of species at boundary of two habitats is known as: | | | |
| A | biotic richness | B | Eco potential |
| C | Ecotone effect | D | edge effect |
| 10. Brilliant light displays occurring in the northern hemisphere due to particles from the sun that enter ionosphere are called | | | |
| A | Aurora Borealis | B | Aurora Australis |
| C | Gloria | D | Catatumbo |

| | | | |
|--|--|---|---|
| 11. Biosphere reserves are: | | | |
| A | National government monitored terrestrial, marine and coastal ecosystem. recognized under UNESCO's Man and Biosphere program | B | State government monitored terrestrial, marine and coastal ecosystem recognized under UNESCO's Man and Bioreserve program |
| C | National government monitored threatened aquatic animals and plants recognized under UNESCO's Man and Bioreserve program | D | State government monitored threatened aquatic animals and plants recognized under UNESCO's Man and Biosphere program |
| 12. In an ecosystem, which one of the following is a micro-consumer ? | | | |
| A | Osmotrophs | B | phagotrophs |
| C | Autotrophs | D | Saprotrophs |
| 13. Which of the following statements are true regarding biodegradable pollutants | | | |
| A | They are not transformed by enzymes | B | They are utilized by microbes for their metabolism |
| C | They are produced by biochemical reactions | D | Biodegradable pollutants do not affect dissolved oxygen |
| 14. Species within biological communities that are important in determining the ability of a large number of other species to persist in the community are called ---- | | | |
| A | keystone species | B | allopatric species |
| C | r species | D | k species |
| 15. ADME of toxicants means | | | |
| A | Absorption, Distribution, Metabolism and Excretion | B | Adsorption, Diffusion, metabolism and elimination |
| C | Adsorption, Distribution, Metabolism and Excretion | D | Adsorption, Diffusion, migration and elimination |
| 16. Majority of world's geothermal sites are located around: | | | |
| A | Girdle of earth | B | Rim of earth |
| C | Circum Atlantic belt | D | Ring of fire |
| 17. The discontinuity between crust and mantle is known as: | | | |
| A | Gutenberg discontinuity | B | Mohorovicic discontinuity |
| C | Repetti discontinuity | D | Lehmann discontinuity |
| 18. . According to Darcy's law, | | | |
| A | the rate of flow of fluid through soil is proportional to the hydraulic gradient | B | the rate of flow of fluid through soil is proportional to viscosity of fluid |
| C | the rate of flow of fluid through soil is inversely proportional to cross sectional area of soil | D | the rate of flow of fluid through soil is proportional to path length |
| 19. What LEED certification can be given to a building that has obtained 55 credits? | | | |
| A | Gold | B | Platinum |
| C | Silver | D | Bronze |
| 20. The rule that species at higher latitudes (closer to the poles) tend to have larger geographical ranges than those at lower latitudes is called | | | |
| A | Alle's rule | B | Simon's rule |
| C | Freeman's rule | D | Rapoport's rule |
| 21. Ringelmann chart is a scale for measuring | | | |
| A | Opacity of smoke | B | Intensity of noise |
| C | Opacity of grey water | D | Opacity of fog |

| | | | |
|---|---|---|---|
| 22. ----- is an example of indicator species used to check quality of drinking water. | | | |
| A | Staphylococcus aureus | B | Escherichia coli |
| C | Salmonella enterica | D | Koch's bacillus |
| 23. Blue baby syndrome is due to the presence of----- | | | |
| A | Increased amount of sulphate in drinking water | B | Increased amount of nitrate in drinking water |
| C | Decreased amount of oxygen in drinking water | D | Increased amount of cyanide in drinking water |
| 24. Which method is used for determination of available phosphorus in acid soil? | | | |
| A | West and Gaeke | B | Olsen |
| C | Walkley and Black | D | Bray |
| 25. If acid and gas are formed in the Multiple tube fermentation technique for analyzing biological characteristics of water, the test is indicated to be | | | |
| A | error in the test | B | negative test |
| C | Positive test | D | error in sampling |
| 26. Which of the following is primarily responsible for turning Taj Mahal Yellow? | | | |
| A | Sulfur dioxide | B | Chlorine |
| C | Nitrogen dioxide | D | Hydrogen sulfide |
| 27. El Nino refers to a temperature anomaly in the | | | |
| A | Indian Ocean | B | Atlantic Ocean |
| C | Pacific Ocean | D | Southern Ocean |
| 28. What does the acronym ALARA represent in Radiation Safety? | | | |
| A | Achievable Low Radiation Absorption | B | As Long As Radiation Achievable |
| C | As Long as Reasonably Achievable | D | As Low As Reasonably Achievable |
| 29. The Coriolis effect is an "apparent" force caused by | | | |
| A | Revolution of the earth | B | rotation of the earth |
| C | pressure gradient on earth's surface | D | Gravitational force of earth |
| 30. TIGER with respect to Remote Sensing AND GIS is | | | |
| A | Topographic Information Geographic Encoding and Referencing | B | Topologically Integrated Geographic Encoding and Referencing |
| C | Transmittance Information in Geological Encompassed Referencing | D | Transmittance Integrated Geo Enhanced Reflectance |
| 31. Which hazardous pollutant is released from batteries? | | | |
| A | Cadmium | B | Arsenic |
| C | Strontium | D | Barium |
| 32. What is the meaning of 'Tainting' related to marine pollution? | | | |
| A | Unpleasant flavor of seafood due to coating of oil slicks or pollutants | B | Unpleasant flavor of water due to oil slicks or pollutants |
| C | Unpleasant odor of water due to oil slicks or pollutants | D | Coloring of aquatic flora and fauna due to oil slicks or pollutants |
| 33. Water available to the plants for absorption from soil is called----- | | | |
| A | Hollard | B | Chresard |
| C | Echard | D | Nabard |
| 34. The hydroxyl radicals fail to remove which of the following trace gas from the atmosphere? | | | |
| A | Ozone | B | CO |
| C | Chlorofluorocarbons | D | NO |

| | | | |
|---|---|---|---|
| 35. The 13 th Conference of Parties of the convention on conservation of Migratory species of wild animals under UNEP was hosted in ----- state in India during February 2020. | | | |
| A | Telangana | B | Madhya Pradesh |
| C | Karnataka | D | Gujarat |
| 36. According to Plastic Waste Management Rules 2016 | | | |
| A | The minimum thickness of plastic carry bags has been increased from 40 to 50 microns | B | The minimum thickness of plastic carry bags has been decreased from 50 to 40 microns |
| C | Restrict the applicability of rules to rural areas only | D | Restrict the applicability of rules to urban areas only |
| 37. Select the correct sequence referring Environmental Management System ISO14001 standard: | | | |
| A | Evaluation and corrective action → Review by Management → Implementation → Commitment to Environmental policy | B | Implementation → Evaluation and corrective action → Review by Management → Commitment to Environmental policy |
| C | Implementation → Commitment to Environmental policy → Evaluation and corrective action → Review by Management | D | Commitment to Environmental policy → Implementation → Evaluation and corrective action → Review by Management |
| 38. Man and biosphere programme was launched by | | | |
| A | WHO | B | UNEP |
| C | UNESCO | D | UNO |
| 39. The -----Conference on Human Environment and Development in 1972 had a significant impact on Indian Environment Law and was called as Magna Carta | | | |
| A | The Stockholm conference | B | The Rio conference |
| C | The Johannesburg conference | D | United Nations Millennium Conference |
| 40. Which of the following is not a nominal variable ? | | | |
| A | pH of water | B | Habitat type |
| C | Soil type | D | Rock type |
| 41. Which of the Sustainable Development Goals (SDGs) are related to life below water and on land | | | |
| A | SDG 14 and 15 | B | SDG 5 and 15 |
| C | SDG 10 and 13 | D | SDG 11 and 15 |
| 42. A biofilm layer constitutes the following | | | |
| A | A thin layer of phosphate and sediment | B | A thin layer of microorganisms and extracellular polymeric substance |
| C | A thin layer of microorganisms and sediment | D | A thin layer of algae and intracellular polymeric substance |
| 43. A Sigmoid growth curve represents : | | | |
| A | growth of a population exponentially | B | Logarithmic growth of a population |
| C | Gaussian process | D | Quadratic growth process |
| 44. Which of the following is a mathematical model of predator-prey interactions | | | |
| A | The Shannon weaver model | B | Simpson model |
| C | The Lotka-Volterra model | D | Malthusian model |
| 45. AERB Stands for | | | |
| A | Atomic Emission Regulatory Board | B | Air Exposure Regulatory Board |
| C | Atomic Energy Regulatory Board | D | Air Emission Regulatory Board |

| | | | |
|--|---|---|---|
| 46. What is the significance of Ramsar sites in India? | | | |
| A | Areas recognized for wetland conservation | B | Areas recognized as biosphere reserves |
| C | Areas recognized as heritage sites | D | Areas recognized as rainforests |
| 47. What is the colour coding of the bag used in hospitals to dispose discarded medicines? | | | |
| A | Yellow | B | White |
| C | Black | D | Red |
| 48. Which of the following is false regarding Olive Ridley turtles?. | | | |
| A | To conserve the Olive Ridley turtle UNDP turtle project was initiated | B | The Olive Ridley turtle conservation project was initiated by Wildlife institute of India, Dehradun |
| C | The conservation project was first initiated in Odisha | D | The conservation project was first initiated in Nagapattinam |
| 49. Which Award is given by the Indian Government to cities and villages for cleanliness? | | | |
| A | Shuddhata Survekshan | B | Nirmal Shahar |
| C | Swachh Survekshan | D | Samshodhana Survekshan |
| 50. The Love Canal Tragedy was caused due to | | | |
| A | Dumping of hazardous chemicals as landfill in the canal | B | Occurrence of flash floods in the canal |
| C | Occurrence of under water landslides in the canal | D | Leaching of hazardous chemicals from a nearby chemical company into the canal |

Rough Work: