



Paper - II

Environmental Sciences

Booklet Code

A

Test Booklet No.

SUBJECT CODE : 1 6
Roll No. :

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(Figures as per admission card)

Roll No. (in words) :

OMR Sheet No. :

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Name and Signature of Invigilator/s

Signature : _____

Name : _____

Time : 2 Hours

Maximum Marks : 200

Number of Pages in this Booklet : 24
Number of Questions in this Booklet : 100

Instructions for the Candidates

1. Write your roll number in the space provided on the top of this page.
2. This paper consists of hundred (100) multiple-choice type of questions.
3. At the commencement of examination, the test booklet will be given to you. In the first 5 minutes, you are requested **To Open the Booklet and Compulsorily Examine it as Below:**
 - (i) To have access to the Test Booklet, tear off the paper seal on the edge of the cover page. Do not accept a booklet without sticker seal or open booklet.
 - (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Test Booklet will be replaced nor any extra time will be given.
 - (iii) After the verification is over, the Test Booklet Number should be entered in the OMR Sheet and the OMR Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.
Example : Ⓐ Ⓑ ● Ⓓ
 where (C) is the correct response.
5. Your responses to the questions are to be indicated in the **OMR Sheet kept inside this Booklet**. If you mark at any place other than in the circles, the OMR Sheet will not be evaluated.
6. Read the instructions given in OMR Sheet carefully. Fill the Booklet Code of Paper-II in OMR Sheet **Compulsorily**.
7. Rough Work is to be done in the end of this booklet.
8. If you write your name or put any mark on any part of the OMR Answer Sheet, except for the space provided for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.
9. You have to return the OMR answer Sheet to the invigilators at the end of the examination compulsorily and must NOT carry it with you outside the Examination Hall.
10. You can take away test booklet and carbon copy of OMR Answer Sheet after the examination.
11. **Use only Blue/Black Ball point pen.**
12. **Use of any calculator, electronic gadgets or log table, etc. is prohibited.**
13. **There is no negative mark for incorrect answer.**



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Read the passage carefully and answer the Questions 01 to 05:

Maitri Visetak, who owns a small plot of land along the coast of southern Thailand, wanted to improve life for his family, and he succeeded. A growing demand for shrimp as a luxury food and overfishing of wild shrimp fueled growth of the world market for farm shrimp from a \$ 1.5 billion industry 30 years ago to an \$ 8 billion business today. In the early 1990s, Mr. Visetak began farming shrimp in two small ponds (0.2 hectare or 0.5 acre). In 2 years, Mr. Visetak accumulated enough capital to purchase two pickup trucks, a clear indication of financial success in Thailand. But, by then, his ponds were contaminated with shrimp waste, antibiotics, fertilizers and pesticides. Shrimp could no longer live in the ponds. But there was an even more widespread effect: Pollutants escaping from the ponds threatened survival of the area's mangrove trees. Like thousands of other shrimp farmers in southeast Asia, India, Africa, and Latin America, Mr. Visetak considered abandoning these ponds and moving on to others.

As a result of urbanization and development, half of the world's mangrove forests have been destroyed and with them a major source of food for local human population and the breeding grounds for much of the tropical world's sea life are also reducing. The United Nations Environment Program has estimated that one-fourth of the destruction of mangroves can be traced to shrimp farming. Environmentalists have

become alarmed, and in many areas local people have staged protests against shrimp farming. With the world's population expected to increase 5.9 billion to 9 to 10 billion by the middle of the century, concern over the world's mangrove forests is growing. Maitri Visetak is trying to feed his family in the best way he knows how, but multiplied by the thousands of shrimp farmers in the world, he is unwittingly contributing to destruction of one of the world's valuable ecosystems.

1. The story of Maitri Visetak illustrates the major themes of :
 - (A) Food Science
 - (B) Environmental Sciences
 - (C) Shrimp farming
 - (D) Industrial development and urbanization
2. Shrimp farming ponds were contaminated with:
 - (A) Excessive use of supplementary food for Shrimps
 - (B) Solid waste generated as a result of urbanization and development in the area
 - (C) Shrimp waste, antibiotics, fertilizers and pesticides
 - (D) Mixing of dead wood of mangrove forests



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3. What portion of mangrove forests of the world has been traced for destruction to shrimp farming as per the estimate of United Nations Environmental Programme?
- (A) One-fourth of the mangrove forests
(B) Half of the mangrove forests
(C) One- eighth of the mangrove forests
(D) No destruction of mangrove forests
4. The story of Maitri Visetak illustrates the following environmental concerns:
- Human population increase is a major contributor to environmental problems
 - Industrial development and urbanization have serious environmental consequences
 - Local changes can have global effects
 - A growing demand for shrimp as luxury food fuelled growth of world market for farm shrimp
- Which one of the following is correct statement ?
- (A) 1 only
(B) 1 and 2 only
(C) 1, 2, 4 only
(D) 1, 2, 3 only
5. What was the connection between mangrove forests destruction and Shrimp farming revealed ?
- (A) Pollutants escaping from the Shrimp farm ponds threatened the survival of the area's mangrove forests
(B) Shrimp farmers dumped their solid domestic wastes in the mangrove forests
(C) Industrial activities of the area contributed the destruction of mangrove forests
(D) There was no connection between Shrimp farming and mangrove forests destruction
6. Tectonic Valleys are:
- (A) Formed by river erosion
(B) Glacial deposition
(C) Subsidence of a central block along parallel faults or due to synclinal folding
(D) Formed by wind erosion
7. Hardness of a mineral is defined as:
- (A) The resistance a mineral offers to load imposed on it
(B) The resistance a mineral offers to decay and deterioration due to air
(C) The resistance a mineral offers to scratching or rubbing action
(D) The resistance a mineral offers to pressure imposed on it



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8. Feldspars are formed by:
- (A) Process of crystallization from igneous melts
 - (B) Condensation of vapours from volcanic emanations
 - (C) Evaporation and precipitation from saturated solutions over the surface of the Earth
 - (D) Evaporation from saturated solutions over the surface of the Earth
9. Lopoliths are defined as:
- (A) Concordant igneous bodies associated with natural basins, that is, those sedimentary formations which are inclined towards a common centre
 - (B) Concordant igneous bodies that occupy positions in the crests and troughs of the folds
 - (C) Discordant bodies that cut across the regional structure very conspicuously
 - (D) Neither concordant nor discordant, having irregular relationship
10. Kankar is a nodular variety of:
- (A) Limestone
 - (B) Sandstone
 - (C) Coal
 - (D) Shale
11. Groundwater is defined as all that water which :
- (A) occurs in the pores of the soils and rocks below the surface of the ground
 - (B) occurs above the water-table and below the surface
 - (C) occurs below the water-table in the pores and openings of rocks which are fully saturated with it
 - (D) is flowing on the surface
12. Which of the following waste materials is expected to have minimum higher heat value (HHV) in units of kJ/Kg ?
- (A) Mixed paper
 - (B) Natural gas
 - (C) Leather
 - (D) Mixed food waste
13. The stratified rocks are more likely to fail when, other things being the same, the dip is:
- (A) Towards the free side of the valley or road cut
 - (B) Backwards, deep into the hills
 - (C) Parallel with the road cut
 - (D) Across the hill



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14. The act of recovering materials from waste stream and reprocessing them so they become raw materials for new applications is referred to as:
- (A) Reusing
(B) Recycling
(C) Remanufacturing
(D) Repairing
15. A soil index showing the moisture range in relation to its slope stability is known as :
- (A) Hygroscopic Coefficient
(B) Water Potential
(C) Field Capacity
(D) Plasticity Index
16. Increase in hardness of minerals is due to :
- I. Increase in valency
II. Increase in atom packing density
III. Increase in bond strength
IV. Increase in ionization energy
- Answer from the following:
- (A) I & II only
(B) II & III only
(C) I, II & III only
(D) I & IV only
17. Which combination of gases constitutes ~99% of volcanic emissions?
- (A) CO_2 , SO_2 and $\text{H}_2\text{O}_{(v)}$
(B) CO_2 and SO_2
(C) CO_2 , H_2 , SO_2
(D) H_2 , $\text{H}_2\text{O}_{(v)}$ and SO_2
18. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R). Read the statements and choose the correct answer from the code given below:
- Assertion (A) :** Composting is aerobic digestion of organic materials under controlled conditions, yielding a marketable soil amendment but cannot compete with commercial fertilizers.
- Reason (R) :** Compost contain too low amounts of key nutrients such as N,P and K.
- (A) Both (A) and (R) are true and (R) is correct explanation of (A)
(B) Both (A) and (R) are true and (R) is not correct explanation of (A)
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true



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19. In India, the broadest continental shelf is found in :
- (A) Odisha
(B) Kerala
(C) Tamil Nadu
(D) Gujarat
20. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R). Read the statements and choose the correct answer from the codes given below:
- Assertion (A) :** Only one side of moon can be seen from Earth.
- Reason (R) :** Earth's temporal revolution and rotation along the axis is same.
- (A) (A) is true but (R) is false
(B) (A) is false but (R) is true
(C) Both (A) and (R) both are true and (R) is related to (A)
(D) Both (A) and (R) both are true and (R) is not related to (A)
21. The 100 year Global warming potential of a gas X is 30. This means :
- (A) 30 tons of CO_2 are equivalent to one ton of gas X
(B) 1 ton of gas X is equivalent to 30 tons of CO_2
(C) 30 tons of gas X are equivalent to 30 tons of CO_2
(D) 30 tons of gas X are equivalent to 10 tons of CO_2
22. Formation of sediments takes place by :
- (i) Mechanical Process
(ii) Chemical Process
(iii) Biological Process
- Identify the correct answer :
- (A) (i) & (ii) only
(B) (ii) & (iii) only
(C) (i) & (iii) only
(D) (i), (ii) & (iii)
23. Which of the following satellite revolves in a geostationary orbit?
- (A) IRS
(B) Landsat
(C) AEM
(D) GOES
24. Given below are two statements:
- Statement I :** Amount of materials/products that enter the waste stream is termed as waste generation.
- Statement II :** Waste generation is generally total sum of materials recovered and discords.
- In light of the above statements, choose the most appropriate answer :
- (A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct



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25. Biogas synthesis makes use of biological waste materials, particularly animal manure, Major components of biogas are :
- CH_4 and C_4H_{10}
 - CH_4 and C_3H_8
 - CH_4 and CO_2
 - CH_4 and C_2H_6
26. Consider the following statements:
- During El Niño, the coast of Peru and other adjoining regions are directly influenced by the Humboldt current that flows along the coastline of Peru.
 - During La Niña, waters off the Pacific coast are colder and contain more nutrients than usual. This environment supports more marine life and attracts more cold-water species.
 - El Niño Southern Oscillation (ENSO) affects monsoon patterns intensively leading to the change in crop production and crop productivity especially for crops that lie on the equatorial (tropical) belt will be affected by varying monsoon patterns.
- Identify the correct answer :
- Only Statement 1 is correct
 - Statement 2 is incorrect: while statement 1 & 3 are correct
 - Statement 1 and 2 are correct
 - All statements are correct
27. Which day is celebrated as the World Biodiversity Day every year?
- 22 May
 - 5 June
 - 16 September
 - 22 April
28. The type of biological succession occurring on a bare rock is called :
- Halosere
 - Lithosere
 - Hydrosere
 - Cryosere
29. The ratio between energy flow at different points along the food chain, when expressed as percentage is called :
- Ecological gradient
 - Relative ratio of energy flow
 - Energy flow efficiency
 - Ecological efficiency



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30. Which one of the following is a non-renewable natural resource?
- (A) Fossil fuel
(B) Water
(C) Wind
(D) Solar
31. The tendency towards increased diversity and density of species at community junction is known as :
- (A) Edge effect
(B) Variability
(C) Vital index
(D) Biotic potential
32. Which of the following statement is correct?
- (A) EMP is prepared for both the phases of the project, construction and operation
(B) EMP is prepared only for construction phase of the project
(C) EMP is prepared only for operation phase of the project
(D) EMP is prepared after construction of the project
33. Is the public hearing mandatory by law for environmental clearance of the major hydropower project ?
- (A) Yes
(B) No
(C) Depends on the convenience
(D) Depends on the place of location of the project
34. Which bacterial species can be used as insect larvicides ?
- (A) *Bacillus thuringiensis*
(B) *Pseudomonas syringae*
(C) *Pseudomonas aeruginosa*
(D) *Thiobacillus ferrooxidans*
35. The amount of living material in different trophic levels at a given time is known as :
- (A) Secondary production
(B) Standing crop
(C) Gross primary productivity
(D) Gross biomass


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36. Primary community established in an ecosystem is also known as :
- (A) Pioneer community
- (B) Climax community
- (C) Both Pioneer and Climax communities
- (D) Neither Pioneer community nor Climax community
37. The Gir Forest is the natural habitat of :
- (A) Asiatic Lion
- (B) Rhino
- (C) Tiger
- (D) Elephant
38. Name of the woman associated with the Chipko movement :
- (A) Gaura Devi
- (B) Sarojini Naidu
- (C) Indira Gandhi
- (D) Medha Patkar
39. 'Love Canal Tragedy' is associated with :
- (A) Problem of acid rain
- (B) Dumping of hazardous solid waste
- (C) Pesticide air pollution
- (D) Fighting among the lovers
40. Who formulated the famous Gaia hypothesis?
- (A) Richard Dawkins
- (B) James Lovelock
- (C) James Hutton
- (D) Lewis Thomas
41. Which article in Indian Constitution recognized environmental protection as one of the fundamental duties of every citizen?
- (A) Article 42
- (B) Article 51 A(g)
- (C) Article 21
- (D) Article 48A
42. The 3-R approach of the resource use stands for....., Reuse and Recycle.
- (A) Reconstruction
- (B) Reduce
- (C) Revise
- (D) Remove



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43. ISO 14040 provides :
- (A) Principles of environmental auditing
 - (B) Life cycle issues
 - (C) Labelling issues
 - (D) Qualifications of environmental auditors
44. Which Indian religious sect has commandments prohibiting felling of living Khejari trees and killing the black bucks?
- (A) Shaivaites
 - (B) Arya Samajists
 - (C) Vaishnavas
 - (D) Bishnois
45. *Itai-itai* disease in Japan was caused by the consumption of rice contaminated with:
- (A) Mercury
 - (B) Iron
 - (C) Cadmium
 - (D) Zinc
46. The phrase 'the tragedy of commons' was coined by :
- (A) Garret Hardin
 - (B) Charles Elton
 - (C) Gregor J. Mendel
 - (D) Paul Ehrlich
47. Which of the following is a direct estimation method for environmental benefits under the behavioural linkage approach ?
- (A) Contingent Valuation Methods (CVM)
 - (B) Averting Expenditure Method (AEM)
 - (C) Travel Cost Method (TCM)
 - (D) Hedonic Price Method (HPM)
48. National Institute of Wind Energy (NIWE) is located in:
- (A) Chennai
 - (B) Mumbai
 - (C) Gujarat
 - (D) Goa
49. The single most significant factor to limit plant distribution and abundance is :
- (A) Light
 - (B) Temperature
 - (C) Rainfall
 - (D) Wind



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50. Fishes of colder water have more vertebrae than those of warm waters. This is known as :
- (A) Allen's rule
(B) Gloger's rule
(C) Jordan's rule
(D) Rensch's rule
51. Which one of the following is a day neutral animal?
- (A) Deer
(B) Goat
(C) Guinea pig
(D) Turkey
52. Which of the following is a lentic ecosystem?
- (A) Spring
(B) River
(C) Stream
(D) Pond
53. In a pond ecosystem, detritivorous are :
- (A) Producers
(B) Decomposers
(C) Primary consumers
(D) Secondary consumers
54. Which one the following is responsible for stratification in lakes ?
- (A) Oxygen
(B) Temperature
(C) Free Carbon dioxide
(D) Water
55. A biosphere reserve lacks :
- (A) Transition zone
(B) Buffer zone
(C) Tidal zone
(D) Core zone
56. The Project Tiger was launched in the year:
- (A) 1973
(B) 1975
(C) 1980
(D) 1985
57. Which group of vertebrates comprises the highest number of endangered species ?
- (A) Birds
(B) Mammals
(C) Fishes
(D) Reptiles


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58. Red Data book is published by :
- (A) UNEP
- (B) WWF
- (C) WHO
- (D) IUCN
59. Lichens have disappeared from the roadsides of the cities because they are highly susceptible to :
- (A) Carbon dioxide
- (B) Ozone
- (C) Nitric oxide
- (D) Sulphur dioxide
60. Migration route of Asian elephants from one habitat to another is called:
- (A) Corridor
- (B) Channel
- (C) Overpass
- (D) Underpass
61. The pioneer human community in human evaluation is :
- (A) Nomads
- (B) Hunting and Gathering society
- (C) Agro-society
- (D) Industrial society
62. The transitional zone between two or more communities, sharply defined or integrated is called:
- (A) Epilimnion
- (B) Biome
- (C) Anticline
- (D) Ecotone
63. Match List-I and List-II and select the correct answer from the codes given below:
- | | List-I | | List-II |
|---|-----------------|---|--------------------|
| P | CFC | 1 | Bhopal Gas Tragedy |
| Q | CO ₂ | 2 | Global Warming |
| R | BOD | 3 | Ozone Depletion |
| S | MIC | 4 | Water Pollution |
- Code :
- | | P | Q | R | S |
|-----|---|---|---|---|
| (A) | 3 | 2 | 4 | 1 |
| (B) | 4 | 3 | 1 | 2 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 4 | 3 | 2 | 1 |



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64. Match List-I and List-II and select the correct answer from the codes given below:

List-I

P Montreal Convention

Q Rio Summit

R Ramsar Convention

S Kyoto Protocol

List-II

1 Ozone layer depletion

2 Reduction and control of Greenhouse Gas emission

3 Convention on Biodiversity

4 Wetland Convention

Code :

	P	Q	R	S
(A)	3	2	1	4
(B)	4	3	1	2
(C)	1	3	4	2
(D)	1	2	4	3

65. Match List-I and List-II and select the correct answer from the codes given below:

List-I

P Solar energy

Q Biogas

R Oil

List-II

1 Indirectly supplies all the energy required for sustaining life on earth

2 An important solution to present energy crisis in rural areas

3 Largest source of commercial energy

Code :

	P	Q	R
(A)	2	3	1
(B)	1	3	2
(C)	1	2	3
(D)	2	1	3

66. Rain water having a pH of more than 5.6 will be referred as :

- (A) Acidic
(B) Neutral
(C) Slightly acidic
(D) Alkaline



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67. Catalytic converters in vehicle are used for:
- Reduction of CO and NO_x
 - Oxidation of CO and NO_x
 - Reduction of CO and Oxidation of NO_x
 - Oxidation of CO and reduction of NO_x
68. If the temperature of atmosphere falls at a rate less than dry adiabatic lapse rate ($\bar{\Delta}$), the lapse rate is referred as _____ and atmosphere is _____.
- Super adiabatic, unstable
 - Sub-adiabatic, unstable
 - Sub-adiabatic, stable
 - Sub-adiabatic, windy
69. Which of the following techniques are used to control particulate emissions?
- SCR
 - ESP
 - Cyclones
 - Bag Houses
 - LIMB
- 1, 2 and 3 only
 - 3, 4 and 5 only
 - 1, 2, 3 and 4 only
 - 2, 3 and 4 only
70. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R). Read the statements and choose the correct answer from the code given below:
- Assertion (A) :** Lakes contain distinct zones such as euphotic zone, profundal zone and littoral zone.
- Reason (R) :** These zones are based on availability of oxygen and light and have different biological activity.
- Both (A) and (R) are true and (R) is correct explanation of (A)
 - Both (A) and (R) are true and (R) is not correct explanation of (A)
 - (A) is true, but (R) is false
 - (A) is false, but (R) is true
71. Average salinity of sea water is:
- ~ 350 ppt
 - ~ 35 ppt
 - ~ 3.5 ppt
 - ~ 35 %



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72. Given below are two statements:
Statement I : Solubility of oxygen in water is governed by Henry's Law.

Statement II : Dissolved oxygen in natural water remains constant throughout a day as well as throughout a year.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct
- (B) Both Statement I and Statement II are incorrect
- (C) Statement I is correct but Statement II is incorrect
- (D) Statement I is incorrect but Statement II is correct

73. Given below are two statements:
Statement I : Noise pollution is any sound-independent of loudness.

Statement II : Sound from a household fan is example of steady state noise.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct
- (B) Both Statement I and Statement II are incorrect
- (C) Statement I is correct but Statement II is incorrect
- (D) Statement I is incorrect but Statement II is correct

74. Which of the following are most commonly used coagulant during water treatment processes?

- 1 Alum
- 2 FeCl_3
- 3 Lime-Soda
- 4 FeSO_4

- (A) 1 only
- (B) 2 and 3 only
- (C) 1 and 3 only
- (D) 1, 2 and 4 only

75. Which of the following microbes helps in dinitrification process?

- (A) Cyanobacteria
- (B) Actinomycetes
- (C) Nitrobacter
- (D) Bacillus

76. Which of the following does not generate acidity in soils?

- (A) Dissolution of pyrite mineral
- (B) Fertilizers particularly nitrogen based
- (C) Coal burning emissions
- (D) Presence of Calcite and dolomite



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77. Which of the following unit is not used/ applied as a measure of radiations received by a material or by humans?
- (A) Rad
(B) Rem
(C) Curie
(D) Gray
78. Thickness of total columnar pure ozone, if it were brought to ground level at 1 atm pressure and 0°C, will be :
- (A) 350 mm
(B) 35 mm
(C) 3.5 mm
(D) 0.35 mm
79. Which of the following are examples of metalloids?
1. Boron
 2. Silicon
 3. Aluminium
 4. Arsenic
 5. Antimony
- (A) 2 and 5 only
(B) 1, 2 and 3 only
(C) 1, 2, 4 and 5 only
(D) 2, 3, 4, 5 only
80. Which of the following is not most preferred buffering species in natural waters?
- (A) OH^-
(B) CO_3^{2-}
(C) HCO_3^-
(D) H_2CO_3
81. Which of the following gas is opaque to outgoing IR radiations from earth's surface?
1. CO_2
 2. N_2O
 3. NO_2
 4. O_3
 5. H_2O vapour
 6. CH_4
- (A) 1,3,5 and 6 only
(B) 1, 2, 4 and 6 only
(C) 1, 3, 4, 5 and 6 only
(D) 1, 2, 4, 5 and 6 only



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82. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R). Read the statements and choose the correct answer from the code given below :

Assertion (A) : Phosphorus is an essential and limiting nutrient in lakes.

Reason (R) : In freshwater lakes, P is present in lowest quantity and zooplanktons and bacteria excrete phosphorus required by phytoplanktons.

- (A) Both (A) and (R) are true and (R) is correct explanation of (A)
(B) Both (A) and (R) are true and (R) is not correct explanation of (A)
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true

83. Given below are two statements:
Statement I : Accuracy of the data refers to closeness of measured values to the true values.

Statement II : Accuracy can be expressed in terms of relative error or percentage recovery.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

84. The famous London smog and Los Angeles smog events are examples of:

- (A) Classical smog
(B) Photochemical smog
(C) Classical and Photochemical smog, respectively
(D) Photochemical and classical smog, respectively

85. Given below are two statements:

Statement I : Thinning of Ozone layer in stratosphere occurs only over Antarctica.

Statement II : Polar stratospheric clouds are responsible for generation of active chlorine (from inactive chlorine) which catalytically destroy ozone.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct



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86. Which of the following instrument is based on Beer-Lambert's law?

- (A) X ray diffractometer
- (B) X ray fluorescence
- (C) UV-Vis spectrophotometer
- (D) Inductively coupled Plasma-optical emission spectrometer

87. Given below are two statements:

Statement I: Dissolved solids make water more turbid.

Statement II: Chromium (III) is essential nutrient whereas chromium (VI) is a carcinogen.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct
- (B) Both Statement I and Statement II are incorrect
- (C) Statement I is correct but Statement II is incorrect
- (D) Statement I is incorrect but Statement II is correct

88. Which of the following data type is most suitable when ordering and magnitude are important ?

- (A) Nominal
- (B) Ordinal
- (C) Discrete
- (D) Discontinuous

89. Given below are two statements:

Statement I : A parameter in hypothesis testing is a measure from population.

Statement II : In an assessment of the association between an exposure and outcome variables, null hypothesis typically states that there is no association.

In light of the above statements, choose the most appropriate answer :

- (A) Both Statement I and Statement II are correct.
- (B) Both Statement I and Statement II are incorrect.
- (C) Statement I is correct but Statement II is incorrect.
- (D) Statement I is incorrect but Statement II is correct

90. LEED, one of the sustainable habitat green rating systems, refers to:

- (A) Leadership in energy and efficiency design
- (B) Leadership in energy and efficiency document
- (C) Leadership in energy and environment design
- (D) Leadership in energy and environment document



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91. Which of the following does not fall under the major goals of the National Mission for Green India?

- (A) To increase forest/tree cover to the extent of five million hectares
- (B) To improve/enhance eco-system services like carbon sequestration and storage, hydrological services and biodiversity
- (C) To increase forest based livelihood income of about three millions households
- (D) To study the traditional knowledge systems for community participation in adaptation and mitigation strategies

92. Given below are two statements. One labelled as Assertion (A) and the other labelled as Reason (R). Read the statements and choose the correct answer from the codes given below :

Assertion (A) : Global shipping is a source of net cooling of atmosphere.

Reason (R) : Ships are responsible for significant amounts of sulphur emission.

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are correct and (R) is not the correct explanation of (A)
- (C) (A) is true but (R) is false
- (D) (A) is false but (R) is true

93. Climate change has now become a buzz word throughout the world. In case of Himalaya the best way to infer whether there is a climate change or not is to:

- I. Monitor tree line
- II. Monitor melting of glaciers
- III. Study alteration in species composition

Choose the correct answer :

- (A) I only
- (B) I and II only
- (C) II only
- (D) I, II and III

94. Which industry workers suffer from byssinosis?

- (A) Cardboard
- (B) Textile
- (C) Coal mine
- (D) Paper

95. Which is a protective device in animals?

- (A) Competition
- (B) Commensalism
- (C) Mimicry
- (D) Symbiosis



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96. Animals which can tolerate only a narrow range of salinity are said to be:

- (A) Anadromous
- (B) Catadromous
- (C) Stenohaline
- (D) Euryhaline

Code :

P Q R S

(A) 4 2 3 1

(B) 1 2 3 4

97. The rate of photosynthesis is greater in :

- (A) Infrared region
- (B) Ultraviolet region
- (C) Intermittent light
- (D) Continuous light

(C) 4 3 2 1

(D) 3 1 4 2

98. Match the List I and List II and select the correct answer from the codes given below:

List-I

- P. Hekistotherms
- Q. Mesotherms
- R. Megatherms
- S. Microtherms

List-II

- 1. Cannot tolerate high temperature
- 2. Require high degree of heat throughout the year
- 3. Require moderate temperature for growth
- 4. Require very low temperature and can stand very long

99. Which of the following cycles is a sedimentary cycle?

- (A) Carbon cycle
- (B) Sulphur cycle
- (C) Oxygen cycle
- (D) Carbon cycle

100. Which of the following lakes contains approximately 20 percent of the world's fresh water?

- (A) Lake Chad
- (B) Lake Baikal
- (C) Lake Tahoe
- (D) Lake Titicaca



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