

M.Phil./Ph.D. ADMISSION TEST, 2019 & 2020**Paper II****Subject : 115 - Environmental Science**

Roll No. (In figures)(In words)

OMR Sheet Barcode No.

Signatures of Invigilators 1. 2.

Names of Invigilators 1. 2.

Time : 2 Hours

Max. Marks : 200

GENERAL INSTRUCTIONS

1. Read the instructions given on the Question Booklet and OMR Sheet before starting the answers. All the entries should be filled by **blue or black ball point pen**.

2. The Question Booklet contains **100** questions and all questions are compulsory.

3. Each question is of **2** marks. There is **no negative marking**.

4. Candidates must ensure that the Question Booklet issued to them has all the questions. Defective Question Booklet can be got changed within **10** minutes.

1. प्रश्नों के उत्तर लिखने से पूर्व प्रश्न-पुस्तिका और ओ.एम.आर. शीट पर दिये हुए निर्देश पढ़ें। सभी प्रविष्टियाँ नीले अथवा काले बॉल पॉइन्ट पेन से भरें।

2. प्रश्न-पुस्तिका में **100** प्रश्न हैं और सभी प्रश्न अनिवार्य हैं।

3. प्रत्येक प्रश्न **2** अंक का है। कोई नकारात्मक अंकन (**negative marking**) नहीं होगा।

4. परीक्षार्थी सुनिश्चित कर लें कि उन्हें जो प्रश्न-पुस्तिका दी गई है उसमें सभी प्रश्न अंकित हैं। त्रुटिपूर्ण प्रश्न-पुस्तिका **10** मिनट की अवधि में बदलवाई जा सकती है।

1. In the lower layers of atmosphere, what range of wavelengths of light is predominant ?
 - (A) Greater than 300 nm
 - (B) Between 100 - 300 nm
 - (C) Less than 100 nm
 - (D) All wavelengths are equally present

2. Which statement is not a description of oceans ?
 - (A) Oceans provide the least stable aquatic environment.
 - (B) Oceans absorb and hold large quantities of solar heat.
 - (C) Oceans serve as a habitat for a large number of diverse organisms.
 - (D) Oceans contain a relatively constant supply of nutrient materials and dissolved gases.

3. What do you understand by coral bleaching ?
 - (A) It represents the depressions and trenches on the ocean floors.
 - (B) It refers to the loss of algae from the corals resulting into the white coloration which is indicative of the death of corals.
 - (C) It is the accumulation and compaction of skeletons of the lime secreting organisms known as coral polyps.
 - (D) It is an abrupt change of gradient, to about 1 in 20, forming the continental slope.

4. The core of the earth is made of the mixture of :
 - (A) Silica and Nickel
 - (B) Nickel and Magnesium
 - (C) Silica and Magnesium
 - (D) Nickel and Iron

5. "The pyramid of energy is always upright" states that :
 - (A) The energy conversion efficiency of herbivores is better than carnivores
 - (B) The energy conversion efficiency of carnivores is better than herbivores
 - (C) Producers have the lowest energy conversion efficiency
 - (D) Energy conversion efficiency is the same in all trophic levels

6. The second law of thermodynamics states that :
 - (A) Heat is neither created nor destroyed
 - (B) Heat can be converted into other forms of energy
 - (C) Heat flows from a hot object to a cold one
 - (D) The mechanical equivalent of heat is the amount of energy that must be expended in order to produce heat

7. Entropy of a thermodynamic system does not change when this system is used for :
 - (A) Conduction of heat from a hot reservoir to a cold reservoir
 - (B) Conversion of heat into work isobarically
 - (C) Conversion of heat into internal energy isochorically
 - (D) Conversion of work into heat isochorically

8. Which one of the following regions separates the Great Plains of North India from the plateaus and coastal plains of the Deccan ?
 - (A) Central Highlands
 - (B) Western Himalayas
 - (C) Eastern Himalayas
 - (D) Western Arid Plains

18. Which of the following is a pair of biofertilizers ?
 (A) Salmonella and E.coli
 (B) Azolla and BGA
 (C) Rhizobium and Grasses
 (D) Nostoc and Legume
19. The type of fermentation observed in yeasts is :
 (A) Acrylic fermentation
 (B) Alcoholic fermentation
 (C) Pyruvic fermentation
 (D) Lactic acid fermentation
20. Which of the following is **not** a feature of the Eutrophic lakes ?
 (A) They are generally occupied by blooms
 (B) They have low primary productivity
 (C) They have high plant nutrient flux
 (D) They are dominated by blue green algae
21. Which of the following statement is **correct** about the National Park ?
 (A) Multipurpose protected areas to preserve genetic diversity in representative ecosystem.
 (B) A reserved area meant for preservation and development of endangered species.
 (C) A reserves area meant for preserving its natural vegetation, wildlife and natural beauty.
 (D) All of the above
22. Which is **not** the characteristic of 'r' selected species ?
 (A) Parental care
 (B) Reproduce quickly
 (C) A low survival rate of progenies
 (D) Produce a large number of progenies
23. What must be done to the solid samples for it to be introduced into the column without using solid injection syringes in gas chromatography ?
 (A) Introduced in hot-zone of the column
 (B) Introduced using sampling loops
 (C) Introduced using rotary sample valve
 (D) Dissolved in volatile liquids
24. Which of the following is the function of the Flame or Emission system in Atomic Absorption Spectroscopy ?
 (A) To split the beam into two
 (B) To break the steady light into pulsating light
 (C) To filter unwanted components
 (D) To reduce the sample into atomic state
25. Choose the **incorrect** statement from the following.
 (A) The process of decomposing the organic matter under controlled anaerobic conditions, is called sludge digestion.
 (B) Sludge digestion is carried out in sludge tank.
 (C) The gases produced in sludge digestion process, contain 75% carbon dioxide.
 (D) The gases produced in sludge digestion process, contain 75% methane.
26. Choose the experiment that simulated conditions thought to be present on the early earth.
 (A) Miller - Urey experiment
 (B) Hershey - Chase experiment
 (C) Geiger - Marsden experiment
 (D) Schiehallion experiment
27. Which of the following statements is **correct** ?
 (A) Nitrogen is the most abundant nutrient for plants
 (B) Nitrogen cycle is a sedimentary cycle
 (C) Atmosphere is the major reservoir for plants
 (D) All of the above

38. Cyclone Bulbul occurred in _____.
 (A) October, 2018
 (B) November, 2019
 (C) September, 2020
 (D) May, 2021
39. _____ is biological process through which the sewage and agricultural runoff provide nutrients to aquatic plants.
 (A) Bioaccumulation
 (B) Bioaugmentation
 (C) Eutrophication
 (D) Biooxidation
40. The audio sense is sharpest in the frequency range _____.
 (A) 2000 - 8500 Hz
 (B) 2500 - 9000 Hz
 (C) 3000 - 9000 Hz
 (D) 4000 - 8000 Hz
41. What is the optimum noise level in residential area during the day time ?
 (A) 45 dB
 (B) 55 dB
 (C) 75 dB
 (D) 65 dB
42. Acid rain is composed of mainly _____.
 (A) Nitric acid
 (B) Sulphuric acid
 (C) Both (A) and (B)
 (D) Hydrogen sulphide
43. Which category does not belong to radioactive waste ?
 (A) Uranium mining and mill tailings
 (B) Transuranic waste
 (C) Low level waste
 (D) Nitrogen mining
44. The pressure imposed on aquatic organisms is the _____.
 (A) Weight of the column above it
 (B) Weight of the atmosphere
 (C) (A) plus (B)
 (D) Weight of the organisms
45. In soil, siderophiles are associated with _____.
 (A) Iron
 (B) Sulphide minerals
 (C) Oxide
 (D) Gaseous component
46. Which of the following is not a renewable source of energy resource ?
 (A) Solar energy
 (B) Mineral oil
 (C) Tidal energy
 (D) Petroplants
47. Marble is an example of _____.
 (A) Chemical Sedimentary rock
 (B) Metamorphic rock
 (C) Igneous rock
 (D) Detrital Sedimentary rock
48. Which of the following is not a greenhouse gas ?
 (A) Carbon monoxide
 (B) Ozone
 (C) Sulphur dioxide
 (D) Nitrogen
49. The solar ponds works on the principle of _____.
 (A) Salinity gradient
 (B) Osmotic gradient
 (C) pH gradient
 (D) Oxygen gradient

63. Pesticide residue in crops enters the human bodies' through _____.
 (A) Birds only
 (B) Human food chain
 (C) Animals only
 (D) Insects only
64. The mining causes environmental damage to _____.
 (A) Groundwater contamination
 (B) Air pollution
 (C) Devegetation
 (D) All the above
65. The largest block of ice sheets on Earth is _____.
 (A) Greenland ice sheets
 (B) Himalayan ice sheets
 (C) Antarctica ice sheets
 (D) West Indies ice sheets
66. The main disadvantage of solar collectors is _____.
 (A) No solar power at night so large battery bank needed
 (B) High initial cost
 (C) Uses lots of space
 (D) All the above
67. Which is a auditory effect of noise pollution ?
 (A) Insomnia
 (B) Deafness
 (C) Annoyance
 (D) Hypertension
68. Which one of the following country first introduced environmental auditing ?
 (A) India
 (B) Australia
 (C) Sweden
 (D) USA
69. Greenhouse effect is due to :
 (A) SO_x and NO_x
 (B) CH_4
 (C) CO_2
 (D) Infra-red radiations
70. The Environmental (Protection) Act of India came into force in the year :
 (A) 1986
 (B) 2016
 (C) 1999
 (D) 1975
71. Which certificate defines environmental management system for a company or project ?
 (A) WD 751
 (B) ISO 14000
 (C) INA 369
 (D) None of above
72. In desert, average rainfall is :
 (A) 76 - 125 cm
 (B) 26 - 75 cm
 (C) 0 - 25 cm
 (D) Above 126 cm
73. Save Narmada Movement is associated with :
 (A) Baba Amte
 (B) Arundhati Roy
 (C) Medha Patkar
 (D) All of above
74. Red Data Book is published by :
 (A) ETF
 (B) UNEP
 (C) IUCN
 (D) WCED

89. Ozone depletion is associated with :
 (A) Stratosphere
 (B) Exosphere
 (C) Ionosphere
 (D) Troposphere
90. Which of the following is the permissible limit of fluoride in drinking water ?
 (A) 5 mg/l
 (B) 8 mg/l
 (C) 3 mg/l
 (D) 1.5 mg/l
91. Which one of the following test is used for testing the goodness-of-fit ?
 (A) Normal test
 (B) t test
 (C) Chi-square test
 (D) F test
92. For n attributes, the number of ultimate class frequencies is :
 (A) 3n
 (B) 3^n
 (C) 2n
 (D) 2^n
93. If the geometric mean of number 4, 6 and Z is 6, then the value of Z is :
 (A) 9
 (B) 8
 (C) 4.5
 (D) 4
94. Where was the World Summit on Sustainable Development, 2002 held ?
 (A) New Delhi
 (B) Dhaka
 (C) Johannesburg
 (D) London
95. In India, the total number of Mega diversity centre is :
 (A) 35
 (B) 12
 (C) 16
 (D) 20
96. The World Forestry Day is celebrated on :
 (A) 16 September
 (B) 25 December
 (C) 5 June
 (D) 21 March
97. The transfer of soil from one place to another is called :
 (A) Soil erosion
 (B) Soil conservation
 (C) Climate change
 (D) None of above
98. Occurrence of different species of plants and animals in an ecosystem is called :
 (A) Genetic diversity
 (B) Biological diversity
 (C) Ecological diversity
 (D) All of above
99. Which of the following is associated with Ex-situ conservation of species ?
 (A) National park
 (B) Gene bank
 (C) Habitat loss
 (D) All of above
100. The term "Oligotrophic" is used for :
 (A) Unpolluted lake
 (B) Unpolluted pond
 (C) Polluted river
 (D) Polluted dam

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