

U.G/P.G. ENTRANCE EXAMINATION, APRIL 2021

ENVIRONMENTAL SCIENCE

Time : Two Hours

Maximum : 100 Marks

*Answer all questions.**Each question carries 1 mark.**There will not be negative marking.*

1. Who is known as the Patron Saint of Ecology ?
 - A) St. Francis of Assissi.
 - B) St. Vincent de Paul.
 - C) St. Francis Sales.
 - D) St. Marcellinus.
2. Appiko movement led by :
 - A) Sunderlal Bahuguna.
 - B) Panduranga Hegde.
 - C) Chandi Prasad Bhatt.
 - D) MedhaPatkar.
3. International day for Biodiversity is on :
 - A) March 22.
 - B) April 21.
 - C) May 22.
 - D) June 5.
4. Lianas are _____.
 - A) An invasive insect.
 - B) An epidemic of West Africa.
 - C) Genetically modified potato.
 - D) Woody vines.
5. *Nasikabatrachus sahyadrensis* is the scientific name of :
 - A) Frog mouth bird.
 - B) A new plant species from Western Ghats.
 - C) Purple frog.
 - D) A new butterfly species from Western Ghats.
6. How many Ramsar sites in India ?
 - A) 19.
 - B) 42.
 - C) 24.
 - D) 39.
7. Pygmi elephants are found in :
 - A) Thailand.
 - B) Borneo.
 - C) Indonesia.
 - D) Sri Lanka.

Turn over

8. Which of the following Environmentalists first gave the concept of Biodiversity 'hotspots' ?
- A) Gaylord Nelson. B) Norman Myers.
C) John Muir. D) Rachael Carson.
9. Aichi target is related to :
- A) Poverty eradication. B) Biodiversity.
C) Climate change. D) Polar environment.
10. Which of the following is not an abiotic factor ?
- A) Water. B) Soil.
C) Temperature. D) Bacteria.
11. Which of the following is not a primary pollutant ?
- A) Methane. B) Sulphur dioxide.
C) Ozone. D) Benzene.
12. Marble is an example of :
- A) Igneous rock. B) Metamorphic rock.
C) Sedimentary rock. D) None of the above.
13. Name the chemical that contributes to photochemical smog :
- A) NO₂. B) NO₃.
C) SO₃. D) SO₂.
14. Which one of the following is the 'east flowing river' ?
- A) Chalakkudy. B) Periyar.
C) Bhavani. D) Kallada.
15. Third generation biofuels are derived from :
- A) Pongamia. B) Jatropha.
C) Animal fat. D) Algae.
16. Dobson unit is a measure of concentration of :
- A) PAN. B) CFC.
C) Ozone. D) PAH.

17. The level of noise that can be tolerated by human ear :
- A) 120.
 - B) 60.
 - C) 80.
 - D) 100.
18. Plumbism results due to the heavy metal :
- A) Lead.
 - B) Iron.
 - C) Copper.
 - D) Cadmium.
19. Select the false statement :
- A) Rainwater contains pollens.
 - B) Rainwater contains dust.
 - C) Rainwater is acidic in nature.
 - D) Rainwater contains essential minerals.
20. The set of biotic and abiotic conditions in which a species is able to persist and maintain stable population sizes is known as :
- A) Ecological niche.
 - B) Habitat.
 - C) Community.
 - D) Ecotone.
21. Extremophiles are _____.
- A) Living in the extreme environment.
 - B) Living near to the water streams.
 - C) A special type of phyllotaxy.
 - D) Ecotones between salt and fresh water.
22. Pneumatophores are seen in :
- A) Coniferous trees.
 - B) Marine microalgae.
 - C) Mangroves.
 - D) Sequoia trees.
23. King Cobra belongs to the category :
- A) Vulnerable.
 - B) Endangered.
 - C) Near threatened.
 - D) Least concern.
24. As per CPCB standards, the quality of outdoor bathing water should be :
- A) Total Coliforms (MPN/100ml) shall be 100 or less; pH between 6.5 and 8; Dissolved Oxygen 4mg/l or more and BOD 10 mg/l or less.
 - B) Total Coliforms (MPN/100ml) shall be 200 or less; pH between 4 and 8; Dissolved Oxygen 5mg/l or more and BOD 20mg/l or less.
 - C) Total Coliforms (MPN/100ml) shall be 500 or less; pH between 6.5 and 8.5; Dissolved Oxygen 5mg/l or more and BOD mg/l or less.
 - D) Total Coliforms (MPN/100ml) shall be 1000 or less; pH between 4 and 8; Dissolved Oxygen 3mg/l or more and BOD 10mg/l or less.

Turn over

25. Which among the following multilateral convention seeks to protect the human health and environment from Persistent Organic Pollutants (POPs) ?
- A) Bonn Convention. B) Stockholm Convention.
C) Rotterdam Convention. D) Basel Convention.
26. Expand OTEC :
- A) Ocean Thermal Energy Conversion.
B) Oil Trading and Exploring countries.
C) Ocean Trophic Element composition.
D) Oceanic Thermal Energy Cooperation.
27. Naturally occurring radioactive element :
- A) Uranium - 235. B) Plutonium 241.
C) Uranium 445. D) Thorium - 432.
28. Which of the following is a clean energy source ?
- A) Unleaded petrol. B) Methane gas.
C) Hydrogen. D) CNG.
29. The Great Green wall initiative is at
- A) China. B) India.
C) Africa. D) Brazil.
30. Hot springs are also known as :
- A) Geothermal springs. B) Pot hole springs.
C) Mountain springs. D) Rock water springs.
31. As per Indian Standard, the standard value for fluoride in drinking water is _____.
- A) 1g/l. B) 1 mg/l.
C) 0.1 mg/l. D) 0.01 mg/l.
32. Which chemical is responsible for Minamata disease ?
- A) Mercury. B) Lead.
C) Endosulfan. D) DDT.
33. World Wetlands Day is on :
- A) March 22. B) December 2.
C) February 2. D) May 22.

34. Solar constant is :
- A) The rate at which energy reaches the earth's surface from the sun.
 - B) The scattering of light in the atmosphere with respect to cloud intensity.
 - C) The rate of reflectance of solar light.
 - D) The rate of nuclear fusion reaction in the sun.
35. A solar cell is a _____.
- A) P type semi conductor.
 - B) N type semi conductor.
 - C) Intrinsic semiconductor.
 - D) P-N Junction.
36. Flame photometry can be used for the determination of :
- A) Potassium.
 - B) Pesticide residues.
 - C) Chlorine.
 - D) Mercury.
37. Which is not a persistent pollutant ?
- A) DDT.
 - B) Endrin.
 - C) Nitrate.
 - D) PCBs.
38. Expansion of COD is :
- A) Chemical oxygen demand.
 - B) Corrosion oxidation damage.
 - C) Chemical oxidation damage.
 - D) Chlorophyll Oxygen demand.
39. The main constituent of Marsh gas is :
- A) Oxygen.
 - B) Sulphur dioxide.
 - C) Methane.
 - D) Carbon monoxide.
40. The lowest concentration of an antimicrobial agent that prevents visible growth of a microorganism is known as :
- A) MIC.
 - B) LCM.
 - C) LCA.
 - D) LD₅₀.
41. Remote sensing techniques make use of the properties :
- A) Sound waves.
 - B) Electric waves.
 - C) Electromagnetic waves.
 - D) None of the above.
42. GIS uses the information from — sources :
- A) Global information System.
 - B) Spatial information System.
 - C) Non Spatial information System.
 - D) Position Information System.

Turn over

Part B

*Answer any ten questions.
Each question carries 5 marks.*

51. Discuss about the ecological adaptations of plants with suitable examples.
52. Explain about the formation of photochemical smog and its impacts.
53. 'Plastic contamination is like a boomerang'. Explain how ?
54. Explain about biomass energy with its advantages and disadvantages.
55. Briefly explain about the X ray fluorescence with its environmental applications.
56. Discuss about climate change and its environmental impacts.
57. Compare the various methods for food preservation.
58. Critically analyse the use of remote sensing and GIS in disaster management.
59. Briefly explain about Radioactive pollution and its management.
60. Explain the role of microbes in biogeochemical cycles.
61. Briefly explain about various secondary water treatment methods.
62. Discuss the relevance of EIA in environment management.
63. Explain about various environmental laws in India.

(10 × 5 = 50 marks)