

**SET 2013**  
**PAPER – II**

**ENVIRONMENTAL SCIENCE**

Signature of the Invigilator

Question Booklet No. ....

1.

OMR Sheet No.. ....

**Subject Code**

**ROLL No.**

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**Time Allowed : 75 Minutes**

**Max. Marks : 100**

**No. of pages in this Booklet : 8**

**No. of Questions : 50**

**INSTRUCTIONS FOR CANDIDATES**

1. Write your Roll No and the OMR Sheet No in the spaces provided on top of this page.
2. Fill in the necessary information in the spaces provided on the OMR response sheet.
3. This booklet consists of fifty (50) compulsory questions each carrying 2 marks.
4. Examine the question booklet carefully and tally the number of pages/questions in the booklet with the information printed above. **Do not accept a damaged or open booklet.** Damaged or faulty booklet may be got replaced within the first 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time given.
5. Each Question has four alternative responses marked (A), (B), (C) and (D) in the OMR sheet. You have to completely darken the circle indicating the most appropriate response against each item as in the illustration.



6. All entries in the common OMR response sheet for Papers I and II are to be recorded in the original copy only.
7. Use only Blue/Black Ball point pen.
8. Rough Work is to be done on the blank pages provided at the end of this booklet.
9. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Sheet, except in the spaces allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, you will render yourself liable to disqualification.
10. You have to return the Original OMR Sheet to the invigilators at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. **You are, however, allowed to carry the test booklet and the duplicate copy of OMR Sheet** on conclusion of examination.
11. Use of any calculator, mobile phone or log table etc. is strictly prohibited.
12. **There is no negative marking.**

**16-13**

**ENVIRONMENTAL SCIENCE**  
**PAPER – II**

**Note:** This paper contains **fifty (50)** objective type questions; each question carrying **two (2)** marks.

Attempt **all** the questions.

1. The rate of photosynthesis is greater in :  
(A) Infra-red region  
(B) Ultraviolet region  
(C) Visible region  
(D) Both infra-red and ultraviolet regions
2. Which one of the following cycles is a sedimentary cycle ?  
(A) Oxygen cycle  
(B) Sulphur cycle  
(C) Nitrogen cycle  
(D) Carbon cycle
3. The vermiculture technology involves the use of :  
(A) Nitrogen fixers  
(B) Mushroom fungi  
(C) Vermicelli  
(D) Earthworm
4. The energy flow in organisms is :  
(A) Cyclic  
(B) Radiant  
(C) Unidirectional  
(D) None of the above
5. Natural pollutant in groundwater is :  
(A) Zinc  
(B) Mercury  
(C) Arsenic  
(D) Sulphur
6. Which of the following is the correct food chain ?  
(A) Algae → Daphnia → Dragon Fly Nymph → Newt → Grass snake  
(B) Daphnia → Dragon Fly Nymph → Newt → Algae → Grass Snake  
(C) Grass Snake → Newt → Dragon Fly Nymph → Daphnia → Algae  
(D) Newt → Grass Snake → Dragon Fly Nymph → Algae → Daphnia
7. pOH of 0.01 M  $\text{HNO}_3$  is :  
(A) 0.001  
(B) 12  
(C) 10  
(D) 11
8. Great Himalayan National Park is located in :  
(A) Himachal Pradesh  
(B) Jammu and Kashmir  
(C) Arunachal Pradesh  
(D) Sikkim
9. Planet Earth is considered to be a :  
(A) Microcosm  
(B) Mesocosm  
(C) Macrocosm  
(D) None of the above
10. Maximum reproductive capacity of an organism is termed as :  
(A) Biotic potential  
(B) Carrying capacity  
(C) Fecundity  
(D) Natality

11. Pattern of distribution that will occur when environment is uniform :
- Random
  - Regular
  - Clumped
  - Regular clumped
12. The leader of Chipko movement in Advani village in Tehri-Garhwal :
- L.K. Advani
  - Sunderlal Bahuguna
  - Baba Amte
  - Arundhati Roy
13. Photovoltaic cells are made of :
- Aluminium and Copper
  - Iron
  - Semiconductors
  - Tin
14. Highest level of genetic diversity is found in :
- Coniferous forest
  - Grassland
  - Tropical rain forest
  - Temperate forest
15. The equation that corresponds to a fossil fuel combustion is :
- Carbon monoxide + nitrogen monoxide  $\rightarrow$  carbon dioxide + nitrogen
  - Glucose + oxygen  $\rightarrow$  water + carbon dioxide
  - Hydrocarbon + oxygen  $\rightarrow$  water + carbon dioxide
  - Water + carbon dioxide  $\rightarrow$  glucose + oxygen
16. Which one of the following is used for the rapid treatment of lakes which are too acidic for most aquatic life ?
- Sand grains
  - Powdered lime
  - Marble chips
  - Peat
17. Dark solid pollutant produced due to incomplete combustion of a fossil fuel is :
- Sulphur
  - Carbon
  - Phosphorus
  - Nitrogen
18. An igneous rock that is formed from molten magma cooling slowly in the Earth's crust :
- Granite
  - Schist
  - Marble
  - Mudstone
19. Which of the following is a unit of distance ?
- Kg
  - C
  - Km
  - G
20. Plants, which grow in saline soil/water, are called :
- Xeromorphic
  - Halophytes
  - Heliophytes
  - Xerophytes
21. Which one of the following is used as indicator of water quality ?
- Escherichia*
  - Clostridium*
  - Nostoc*
  - Chlorella*
22. Which of these is a weed in many protected forests of India ?
- Lantana
  - Water hyacinth
  - Ficus
  - Azolla

23. Dr Salim Ali, India's well known ornithologist, was associated with which of these organizations for much of his career and which he helped to develop ?  
 (A) Bombay Natural History Society (BNHS)  
 (B) World Wide Fund for nature (WWF)  
 (C) Salim Ali Center for Ornithology & Natural History (SACON)  
 (D) Wildlife Institute of India (WII)
24. What is the most abundant anion in river water ?  
 (A)  $\text{Cl}^-$   
 (B)  $\text{SO}_4^{2-}$   
 (C)  $\text{CO}_3^{2-}$   
 (D)  $\text{NO}_3^-$
25. Banana plant is a :  
 (A) Herb  
 (B) Shrub  
 (C) Tree  
 (D) None of the above
26. Which one of the following is an endangered bird ?  
 (A) Great Indian Bustard  
 (B) Rosy pastor  
 (C) Indian Pond Heron  
 (D) Western reef Heron
27. Which of the following atmospheric gases prevents the most UV radiation from reaching the Earth's surface ?  
 (A) Stratospheric carbon dioxide  
 (B) Tropospheric ozone  
 (C) Stratospheric ozone  
 (D) Tropospheric carbon dioxide
28. pH of a solution of sodium bicarbonate will be :  
 (A) Equal to 7  
 (B) More than 7  
 (C) Less than 7  
 (D) Very very low
29. How is the adaptation of needle-like leaves an advantage for coniferous plants ?  
 (A) Needles protect trees from consumers  
 (B) Needles help the trees conserve water  
 (C) Needles absorb water from the snow  
 (D) Needles help to reduce acid rain
30. Processes that remove inorganic nutrients, such as phosphate from waste water are considered :  
 (A) Primary treatment  
 (B) Tertiary treatment  
 (C) Secondary treatment  
 (D) None of the above
31. *Nitrobacter* oxidizes :  
 (A) Ammonia to nitrate  
 (B) Nitrate to nitrate  
 (C) Ammonia to nitrogen  
 (D) Nitrite to nitrate
32. Which one of the following do not release  $\text{O}_2$  during photosynthesis ?  
 (A) Green sulphur bacteria  
 (B) Cycas  
 (C) Cyanobacteria  
 (D) Red algae
33. Paleontology deals with the study of :  
 (A) Human brain  
 (B) Birds  
 (C) Chromosomes  
 (D) None of the above
34. Malaria is caused by :  
 (A) *Plasmodium vivax*  
 (B) *Plasmodium falciparum*  
 (C) *Plasmodium ovale*  
 (D) *Plasmodium knowlesi*

35. Organism occupying same ecological niche in different geographic regions are :
- Ecotypes
  - Ecads
  - Ecophenes
  - Ecological equivalents
36. Importance Value Index (IVI) includes which one of the following characters :
- Relative density
  - Relative frequency
  - Relative dominance
  - All of the above
37. Correct sequence of events occurring during succession is :
- Nudation → Invasion → Aggregation → Ecesis → Stabilisation
  - Nudation → Invasion → Ecesis → Aggregation → Stabilisation
  - Invasion → Nudation → Ecesis → Aggregation → Stabilisation
  - Nudation → Ecesis → Invasion → Aggregation → Stabilisation
38. Walkely and Black method is used for determination of :
- Soil Organic matter
  - Phosphorus in soil
  - Nitrogen in soil
  - Phenolics in soil
39. Which of the following trees which was once popular in social forestry has now turned out to be an ecological threat ?
- Acacia* species
  - Eucalyptus*
  - Bamboo
  - Neem
40. Which one of the following is related to wetland conservation ?
- Vienna convention
  - Ramsar convention
  - Convention on biological diversity
  - UN framework convention on climate change
41. Total alkalinity of water can be determined by :
- Phenolphthalein
  - Methyl orange
  - Coomassie brilliant blue
  - Trypan blue
42. The material that accounts for the greatest percentage of weight of solid waste is :
- Food waste
  - Plastic
  - Paper
  - Yard waste
43. Color code for biomedical waste to be autoclaved and disinfected is :
- Blue/white
  - Black
  - Red
  - Yellow
44. Following is not recommended for management of plastic waste :
- Incineration
  - Autoclave
  - Deep burial
  - All of the above
45. Battelle Environment Evaluation System is based on baseline data on how many environmental factors ?
- 78
  - 90
  - 100
  - 58

46. In India, an Environmental Impact Assessment report of a proposed mining project after environmental clearance is applicable for a maximal period of how many years ?
- (A) 5
  - (B) 10
  - (C) 30
  - (D) 2
47. Earthquake waves in which particles follow an elliptical path in the direction of propagation and partly in the vertical plane are known as :
- (A) Primary waves
  - (B) Secondary waves
  - (C) Rayleigh waves
  - (D) Love waves
48. An element in soil will be considered as a trace element if its concentration is :
- (A) 1 to 2 wt%
  - (B) <0.1 wt%
  - (C) >2 wt%
  - (D) <1wt%
49. El Nino and La Nina are the most powerful phenomena on the earth and alter the climate across more than half the planet. About what proportion La Nina occurs as often as El Nino ?
- (A) Half
  - (B) One third
  - (C) Twice
  - (D) Two third
50. Protection and improvement of the environment and safeguarding forests and wildlife is :
- (A) A fundamental right
  - (B) One of the Directive Principles of State Policy
  - (C) One of the Fundamental Duties
  - (D) Both one of the Directive Principles of State Policy and one of the Fundamental Duties

## **ROUGH WORK**

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