

SET 2016
PAPER – II

ENVIRONMENTAL SCIENCE

Signature of the Invigilator

Question Booklet No. **160226**.....

1.

OMR Sheet No.

Subject Code **16**

Roll No.

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.

(A) (B) (C) (D)
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.**

SEAL

PAPER-II
ENVIRONMENTAL SCIENCE

1. Three common gases in air are oxygen, nitrogen and carbon dioxide. Their order, from greatest to least percentage by volume is :
- (A) Carbon dioxide, oxygen, nitrogen
 - (B) Nitrogen, carbon dioxide, oxygen
 - (C) Nitrogen, oxygen, carbon dioxide
 - (D) Oxygen, nitrogen, carbon dioxide
2. Which is used to treat soil which is too alkaline ?
- (A) Lime
 - (B) Marble
 - (C) Peat
 - (D) Sand
3. Which one of the following is a secondary pollutant ?
- (A) PAN
 - (B) SO₂
 - (C) CO
 - (D) CH₄
4. Hard water contains large amounts of :
- (A) Lead
 - (B) Sodium
 - (C) Calcium
 - (D) Silicon
5. Which of the following materials has the lowest porosity ?
- (A) Shale
 - (B) Gravel
 - (C) Granite
 - (D) Sandstone
6. Which naturally occurring radioactive particles are negatively charged ?
- (A) Alpha particles
 - (B) Beta particles
 - (C) Gamma radiation
 - (D) Neutrons
7. The harmful gas that is reduced in car exhaust emissions by using a catalytic converter :
- (A) Carbon dioxide
 - (B) Nitrogen oxide
 - (C) Nitrogen
 - (D) Hydrogen sulphide
8. Most of the world's biodiversity is found in :
- (A) Temperate deciduous forests
 - (B) Tropical rain forests
 - (C) Savanna
 - (D) Tundra
9. Which material accounts for greatest percentage of solid waste ?
- (A) Food waste
 - (B) Wood
 - (C) Paper
 - (D) Plastic
10. Diversity within an area or ecosystem is :
- (A) Alpha
 - (B) Gamma
 - (C) Beta
 - (D) None of the above

SEAL

11. Which of the following is used to treat aquatic bodies that are too acidic for sustaining aquatic life ?
- Sand grains
 - Powdered lime
 - Marble chips
 - Peat
12. Discharge of industrial wastewater will not lead to :
- Depletion of dissolved oxygen
 - Loss of aquatic flora and fauna
 - Change in climate
 - Eutrophication
13. Needle-stick injuries can not lead to transmission of :
- Hepatitis B
 - HIV
 - Tetanus
 - Dysentery
14. Which of the following is not a vector borne disease ?
- Rabies
 - Plague
 - Malaria
 - Hepatitis B
15. Which of the following principles do not account for efficient waste management ?
- Reuse
 - Recycle
 - Refuse
 - Reduce
16. When rainwater will fall over limestone rock :
- pH will rise from 5.5 to 8
 - pH will rise from 3 to 7
 - pH will decrease from 5.5 to 3
 - pH will decrease from 7 to 5.5
17. The permissible limit for sulfate in domestic water supplies is :
- 100 mg/l
 - 400 mg/l
 - 200 mg/l
 - 300 mg/l
18. Protection and improvement of the environment and safeguarding forests and wildlife is :
- A fundamental right
 - One of the Directive Principles of State Policy
 - One of the Fundamental Duties
 - Both one of the Directive Principles of State Policy and one of the Fundamental Duties
19. Which of the following is not an isotope of hydrogen ?
- Protium (H^1)
 - Deuterium (H^2)
 - Tritium (H^3)
 - Plutonium
20. Constants that determine the normal distribution curve are :
- Standard error and standard deviation
 - Mean and standard deviation
 - Standard error and mean
 - Variance
21. Which among the following is most abundant in atmosphere ?
- CO_2
 - Argon
 - Sulphur dioxide
 - Methane

22. Which among the following is most abundant on earth's crust ?
(A) Iron
(B) Aluminium
(C) Calcium
(D) Potassium
23. Which one of the following is widely used to introduce genes into plants ?
(A) *Agrobacterium tumefaciens*
(B) *Bacillus thuringensis*
(C) *Escherichia coli*
(D) *Xanthomonas oryzae*
24. Which of the following is not megadiverse country ?
(A) China
(B) Spain
(C) Ecuador
(D) South Africa
25. If the mean is 60 and standard deviation is 10, the coefficient of variation is :
(A) 60%
(B) 16.7%
(C) 6%
(D) 30%
26. *Nitrobacter* and *Nitrosomonas* convert :
(A) Carbon dioxide into carbohydrates
(B) Ammonium ions into nitrates
(C) Nitrate ions into nitrogen molecule
(D) Nitrogen into nitrates
27. Approximate surface temperature of Sun (blackbody radiator) is :
(A) 580 K
(B) 780 K
(C) 1580 K
(D) 5780 K
28. Namdapha national park is present in :
(A) Nagaland
(B) Sikkim
(C) Mizoram
(D) Arunachal Pradesh
29. Apikko movement was aimed to save :
(A) Animals
(B) Trees
(C) Birds
(D) Rivers
30. Fundamental difference between energy and matter is :
(A) Energy is cycled through ecosystem but matter is not
(B) Matter is cycled through ecosystem but energy is not
(C) Energy can be converted into matter but matter can not be converted into energy
(D) Matter can be converted into energy but energy can not be converted into matter

31. Which one of the following initiatives come under International efforts made to have household eco-friendly refrigerators ?
- (A) Basel Convention
 - (B) Kyoto Protocol
 - (C) Stockholm Convention
 - (D) Montreal Protocol
32. Which of the following is not true about K-selected species ?
- (A) They produce few but larger offsprings
 - (B) They have low population growth rate
 - (C) They have low ability to compete
 - (D) They are late successional species
33. Skin cancer is caused mainly by :
- (A) UV-A
 - (B) UV-B
 - (C) UV-C
 - (D) Infra red radiation
34. Anthracite is a :
- (A) Metamorphic rock
 - (B) Igneous rock
 - (C) Sedimentary rock
 - (D) None of the above
35. *Saccharomyces cerevisiae* is used in the industrial production of:
- (A) Butanol
 - (B) Citric acid
 - (C) Tetracyclin
 - (D) Ethanol
36. Plant species having a wide range of genetical distribution evolve into a local population known as :
- (A) Biome
 - (B) Ecosystem
 - (C) Ecotype
 - (D) Community
37. 5th June is observed as :
- (A) World Conservation Day
 - (B) World Environment Day
 - (C) World Forest Day
 - (D) World Wildlife Day
38. Unit of noise measured using sound meter is :
- (A) Hertz
 - (B) Decibel
 - (C) Joule
 - (D) Watts
39. Carbon monoxide is a pollutant because it :
- (A) Inhibits glycolysis
 - (B) Reacts with oxygen
 - (C) Inhibits role of haemoglobin
 - (D) Inhibits activity of superoxide dismutase
40. Basic unit of nucleic acid :
- (A) Amino acid
 - (B) Fatty acid
 - (C) Nucleoside
 - (D) Nucleotide

41. In ELISA technique, the antibodies are labeled by :
- Acridine orange
 - Bromothymol blue
 - Neutral red
 - Peroxidase
42. Causative organism of whooping cough is :
- Bordetella pertussis*
 - Bordetella parapertussis*
 - Bordetella bronchiseptica*
 - None of these
43. The procedure used to measure the size of an earthquake was developed by :
- Charles Darwin
 - Charles Richter
 - Edward Sheridan
 - James Hutton
44. Which is the reason for highest biomass in aquatic ecosystem ?
- Benthonic and brown algae
 - Sea grass, and slime molds
 - Diatoms
 - Nanoplankton, blue green algae, green algae
45. Bacterial resistance to antibiotics is transmitted by :
- Transduction
 - Transformation
 - Mutation
 - Plasmids
46. Most water (in biosphere) evaporates from :
- Trees
 - Grasses
 - Rivers
 - Oceans
47. Following test of significance will be used when more than two groups are to be compared :
- t-test
 - Chi-square test
 - Z-test
 - Standard error of mean
48. Which of the following competitions is severe ?
- Intra specific
 - Inter specific
 - Inter generic
 - Extra specific
49. Large Woody Vines are more commonly found in :
- Alpine forests
 - Mangroves
 - Temperate forests
 - Tropical rainforests
50. Association between sea Anemone and Hermit crab in gastropod shell is :
- Amensalism
 - Commensalism
 - Parasitism
 - Symbiosis