

ENVIRONMENTAL SCIENCE**Paper II****Time Allowed : 75 Minutes]****[Maximum Marks : 100****Note :** This Paper contains **Fifty (50)** multiple choice questions. Each question carries **Two (2)** marks. Attempt *All* questions.

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| <p>1. Synoptic scale in meteorology generally refers to weather systems having spatial extents of :</p> <p>(A) 10 to 100 km</p> <p>(B) > 10,000 km</p> <p>(C) ~ 1000 km</p> <p>(D) 100 to 200 km</p> <p>2. Maximum concentration of ozone exists in :</p> <p>(A) stratosphere</p> <p>(B) troposphere</p> <p>(C) mesosphere</p> <p>(D) thermosphere</p> <p>3. The first Indian biosphere reserve was :</p> <p>(A) Sundarbans</p> <p>(B) Nilgiri</p> <p>(C) Nanda Devi</p> <p>(D) Kaziranga</p> | <p>4. In a closed ecosystem :</p> <p>(A) Energy is not allowed to flow across its boundary</p> <p>(B) Energy and matter are not allowed to flow across its the boundary</p> <p>(C) Energy is not allowed to flow but matter is allowed to flow across its boundary</p> <p>(D) Energy is allowed to flow but matter in not allowed to flow across its boundary</p> <p>5. Among the following, identify the coagulant :</p> <p>(A) $\text{Fe}_2(\text{SO}_4)_3$</p> <p>(B) CaO</p> <p>(C) Alum</p> <p>(D) Polyelectrolyte</p> |
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[P.T.O.]

6. Which technique is a non-destructive technique for analysing the environmental samples ?
- (A) XRF
(B) AAS
(C) GC(FID)
(D) ICP-AES
7. When lead levels in blood increase beyond 0.8 ppm, the system to which disease is noticed first ?
- (A) Azoospermia
(B) Dermatitis
(C) Anaemia
(D) Mottled teeth
8. The major oxidant found in polluted atmosphere during the day is :
- (A) NO_2
(B) PAN
(C) O_3
(D) NO
9. The residence time of Methane (CH_4) is approximately :
- (A) 4 days
(B) 10 days
(C) 10 months
(D) 3.5 years
10. COD is always :
- (A) equal to BOD
(B) \geq BOD
(C) $<$ BOD
(D) 1.8 times of BOD
11. Which of the following is a commercial source of resin ?
- (A) Rubber
(B) Babool
(C) Hirda
(D) Subabool
12. Which of the following is a beneficial interaction ?
- (A) Antagonism
(B) Parasitism
(C) Competition
(D) Mutualism
13. If population of a species has rapidly reduced in the recent past, it is called.....species :
- (A) endangered
(B) Threatened
(C) Extinct
(D) Rare

14. Which of the following organisms is nitrogen fixer ?
- (A) Azotobacter
 - (B) Rhizobium
 - (C) Anabaena
 - (D) Azospirillum
15. Which of the following is odd for plant growth promotion by Azotobacter chroococcum ?
- (A) Plant growth hormones
 - (B) Biocontrol
 - (C) Nitrogen fixation
 - (D) Parasitism
16. Earthquakes are associated with body and surface waves which a monitoring station receives in the following order :
- (A) Rayleigh wave, P-wave, S-wave
 - (B) S-wave, P-wave, love wave
 - (C) P-wave, S-wave, Rayleigh wave
 - (D) Love wave, Rayleigh wave, P-wave
17. Sea water contains many dissolved compounds in which most predominant basic element is :
- (A) Potassium
 - (B) Calcium
 - (C) Sodium
 - (D) Magnesium
18. Maximum intensity of terrestrial radiations emitted by earth is around wavelength :
- (A) ~ 5.4 μm
 - (B) ~ 18 μm
 - (C) ~ 13.6 μm
 - (D) ~ 9.6 μm
19. Marine pollution is mostly caused in the open ocean due to :
- (A) Oil spills
 - (B) River discharge
 - (C) Coastal industries
 - (D) Municipal waste water discharge

20. Avalanches are more common in India over :
- (A) Western Ghats
 - (B) Himachal Pradesh
 - (C) Eastern Ghats
 - (D) Khasi and Jantia Hills
21. The optimum range of wind speed for wind power generation is :
- (A) ~ 4 to 12 m/sec
 - (B) ~ 15 to 25 m/sec
 - (C) ~ 1 to 5 m/sec
 - (D) ~ 30 to 35 m/sec
22. In a PV cell electron hole pairs are created mainly in :
- (A) *p*-region
 - (B) *n*-region
 - (C) *p-n* junction
 - (D) both *p* and *n* regions
23. In an ideal MHD power plant the output electrical power varies with magnetic field *B* as proportional to :
- (A) *B*
 - (B) B^2
 - (C) $B^{3/2}$
 - (D) $B^{1/2}$
24. Hydroelectric power generation accounts for nearly.....% energy generated in India :
- (A) 5%
 - (B) 15%
 - (C) 30%
 - (D) 40%
25. Biofuels are now being increasingly used as these are :
- (A) less polluting and renewable
 - (B) more affordable
 - (C) having more energy content
 - (D) more water efficient

26. Which of the following constitute floatable solids ?
- (A) Proteins
 - (B) Polysaccharides
 - (C) Lipids
 - (D) Nucleic acid
27. Which of the following scientists developed enrichment culture technique ?
- (A) Winogradsky
 - (B) Alexander
 - (C) Robert Koch
 - (D) Beijerinck
28. Which of the following is indicator of microbial quality of water ?
- (A) *E. coli*
 - (B) Azotobacter
 - (C) Rhizobium
 - (D) Bacillus
29. Recycling of waste means :
- (A) Reuse of waste
 - (B) Recovery of valuable products
 - (C) Reduction of waste
 - (D) Converting waste into valuable products
30. Classic or criteria pollutants of air include :
- (A) SPM, CO, NO₂, SO₂
 - (B) CO, HC, NO₂, PAN
 - (C) NO₂, O₃
 - (D) SPM, Benzene, O₃, PAN
31. In which component of EIA the proposed mitigation measures and monitoring scheme are cited ?
- (A) Environmental setting
 - (B) Environmental management plan
 - (C) Prediction of impacts
 - (D) Identification of impacts

32. Title II of National Environmental Policy Act (NEPA) establishes :
- (A) National goal of Environmental Policy
 - (B) Council for Environmental Quality
 - (C) Protection of Natural Resources
 - (D) EIA and EIS
33. An environmental inventory for EIA is :
- (A) Description of affected environment
 - (B) Description of total environment
 - (C) Description of partial environment
 - (D) Description of a specific environment
34. The impact identification process in EIA brings together :
- (A) Baseline information and project characteristics
 - (B) Impacts and project characteristics
 - (C) Impacts and baseline information
 - (D) Cost and project characteristics
35. The environmental impacts of policy, plan or program are evaluated by :
- (A) Comprehensive Environmental Impact Assessment
 - (B) Strategic Environmental Impact Assessment
 - (C) Social Impact Assessment
 - (D) Draft Environmental Impact Assessment
36. Wildlife Protection Act, 1972 was amended in the year :
- (A) 1991
 - (B) 1995
 - (C) 1990
 - (D) 1985
37. Which of the following solids are filterable ?
- (A) Mixed liquor suspended solids (MLSS)
 - (B) Dissolved solids (DS)
 - (C) Total solids (TS)
 - (D) Sludge

38. Biomedical waste is hazardous due to the presence of :
- (A) Cellulosic matter
 - (B) Waste food
 - (C) Pathogens
 - (D) Fruit wastes
39. Under Public Insurance Liability Act, the maximum amount which could be paid to the victims by the concerned company/industry is equal to :
- (A) Rs 1 lac
 - (B) Rs 5 lac
 - (C) Paid up equity capital of the company/industry
 - (D) 50% of paid up equity capital of the company/industry
40. Which of the following waste treatment methods is an example of Recycling ?
- (A) Stabilization of waste
 - (B) Converting waste into useful biomass
 - (C) Burning waste
 - (D) Lagooning waste
41. The null hypothesis pertaining to all the regression coefficients simultaneously is tested using :
- (A) t -statistic
 - (B) f -statistic
 - (C) Chi-square statistic
 - (D) z -statistic
42. The geometric mean of the data series 2, 3, 6, 36 is..... .
- (A) ~ 12
 - (B) 6
 - (C) 18
 - (D) 10.5
43. Which of the following represents population parameters ?
- (A) \bar{x}
 - (B) s
 - (C) μ
 - (D) s^2
44. Which is the suitable technique to establish the association between human health status in a village and quality of drinking water ?
- (A) Chi-square test
 - (B) Correlation analysis
 - (C) K-S test
 - (D) t -test

45. The level of significance in multiple regression models is usually taken as..... .
- (A) 5%
 - (B) 20%
 - (C) 2%
 - (D) 10%
46. Annex I countries account for nearly.....% of global CO₂ emissions :
- (A) 85
 - (B) 65
 - (C) 55
 - (D) 45
47. The cause of eutrophication is :
- (A) Discharge of nutrient rich effluent
 - (B) Discharge of metal rich effluent
 - (C) Discharge of Organic matter rich effluent
 - (D) Discharge water from power plants
48. The present installed capacity of electricity in our country is about :
- (A) 10% of global capacity
 - (B) 15% of global capacity
 - (C) 3% of global capacity
 - (D) 12% of global capacity
49. In the recently held Cancun Summit the UN member states committed themselves to restrict the rise of global surface temperature to a maximum ofby 2050 :
- (A) 1°C
 - (B) 2°C
 - (C) 3°C
 - (D) 4°C
50. The Montreal protocol on substances that deplete the ozone layer was approved in :
- (A) 1980
 - (B) 1990
 - (C) 1987
 - (D) 1975

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