

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