

## Environmental Science Paper II

**Time Allowed : 75 Minutes]**

**[Maximum Marks : 100**

**Note :** This Paper contains Fifty (50) multiple choice questions, each question carrying Two (2) marks. Attempt *All* questions.

- 
- |  |  |
|--|--|
| <p>1. In terms of concentration by volume, which of the following gases is more abundant in atmosphere :</p> <p>(A) Ar</p> <p>(B) CO<sub>2</sub></p> <p>(C) NO<sub>2</sub></p> <p>(D) CH<sub>4</sub></p> | <p>4. Trade winds are found :</p> <p>(A) between pole and 30° latitude</p> <p>(B) between pole and 60° latitude</p> <p>(C) between equator and 30° latitude</p> <p>(D) between 30° and 60° latitudes</p> |
| <p>2. Primary climatic zones are formed on the basis of :</p> <p>(A) Temperature and rainfall</p> <p>(B) Relative humidity</p> <p>(C) Range of temperature</p> <p>(D) Rainfall</p>                       | <p>5. The most commonly used method for desalination/desalting of water is :</p> <p>(A) distillation</p> <p>(B) electro dialysis</p> <p>(C) flash evaporation</p> <p>(D) reverse osmosis</p>             |
| <p>3. The average value of solar insolation (W/m<sup>2</sup>) at the earth's surface is :</p> <p>(A) ~ 550</p> <p>(B) ~ 250</p> <p>(C) ~ 350</p> <p>(D) ~ 1450</p>                                       | <p>6. The biggest source of hydrocarbons in the atmosphere is :</p> <p>(A) petroleum burning</p> <p>(B) coal consumption</p> <p>(C) refuse burning</p> <p>(D) wood burning</p>                           |
- 

P.T.O.

7. Iodometry titration is used in estimation of :
- (A) Total hardness
  - (B) Dissolved oxygen
  - (C) COD
  - (D) Chlorides
8. Hollow cathode lamp is used in which of the following analytical instruments :
- (A) HPLC
  - (B) XRF
  - (C) GC
  - (D) AAS
9. Which one is *not* a biochemical action of arsenic in human body ?
- (A) Coagulation of proteins
  - (B) Complexation with enzymes
  - (C) Uncoupling of phosphorylation
  - (D) Inhibition of oxygen transport
10. The metal considered as most toxic and most hazardous of the non-radioactive substances used in the industry is :
- (A) Beryllium
  - (B) Chromium
  - (C) Selenium
  - (D) Cadmium
11. Which of the following ecosystems has inverted ecological pyramid of biomass ?
- (A) Forest
  - (B) Pond
  - (C) Desert
  - (D) Soil
12. Which of the following is autotroph ?
- (A) Aspergillus
  - (B) Plasmodium
  - (C) Spirogyra
  - (D) Amoeba

13. Translocation of carbonates in laterite soil is due to :
- (A) Shrubs
  - (B) Herbs
  - (C) Trees
  - (D) Grass
14. The most important forest-product for neighbouring population is :
- (A) Timber
  - (B) Grass
  - (C) Gum
  - (D) Fruits
15. Which of the following organisms is nodulating nitrogen fixer ?
- (A) Azotobacter
  - (B) Rhizobium
  - (C) Anabaena
  - (D) Azospirillum
16. The tropical cyclones are associated with :
- (A) Clockwise circulating strong winds in northern hemisphere
  - (B) Storm surge
  - (C) Anti-clockwise circulating light winds in southern hemisphere
  - (D) Light and variable winds
17. Earthquake related damage is mainly due to :
- (A) Body waves
  - (B) S-waves
  - (C) Surface waves
  - (D) P-waves
18. Nearly.....of the global fresh water is frozen in ice caps.
- (A) 90%
  - (B) 98%
  - (C) 80%
  - (D) 95%

19. Landslides are reported in Western Ghats which are caused due to :
- (A) Hot summer winds
  - (B) Sea breeze
  - (C) Heavy rains
  - (D) Land breeze
20. The term TM refers to :
- (A) Thematic Mapping
  - (B) Temperature Mapping
  - (C) Temperature Monitoring
  - (D) Total Mapping
21. The maximum theoretical efficiency of a photo-voltaic (PV) cell is approximately :
- (A) 5%
  - (B) 10%
  - (C) 25%
  - (D) 45%
22. 1 ppm rise in CO<sub>2</sub> levels in atmosphere corresponds to how much carbon content ?
- (A) 1.2 Gtonnes
  - (B) 2.12 Gtonnes
  - (C) 4.6 Gtonnes
  - (D) 11.2 Mtonnes
23. For an ideal wind turbine the power output varies with wind speed V as proportional to :
- (A) V
  - (B) V<sup>2</sup>
  - (C) V<sup>3</sup>
  - (D) V<sup>3/2</sup>
24. Which of the following areas have a maximum potential for geothermal energy in India ?
- (A) Western Ghats
  - (B) Ladakh
  - (C) Punjab
  - (D) Pondicherry

25. Biofuels are being increasingly used as these are :
- (A) Less polluting and renewable
  - (B) More affordable
  - (C) Having more energy content
  - (D) Water efficient
26. Which of the following indices is employed in noise standards ?
- (A)  $L_{10}$
  - (B)  $L_{eq}$
  - (C)  $L_{dn}$
  - (D)  $L_{90}$
27. The microbes inhabit marine habitat due to their ability to grow at :
- (A) Neutral pH
  - (B) Low water activity
  - (C) Low temperature
  - (D) Alkaline pH
28. Osmosis means :
- (A) Flow of water from high to low concentration of solute
  - (B) Flow of solute from low concentration to high concentration
  - (C) Flow of water from low to high concentration of solute
  - (D) Flow of solute from high concentration of solute to low concentration of solute
29. Aceticlastic bacteria produce methane from :
- (A)  $CO_2$
  - (B)  $CH_3COOH$
  - (C)  $CO_2$  and  $H_2$
  - (D)  $H_2$  and  $CO$
30. Which of the following is unique parameter of biomass ?
- (A) MLVSS
  - (B) Sludge
  - (C) MLSS
  - (D) Total Solids

31. 'Leopold' is an example of..... .
- (A) Simple matrix
  - (B) Stepped matrix
  - (C) Descriptive checklist
  - (D) Questionnaire checklist
32. The non-technical summary of EIA is known as :
- (A) Environmental Management System
  - (B) Environmental Policy
  - (C) Environmental Impact Statement
  - (D) Environmental Audit
33. For impact identification in EIA which technique is easy to use and understand :
- (A) Checklists
  - (B) Networks
  - (C) Overlay maps
  - (D) Mathematical models
34. The National Committee on Environmental Planning (NECPC) was constituted in :
- (A) 1979
  - (B) 1972
  - (C) 1982
  - (D) 1986
35. The World Summit was held at Stockholm in 1972 under the title :
- (A) Human and Environment
  - (B) Climate Change
  - (C) Population Explosion
  - (D) Biodiversity
36. Transboundary movement of ivory products is banned by :
- (A) Forest Conservation Act
  - (B) Environment Protection Act
  - (C) Indian Forest Act
  - (D) Wildlife Protection Act

37. The rate of solid waste generation per capita per day by Indian population is :
- (A) 0.35 kg  
(B) 0.5 kg  
(C) 0.2 kg  
(D) 1.5 kg
38. Biomedical waste is hazardous due to the presence of :
- (A) Cellulosic matter  
(B) Waste food  
(C) Pathogens  
(D) Fruit waste
39. Public Insurance Liability Act was enacted in the year :
- (A) 1991  
(B) 1987  
(C) 1986  
(D) 1996
40. Carbon intensity means :
- (A) CO<sub>2</sub> emissions/GDP  
(B) CO<sub>2</sub> emissions/m<sup>2</sup>  
(C) CO<sub>2</sub> emissions per person  
(D) CO<sub>2</sub> emissions
41. The null hypothesis pertaining to individual regression co-efficient is tested using.....
- (A) *t*-statistic  
(B) F-statistic  
(C) Chi-square statistic  
(D) Z-statistic
42. Bivariate correlation co-efficient represents degree of.....between two variables.
- (A) Difference  
(B) Association  
(C) Convergence  
(D) Divergence
43. Percentage variation in dependent variable attributed to independent is reflected in the value of.....
- (A) Correlation co-efficient  
(B) Co-efficient of determination  
(C) Regression co-efficient  
(D) '*t*' value

44. For the large sample size 't' distribution approaches..... .
- (A) Normal distribution
  - (B) Poisson distribution
  - (C) Binomial distribution
  - (D) F-distribution
45. Which of the following represents sample statistics ?
- (A)  $\mu$
  - (B)  $\sigma$
  - (C)  $\bar{x}$
  - (D)  $\sigma^2$
46. Kyoto protocol envisages reduction of CO<sub>2</sub> emissions with reference to 1990 levels by which of the following percentages :
- (A) 10.2
  - (B) 5.2
  - (C) 15.8
  - (D) 25.5
47. Renewable sources of energy are *not* very popular as they are not yet :
- (A) Efficient
  - (B) Accessible
  - (C) Acceptable
  - (D) Affordable
48. Ramsar Convention is for protection and conservation of :
- (A) Wildlife
  - (B) Wetland
  - (C) Desert
  - (D) Atmospheric ozone
49. Which of the following groups of organisms can be used for restoration of wasteland ?
- (A) Blue green algae
  - (B) Fungi
  - (C) Heterotrophic bacteria
  - (D) Protozoans
50. As per resolution of Johannesburg Summit in year 2002, people not having access to safe drinking water and sanitation should be brought down by.....by the year 2015.
- (A) 10%
  - (B) 25%
  - (C) 50%
  - (D) 75%



**AUG - 31211/II**

**ROUGH WORK**

**AUG - 31211/11**

**ROUGH WORK**