1. Which sphere of the global environment serves as an interacting sphere for the circulation of water and nutrients?

) Atmosphere
B) Hydrosphere
C) Lithosphere
D) Biosphere

2. Which of the following are the highly variable constituents of air in the lower atmosphere?

Water vapour and oxygen
Nitrogen and hydrogen
Oxygen and argon
Carbon dioxide and oxygen

3. Which layer of the atmosphere is dry and ozone-rich?

Troposphere
) Stratosphere
C) Mesosphere
D) Ionosphere

4. Choose the correct statement.

(A) The base of the stratosphere is cooler over the equator than over the poles.
The base of the stratosphere is warmer over the equator compared to that over the poles.
The air temperature at the base of the stratosphere does not vary with latitude.
) Dry air is lighter than moist air.

5. Which instrument is used for measuring humidity in air?

(A) Hydrometer
B) Anemometer
C) Thermometer
D) Hygrometer

6. The scale used for measuring wind velocity is called

(A) Newtonian scale
) Richter scale
C) Beaufort scale
D) Kilometer scale

7. Freshwater available for human use in the form of surface water and groundwater is about

A) 0·05%
B) 0·003%
(C) 1·00%
(D) 0·01%

8. Which of the following rivers has th largest annual discharge?

Congo
) Ganges-Brahmaputra
) Amazon
None of the above

9. On the average, how much thick is the earth crust?

(A) About 4 miles

(B) About 4 km

(C) About 40 km

(D) About 400 km

10. Laterite soils

(A) are red in colour

(B) are formed in tropical climates

(C) often contain high concentration of aluminium

(D) All of the above

11. Which of the following pairs of biomes is the most similar with regard to precipitation?

(A) Tundra and taiga

(B) Tundra and desert

(C) Grassland and taiga

(D) Temperate deciduous and tropical rain forest

12. Identify the wrong statement.

(A) Taiga is characterized by a layer of permafrost.

(B) Rainfall gradient is more in the boundary between two biomes.

(C) Edge effect is observed at the periphery of biomes.

(D) Biomes are separated by ecotones.

13. In which of the following biomes animals use metabolic water and excrete highly concentrated urine?

(A) Taiga

(B) Desert

(C) Savanna

(D) Grassland

14. Which of the following biomes has the richest biodiversity with relatively thin and nutrient-poor soil?

(A) Savanna

(B) Grassland

(C) Tropical rain forest

(D) Temperate deciduous forest

15. How many different biogeographical zones are there in India?

(A) 3

(B) 5

(C) 8

(D) 10

16. Ecosystem homeostasis is affected by

(A) the biotic factors of environment

(B) the abiotic factors of environment

(C) the factors that control population size

(D) None of the above

17. Graphical representation of trophic structure and function of an ecosystem is known as

(A) biomass pyramid

(B) trophic pyramid

(C) ecological pyramid

(D) None of the above

18. Energy contents in higher trophic levels are

( ) less than lower trophic levels

( ) more than lower trophic levels

( ) independent of lower trophic levels

( ) same as those of lower trophic levels

19. Stability of a complex ecosystem such as rain forest can be assessed on the basis of

( ) human interference

( ) species diversity

( ) variation of climatological parameters

( ) None of the above

20. A matured ecosystem is characterized with

(A) high net productivity with open nutrient cycle and poor nutrient conservation

( ) high net productivity with closed nutrient cycle and poor nutrient conservation

( ) low nutrient productivity with closed nutrient cycle and good nutrient conservation

(D) low net productivity with closed nutrient cycle and poor nutrient conservation

21. How many phases are there in the biogeochemical cycles?

( ) Two

( ) Three

( ) Four

( ) None of the above

22. Which of the following cycles belongs to sedimentary cycle?

(A) Carbon cycle

(B) Phosphorous cycle

(C) Nitrogen cycle

(D) None of the above

23. Climax stable grassland ecosystems are the characteristics of

( ) tropical zone

( ) equatorial zone

( ) alpine zone

( ) temperate zone

24. Which of the following ecosystems is used by migratory birds as seasonal homes?

(A) Wetland

(B) Grassland

(C) Savannas

(D) Tundra

25. In which of the following zones freshwater lake fishes can survive but depend upon two other zones for food?

(A) Littoral zone

(B) Limnetic zone

(C) Profundal zone

(D) Benthic zone

26. Which of the following States has the largest amount of total replenishable groundwater resources (in km^2/year)?

(A) Madhya Pradesh

(B) Uttar Pradesh

(C) Arunachal Pradesh

(D) Assam

27. Which of the following States has the highest coverage of very dense forest?

(A) Assam

(B) Karnataka

(C) Jharkhand

(D) Kerala

28. The total number of National Parks in India as on 2008 is

(A) 509

(B) 325

(C) 100

(D) 96

29. The construction of solar cooker is based on the principle of

(A) thermo-luminous conversion

(B) concentration of solar heat energy

(C) photoelectric effect

(D) concentration of light energy

30. In which of the following electricity generation processes water is used as boiler liquid?

(A) Tidal energy conservation

(B) Geothermal energy conservation

(C) Ocean thermal energy

(D) Ocean wave energy

31. Which of the following arrangements of States in terms of estimated wind power potential at 50 m height is in descending order?

(A) Gujarat, Tamil Nadu, Andhra Pradesh, Odisha

(B) Gujarat, Andhra Pradesh, Tamil Nadu, Odisha

(C) Gujarat, Odisha, Andhra Pradesh, Tamil Nadu

(D) Andhra Pradesh, Tamil Nadu, Gujarat, Odisha

32. From both global and regional perspectives, which of the following types of pollution has more significance?

(A) Air pollution

Water pollution

Soil pollution

Noise pollution

33. Which of the following groups of chemical species in the atmosphere is of the long-lived (more than 1 year)?

) N_2O, NO_3, SO_2

) N_2O, CH_4, CH_3Br

C) N_2O, SO_2, CH_4

D) NO_3, SO_2, CH_3Br

34. Which of the following air pollutants cause curling of leaves of plants?

A) Ethylene and propylene

B) Fluorides and ammonia

) SO_3 and O_3

) NO_2 and particulates

35. ...ich of the following on inhalation dissolves in the blood hemoglobin?

(A) Sulphur dioxide

Carbon monoxide

) Ozone

) Nitrous oxide

36. Under what condition is the atmosphere inherently unstable?

(A) When the environment lapse rate is greater than the dry adiabatic rate

B) When the environment lapse rate is between the moist and dry adiabatic rate

C) When the environment lapse rate is less than the moist adiabatic rate

(D) None of the above

37. Which of the following is ***not*** a common source of dissolved solids in surface water?

(A) Agricultural runoff

Forestry runoff

Mining runoff

Urban runoff

38. Which of the following statements is correct?

(A) BOD is inversely proportional to DO.

BOD is directly proportional to DO.

COD is directly proportional to DO.

There is no relation between BOD and DO.

39. A lake usually with brown water, full of soil particles and having low food value is called

(A) dystrophic lake
(B) eutrophic lake
(C) euphotic lake
(D) oligotrophic lake

40. Acid rain is defined as the rainwater having pH value

5·6–7·0
less than 5·6
5·0–6·0
None of the above

41. The correct relation between theoretical oxygen demand (TOD), biochemical oxygen demand (BOD) and chemical oxygen demand (COD) is given by

TOD > BOD > COD
TOD > COD > BOD
BOD > COD > TOD
COD > BOD > TOD

42. The saturation value of dissolved oxygen (DO) depending on temperature and salinity of water is in the range of

6–10 mg/L
10–15 mg/L
12–14 mg/L
8–15 mg/L

43. The dissolved oxygen level in natural unpolluted water at normal temperature is found to be of the order of

(A) 1 mg/L
(B) 10 mg/L
(C) 100 mg/L
(D) 1000 mg/L

44. The minimum recommended (by EPA) amount of dissolved oxygen warm water fishes is

1 ppm
4 ppm
8 ppm
10 ppm

45. The process of killing microorganisms in water is called

aeration
coagulation
disinfection
sedimentation

46. The pathogens in wastewater can be killed by

nitrification
chlorination
oxidation
(D) None of the above

47. The lowest limit of water availability in soil is known as

( ) field capacity
( ) hypolimnion
( ) thermocline
( ) wilting point

48. Which of the following processes is best suited for reclaiming polluted soil?

(A) Phytoremediation
(B) Phytosequestration
(C) Photooxidation
(D) Chemical treatment

49. Sanitary landfill is associated with

(A) wastewater disposal
(B) municipal waste disposal
(C) solid waste disposal
(D) nuclear waste disposal

50. Solid waste management is best conducted by

( ) dumping
( ) sanitary landfill
( ) 3R principle
( ) Both (B) and (C)

51. The sound level of normal conversation is

( ) 90 dB
( ) 80 dB
( ) 70 dB
( ) 60 dB

52. Environmental pollution caused by the discharge of water from a cooling tower of a nuclear power plant is known as

( ) water pollution
( ) nuclear pollution
( ) thermal pollution
( ) radiation pollution

53. The heated effluents discharged into river have

( ) reduced CO_2 level
( ) increased CO_2 level
( ) reduced DO level
( ) None of the above

54. Which of the following organisms are the first to be adversely affected by thermal pollution of a stream?

( ) Insect larvae in the water
( ) Fishes in the water
( ) Birds drinking in water
( ) Bacteria in the water

55. The biggest radiation hazard comes from

(A) cosmic rays
(B) microwaves
(C) alpha rays
(D) X-rays

56. Which of the following devices is the most effective in trapping air pollution released through stack of a coal fire plant?

(A) Bag filter
(B) Cyclone collector
(C) Electrostatic precipitation
(D) Scrubber

57. Which of the following water pollutants does not require AAS for its determination in the laboratory?

(A) Lead
(B) Mercury
(C) Cadmium
(D) Chromium

58. Algal growth in an aquatic ecosystem can be controlled by reducing the supply of

(A) limiting nutrient
(B) carbon
(C) nitrogen
(D) phosphorous

59. Excessive use of fertilizers in a firm land causes

(A) reduction of soil fertility
(B) increase in soil fertility
(C) micronutrient imbalance
(D) increase of soil pH value

60. Which is the most serious long-term effect of deforestation?

(A) Loss of fertility of soil
(B) Extinction of species
(C) Scarcity of water
(D) Soil erosion

61. Acid mine drainage is a problem associated with

(A) strip mining
(B) surface mining (quarry)
(C) deep underground mining
(D) sub-surface mining

62. In which of the following practices occupational health hazard is the highest?

(A) Surface mining
(B) Strip mining
(C) Open-pit mining
(D) Underground mining

63. Which type of coal mining creates maximum environmental damages?

(A) Strip mining

(B) Surface mining (quarry)

(C) Sub-surface mining

(D) Deep underground mining

64. 'Ring of fire' refers to the

(A) volcanic belt around the Pacific ocean

(B) volcanic belt around the Indian ocean

(C) earthquake belt around the Indian ocean

(D) earthquake belt around the Atlantic ocean

65. What kind of deformation leads to the earthquakes?

(A) Plastic deformation

(B) Convergent deformation

(C) Clastic deformation

(D) Shear deformation

66. Which of the following waves cause most damages during an earthquake?

(A) Body waves

(B) Shear waves

(C) Compressional waves

(D) Surface waves

67. Greenhouse gases absorb

(A) solar radiation

(B) terrestrial radiation

(C) short-wave radiation

(D) both short- and long-wave radiations

68. Which of the following is least likely to be an effect of global warming?

(A) Increased frequency of hurricans

(B) Change of global pattern of precipitation

(C) Decreased rate of photosynthesis of vegetation

(D) Extinction of some species that have narrow temperature requirement

69. Which of the following is known as total protected area?

(A) National Park

(B) Bioreserve

(C) Reserve forest

(D) Sanctuary

70. Desertification is assessed on the basis of the

(A) decrease of biodiversity

(B) decrease of soil moisture

(C) decrease of productivity

(D) increase in the diurnal range of temperature

71. Which of the following plants are suitable for bio-monitoring of SO_2?

(A) Cucumber and marigold

(B) Tobacco and bean

(C) Moss and lichens

(D) Tomato and orchids

72. Standard EDTA (ethylene diamine tetraacetic acid) solution is used to determine

(A) turbidity of water

(B) hardness of water

(C) dissolved oxygen of water

(D) residual chlorine in water

73. Alkalinity in water is expressed as milligrams per litre in terms of equivalent

(A) calcium carbonate

(B) magnesium carbonate

(C) sodium carbonate

(D) calcium hydroxide

74. We have seen that the outliers in a data set can produce problematic results. Rank the following measures in order of 'least affected by outliers' to 'most affected by outliers'.

(A) Mean, median, range

(B) Median, mean, range

(C) Range, median, mean

(D) Median, range, mean

75. What is the range of coefficient of determination R^2?

(A) [0, 1]

(B) [−1, 1]

(C) [0, ∞)

(D) None of the above

76. What test statistics is used in the analysis of variance?

(A) *T*-statistics

(B) *F*-statistics

(C) *Z*-statistics

(D) None of the above

77. A technique of superimposing various thematic maps using digital data on a large number of inter-related aspects is known as

(A) GIS

(B) STM

(C) GPS

(D) TSTM

78. There are many known shortcomings in EIA report. Which is **not** a known shortcoming?

(A) The description of proposal does not cover key features

(B) Appropriate mitigating measures are not considered

(C) Insufficient or outdated prediction models are used

(D) All relevant stakeholder's concerns are incorporated

79. Which of the following sequences of typical steps for a project-specific EIA process is correct?

(A) Impact identification—Baseline study—Impact evaluation—Documentation

(B) Baseline study—Impact identification—Documentation

(C) Baseline study—Impact evaluation—Documentation

(D) Impact identification—Impact evaluation—Documentation

80. The International Conference on Human Environment was held at

(A) Montreal in 1988

(B) Rio de Janeiro in 1992

(C) Stockholm in 1972

(D) Kyoto (Japan) in 1997

81. Which of the following statements is ***not*** correct?

(A) UN Conference on 'World Environment' was held at Nairobi.

(B) UN Conference on 'Sustainable Development' was held at Johannesburg in 2002.

(C) 180 countries gathered in Kyoto Summit.

(D) Nairobi Conference declared June 5 as the World Environment Day.

82. The Water (Control and Prevention of Pollution) Act was enacted in

(A) 1972

(B) 1974

(C) 1981

(D) 1988

83. Penalty of any of the provisions of Section 2 of the Forest Act, 1980 is under

(A) Section 3A

(B) Section 4A

(C) Section 12A

(D) Section 8A

84. In which of the following States the Forest (Conservation) Act, 1980 is ***not*** adopted?

(A) Sikkim

(B) Mizoram

(C) Nagaland

(D) Jammu and Kashmir

85. Amrita Devi was associated with which of the following movements?

(A) Silent Valley Movement

(B) Bishnoi Movement

(C) Chipko Movement

(D) Tehri Dam Movement

86. The Appiko Movement was held in

) 1983 in Karnataka
) 1990 in Karnataka
) 1973 in Kerala
) 1983 in Maharashtra

87. Which of the following ISO 14000 series of standards deals with environmental performance evaluation guidelines?

) ISO 14004
) ISO 14015
) ISO 14031
) ISO 14063

88. Which of the following ISO 14000 series of standards focuses on life cycle assessment, pre-production planning and environmental goal setting?

) ISO 14015
) ISO 14020
) ISO 14040
) ISO 14050

89. In 1992, National Commission for Women was started. It launched which of the following programmes?

Dahej Mukti Abhiyan
Safai Abhiyan
Abolishment of Child Labours
None of the above

90. World AIDS Day is observed every year in which of the following dates?

December 20
January 16
) December 1
) None of the above

91. Which of the following has the economic value provided by forest resources?

Fuel wood
Fodder wood
Food, fruits, nuts, flowers
Controlled heat

92. Which is the cause of deforestation?

(A) Fire wood collection
Establishment of industries and mining activities
Encroachment of forest area by people
None of the above

93. The Cauvery Water Dispute is occurred in between which States?

Karnataka and Tamil Nadu
Karnataka and Madhya Pradesh
Tamil Nadu and Odisha
None of the above

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94. Which of the following is the environmental problem created by big dam?

(A) Loss of forest flora and fauna

(B) Displacement of people

(C) Both (A) and (B)

(D) None of the above

95. Who first coined the term 'ecosystem'?

(A) E. Haeckel, 1869

(B) A. G. Tansley, 1935

(C) Odum, 1971

(D) None of the above

96. Which one is the renewable source of energy?

(A) Solar energy

(B) Petroleum

(C) Coal

(D) None of the above

97. Which are the constituents of abiotic component of environment?

(A) Soil, light, organic and inorganic materials

(B) Plants

(C) Animals

(D) Microorganisms

98. Which is the approximate percentage of tropical forest ecosystem?

(A) 56%

(B) 80%

(C) 40%

(D) None of the above

99. What is the standard value of pH in the drinking water according to WHO?

(A) 7–8·5

(B) 6–6·5

(C) 5–6·5

(D) None of the above

100. Which are the two branches of life sciences helpful in the study of environmental science?

(A) Physics and Zoology

(B) Botany and Chemistry

(C) Zoology and Botany

(D) Physics and Chemistry