Test Booklet Code & Serial No.
प्रश्नपत्रिका कोड व क्रमांक

C

Paper-II
ENVIRONMENTAL SCIENCE

Signature and Name of Invigilator

Seat No.

1. (Signature) ....

(In figures as in Admit Card)

(Name) ....

2. (Signature) ....

Seat No. ....

(In words)

(Name) ....

OMR Sheet No.

SEP - 31221

(To be filled by the Candidate)

Time Allowed : 2 Hours]   **[Maximum Marks : 200**

Number of Pages in this Booklet : **20**   Number of Questions in this Booklet : **100**

Instructions for the Candidates	**विद्यार्थ्यांसाठी महत्त्वाच्या सूचना**
1. Write your Seat No. and OMR Sheet No. in the space provided on the top of this page.	1. परीक्षार्थींनी आपला आसन क्रमांक या पृष्ठावरील वरच्या कोप-यात लिहावा. तसेच आपणांस दिलेल्या उत्तरपत्रिकेचा क्रमांक त्याखाली लिहावा.
2. This paper consists of **100** objective type questions. Each question will carry *two* marks. *All* questions of Paper II will be compulsory.	2. सदर प्रश्नपत्रिकेत 100 बहुपर्यायी प्रश्न आहेत. प्रत्येक प्रश्नास **दोन** गुण आहेत. या प्रश्नपत्रिकेतील **सर्व** प्रश्न सोडविणे अनिवार्य आहे.
3. At the commencement of examination, the question booklet will be given to the student. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as follows :	3. परीक्षा सुरू झाल्यावर विद्यार्थ्याला प्रश्नपत्रिका दिली जाईल. सुरुवातीच्या 5 मिनिटांमध्ये आपण सदर प्रश्नपत्रिका उघडून खालील बाबी अवश्य तपासून पहाव्यात.
(*i*) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal or open booklet.	(*i*) प्रश्नपत्रिका उघडण्यासाठी प्रश्नपत्रिकेवर लावलेले सील उघडावे. सील नसलेली किंवा सील उघडलेली प्रश्नपत्रिका स्विकारू नये.
(*ii*) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to missing pages/questions or questions repeated or not in serial order or any other discrepancy should not be accepted and correct booklet should be obtained from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given. The same may please be noted.	(*ii*) पहिल्या पृष्ठावर नमूद केल्याप्रमाणे प्रश्नपत्रिकेची एकूण पृष्ठे तसेच प्रश्नपत्रिकेतील एकूण प्रश्नांची संख्या पडताळून पहावी. पृष्ठे कमी असलेली/कमी प्रश्न असलेली/प्रश्नांचा चुकीचा क्रम असलेली किंवा इतर त्रुटी असलेली सदोष प्रश्नपत्रिका सुरुवातीच्या 5 मिनिटातच पर्यवेक्षकाला परत देऊन दुसरी प्रश्नपत्रिका मागवून घ्यावी. त्यानंतर प्रश्नपत्रिका बदलून मिळणार नाही तसेच वेळही वाढवून मिळणार नाही याची कृपया विद्यार्थ्यांनी नोंद घ्यावी.
(*iii*) After this verification is over, the OMR Sheet Number should be entered on this Test Booklet.	(*iii*) वरीलप्रमाणे सर्व पडताळून पाहिल्यानंतरच प्रश्नपत्रिकेवर ओ.एम.आर. उत्तरपत्रिकेचा नंबर लिहावा.
4. Each question has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item. **Example :** where (C) is the correct response. (A) (B) ● (D)	4. प्रत्येक प्रश्नासाठी (A), (B), (C) आणि (D) अशी चार विकल्प उत्तरे दिली आहेत. त्यातील योग्य उत्तराचा रकाना खाली दर्शविल्याप्रमाणे ठळकपणे काळा/निळा करावा. **उदा. :** जर (C) हे योग्य उत्तर असेल तर. (A) (B) ● (D)
5. Your responses to the items are to be indicated in the **OMR Sheet given inside the Booklet only.** If you mark at any place other than in the circle in the OMR Sheet, it will not be evaluated.	5. या प्रश्नपत्रिकेतील प्रश्नांची उत्तरे **ओ.एम.आर. उत्तरपत्रिकेतच दर्शवावीत.** इतर ठिकाणी लिहिलेली उत्तरे तपासली जाणार नाहीत.
6. Read instructions given inside carefully.	6. आत दिलेल्या सूचना काळजीपूर्वक वाचाव्यात.
7. Rough Work is to be done at the end of this booklet.	7. प्रश्नपत्रिकेच्या शेवटी जोडलेल्या कोऱ्या पानावरच कच्चे काम करावे.
8. If you write your Name, Seat Number, Phone Number or put any mark on any part of the OMR Sheet, except for the space 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.	8. जर आपण ओ.एम.आर. वर नमूद केल्या ठिकाणा व्यतिरिक्त इतर कोठेही नाव, आसन क्रमांक, फोन नंबर किंवा ओळख पटेल अशी कोणतीही खूण केलेली आढळून आल्यास अथवा असभ्य भाषेचा वापर किंवा इतर गैरमार्गाचा अवलंब केल्यास विद्यार्थ्याला परीक्षेस अपात्र ठरविण्यात येईल.
9. You have to return original OMR Sheet to the invigilator 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 duplicate copy of OMR Sheet on conclusion of examination.	9. परीक्षा संपल्यानंतर विद्यार्थ्याने मूळ ओ.एम.आर. उत्तरपत्रिका पर्यवेक्षकांकडे परत करणे आवश्यक आहे. तथापि, प्रश्नपत्रिका व ओ.एम.आर. उत्तरपत्रिकेची द्वितीय प्रत आपल्याबरोबर नेण्यास विद्यार्थ्यांना परवानगी आहे.
10. Use only Blue/Black Ball point pen.	10. फक्त निळ्या किंवा काळ्या बॉल पेनाचाच वापर करावा.
11. Use of any calculator or log table, etc., is prohibited.	11. कॅल्क्युलेटर किंवा लॉग टेबल वापरण्यास परवानगी नाही.
12. There is no negative marking for incorrect answers.	12. चुकीच्या उत्तरासाठी गुण कपात केली जाणार नाही.

Environmental Science
Paper II

Time Allowed : 120 Minutes]   **[Maximum Marks : 200**

Note : This Paper contains **Hundred (100)** multiple choice questions. Each question carrying **Two (2)** marks. Attempt *All* questions.

1. Which one of the following nutrients cycle have biological fixation ?

   (A) Phosphate

   (B) Oxygen

   (C) Carbon dioxide

   (D) Nitrogen

2. Shanon index measures :

   (A) Species richness

   (B) Relative abundance

   (C) Frequency

   (D) Relative frequency

3. The species of plants and animals which are geographically restricted in distribution are known as :

   (A) Rare

   (B) Extinct

   (C) Endangered

   (D) Endemics

4. BOD value of sewage indicates :

   (A) Microbial load of sewage

   (B) Low oxygen content of sewage

   (C) High organic matter content of sewage

   (D) Presence of oxygen dependent microorganisms in sewage

5. MPN test is carried out for :

   (A) Drinking water

   (B) Waste water

   (C) Milk or milk products

   (D) Air

6. Eisenia fetida, lumbricus rubellus, Eudrilus eugeniae are important in :

   (A) Nitrogen fixation

   (B) Vermicomposting

   (C) Phosphate solubilization

   (D) Insect-biocontrol

7. GRIHA is a rating tool for which of the following fields ?

   (A) Airlines

   (B) Buildings

   (C) Industries

   (D) Automobiles

8. Which aquatic fern is used to increase the yield of paddy crops ?

   (A) Marselia

   (B) Salvinia

   (C) Azolla

   (D) Ariadnaesporites

9. Which of the following is an airborne bacterial disease ?

   (A) Pertussis

   (B) Influenza

   (C) Polio

   (D) Chickenpox

10. Which one of the following helps to identify the objects on aerial photographs of the earth surface ?

    (A) Atmospheric window

    (B) Signature

    (C) Radiometric error

    (D) Atmospheric absorption bands

11. Which wavelength can be most useful for remote sensing from satellite in cloud covered conditions ?

    (A) 0.4 µm

    (B) 0.4 nm

    (C) 1.4 µm

    (D) 4 cm

12. Magnitude of the earthquake in .... scale is a measure of the energy released at the source of earthquake.

    (A) Richter

    (B) Mercalli

    (C) Moh's

    (D) Levis

13. What is the mandatory notice period for public hearing ?

   (A) 15 days

   (B) 1 month

   (C) 2 months

   (D) 1 week

14. The purpose of screening step in EIA is :

   (A) To assess the quality of project design

   (B) To determine whether a full EIA is needed

   (C) To consult the stakeholders

   (D) To study the baseline

15. In EIA, the multiattribute theory is used to describe :

   (A) The identification of alternatives to be evaluated and structuring of environmental parameters

   (B) Existing environmental quality of study area

   (C) Socio-economic status of the area

   (D) Risk involved in a development project

16. Ramsar Convention is aimed at saving :

   (A) Wetlands

   (B) Endangered animals

   (C) Wild habitat

   (D) All of the above

17. The State Government can declare a sanctuary under which section of the Wild Life (Protection) Act, 1972 ?

   (A) Section 18(1)

   (B) Section 17(A)

   (C) Section 12

   (D) Section 35(1)

18. In which form are annual returns for hazardous waste submitted to SPCB annually ?

   (A) Form 4

   (B) Form 5

   (C) Form 10

   (D) Form 6

19. An environmental audit helps in achieving :

    (A) Waste minimization

    (B) Resource optimization

    (C) Compliance to environmental laws

    (D) All of the above

20. Which of the following is a waste generated in the pulp and paper industry ?

    (A) Black liquor

    (B) Spentwash

    (C) Filter cake

    (D) All of the above

21. Select the suspended growth process of biological treatment from the following :

    (A) Activated sludge process

    (B) Trickling filter

    (C) Rotating biological contactor

    (D) Anaerobic filter

22. In microwave remote sensing, significant wave heights (SWH) over ocean surface can be determined by :

    (A) Radar Altimeter

    (B) Synthetic Aperture Radar

    (C) Shuttle Imaging Radar

    (D) Thematic Mapper

23. Which of the following sequence is correct for the energy flow in the ecosystem ?

    (A) Consumers → Decomposers → Producers

    (B) Producers → Consumers → Decomposers

    (C) Producers → Decomposers → Consumers

    (D) Decomposers → Consumers → Producers

24. Which method of rainwater harvesting can be adopted by individual house owner ?

    (A) Creation of new water body

    (B) Roof top rainwater harvesting

    (C) Construction of recharge trenches

    (D) Construction of large storage tanks

25. Which of the following are the *correct* criteria which meet to prescribe Eco-logo ?

   (*i*) Product must cause less pollution in comparison to other products.

   (*ii*) It should contribute to environmental health disorder.

   (*iii*) It should be recycled.

   (*iv*) It should contribute to save non-renewable resources.

   (A) (*ii*)   (*iii*)   (*iv*)

   (B) (*i*)   (*ii*)   (*iv*)

   (C) (*i*)   (*iii*)   (*iv*)

   (D) (*i*)   (*iii*)   (*ii*)

26. The process in which the micro-organisms produce metabolic products in soil which inhibit growth or cause killing of other micro-organisms is known as :

   (A) Antibiotics

   (B) Antibiosis

   (C) Antibodies

   (D) Antigen

27. The colour of Red soil is due to presence of :

   (A) Magnesium

   (B) Iron

   (C) Copper

   (D) Aluminium

28. Which one of the following soils has the highest porosity ?

   (A) Silty soil

   (B) Sand soil

   (C) Clay soil

   (D) Loam soil

29. Tropical Savanna biomes include :

   (A) Climax vegetation consisting trees and herbs

   (B) Succulent life forms of plants

   (C) Tall grasses and short grasses as dominant species

   (D) Grasslands with scattered trees

30. Which of the following is not ethical principle of conservation biology ?

   (A) The diversity of organism is good

   (B) The ultimately extinction of species is bad

   (C) Ecological complexity is bad

   (D) Evolution is good

31. Match the following :
    (a) Autecology
    (b) Synecology
    (c) Biome ecology
    (d) Ecosystem ecology
    (1) To study of interactions and interrelationships of more than one biological community with environment
    (2) To study complex interrelationships of groups of organism and environment
    (3) To study relationship of individual species to its environment
    (4) To study interaction and interrelationships of all organisms amongst themselves and environment

	(a)	(b)	(c)	(d)
(A)	(4)	(3)	(2)	(1)
(B)	(3)	(2)	(1)	(4)
(C)	(1)	(2)	(3)	(4)
(D)	(3)	(1)	(2)	(4)

32. Genetic diversity in biodiversity is :
    (A) Sum of total chromosomes in an individual
    (B) Sum of total chromosomes in the individual species
    (C) Sum of total genes in an individual
    (D) Sum of total genetic information in genes of individuals of a species

33. Which of the following is not correct for a major project ?
    (A) Substantial capital investment
    (B) Cover large area
    (C) Wide range impacts
    (D) Employ less numbers

34. Match the pairs :
    EIA Steps
    (a) Environmental inventory
    (b) Screening
    (c) Scoping
    (d) Environmental setting
    Objective
    (1) Need of EIA
    (2) Defining content of EIA
    (3) Description of affected environment
    (4) Description of environment as it exists

	(a)	(b)	(c)	(d)
(A)	(2)	(3)	(4)	(1)
(B)	(3)	(4)	(1)	(2)
(C)	(1)	(2)	(3)	(4)
(D)	(4)	(1)	(2)	(3)

35. Which of the following are the high energy neutral particles ?

(A) α-particles

(B) γ-particles

(C) β-particles

(D) Neutrons

36. Match the following :

Group of Corrosive Substance

(a) Strong acids

(b) Strong alkali

(c) Strong oxidants

(d) Strong dehydrating agents

Example

(1) Bromine trifluoride

(2) Oxygen difluoride

(3) Sulphuric acid

(4) Potassium hydroxide

	(a)	(b)	(c)	(d)
(A)	(3)	(4)	(2)	(1)
(B)	(1)	(2)	(3)	(4)
(C)	(2)	(3)	(1)	(4)
(D)	(2)	(1)	(4)	(3)

37. Primarily which gas is produced in the open dumps from the decomposition of biodegradable waste ?

(A) Ethane

(B) Methane

(C) Propane

(D) Ethene

38. What is the range of methane (CH_4) percentage in the biogas ?

(A) 30—60

(B) 40—70

(C) 1—5

(D) 20—30

39. The permanent hearing loss in human being under the impact of noise is due to disfunctioning of ....

(A) Tympanic membrane

(B) Semicircular canals

(C) Sensory cells

(D) Malleus, incus and stapes

40. What is the resultant noise of 8 equal sound levels of 40 dB(A) emitted at the workplace of an industry ?

(A) 43 dB(A)

(B) 46 dB(A)

(C) 49 dB(A)

(D) 52 dB(A)

41. Which of the following is a correct statement ?

(A) Measurement of sound is a function of electroacoustic method

(B) Measurement of sound is a function of electrochemical method

(C) Measurement of sound is a function of biophysical method

(D) Measurement of sound is a function of electrophysical method

42. Which of the following is *correct* for the wavelength of sound wave ?

(A) Number of cycles per second

(B) Distance travelled by sound wave per second

(C) Distance travelled by sound per cycle

(D) Distance travelled by sound wave in two cycles

43. Seasonal variation means the variation occurring within :

(A) A number of years

(B) Parts of a year

(C) Parts of a month

(D) All of the above

44. A ground level accidental release of 0.5 g/s occurs at a 4 m height in terrain with a roughness length of $Z_0 = 0.01$ m. Assuming a wind speed of 1 m/s, what is the maximum ground level concentration 4 km downwind estimated from the Gaussian plume equation ?

(A) 0.56 $\mu g/m^3$

(B) 0.66 $\mu g/m^3$

(C) 56 $\mu g/m^3$

(D) 66 $\mu g/m^3$

45. The P-value in hypothesis testing represents which of the following :

   (A) The probability of failing to reject the null hypothesis, given the observed results

   (B) The probability that the null hypothesis is true, given the observed results

   (C) The probability that the observed results are statistically significant, given that the null hypothesis is true

   (D) The probability of observing results as extreme or more extreme than currently observed, given that the null hypothesis is true

46. In a year there are 900 births in a town a of which 51.5% were males, while in town a and b combined, this proportion in a total of 1350 births was 0.50. What is the proportion of male births in the town b ?

   (A) 0.47

   (B) 0.49

   (C) 0.50

   (D) 0.51

47. For the following set of consistent equations what is the value of constant K ?

$$x - y + z = 1$$
$$2x + 2y - z = 2$$
$$3x - y + 2z = 3$$
$$4x + y + z = K$$

   (A) 12

   (B) 8

   (C) 6

   (D) 4

48. Which of the following distribution has, mean = variance ?

   (A) Binomial

   (B) Poisson

   (C) Normal

   (D) Chi-square

49. When the correlation coefficient $r = 0$, then the two regression lines are :

   (A) Perpendicular to each other

   (B) Parallel to each other

   (C) Coincide

   (D) Do not exist

[P.T.O.

50. A man travelling 900 km by train at an average speed of 60 km per hour and 3000 km by boat at an average speed of 25 km/hr. What is the average speed of a man for the entire distance ?

(A) 24.88 km per hour

(B) 30.88 km per hour

(C) 26.88 km per hour

(D) 28.88 km per hour

51. The mean of the distribution in which the value of x are 1, 2 ...... n. The frequency of each being unity is :

(A) $\dfrac{n}{2}$

(B) $\dfrac{n(n+1)}{2}$

(C) $\dfrac{(n+1)}{2}$

(D) $\dfrac{(n-1)}{2}$

52. A random variable x has the following probability function :

Values of x : 0 1 2 3 4

P(x)   : 0 k $2k$ $2k$ $3k$

What is the value of k ?

(A) 0.100

(B) 0.125

(C) 0.166

(D) 0.150

53. What is the maximum limit for oil and grease content of treated effluent ?

(A) 1 mg/L

(B) 5 mg/L

(C) 20 mg/L

(D) 10 mg/L

54. A body of water enclosed between river mouth and sea salt water is :

(A) Estuary

(B) Coast

(C) River bank

(D) Lakes

55. Which of the following is not used for removal of particulate pollutants ?

    (A) Electrostatic precipitator

    (B) Bag filter

    (C) Incinerator

    (D) Cyclone

56. Agenda 21 is related to :

    (A) Climate change issue

    (B) Sustainable development issue

    (C) Acid rain issue

    (D) Global warming issue

57. Environmental Pollution Control Authority (EPCA) has been mandated to control air pollution in NCR-Delhi through :

    (A) National Air Pollution Monitoring Programme

    (B) Zonal Action Plan

    (C) Graded Response Action Plan

    (D) Environmental Pollution Control Plan

58. The sun releases energy by :

    (A) Nuclear fission

    (B) Nuclear fusion

    (C) Spontaneous combustion

    (D) Hydrothermal process

59. Maximum mass of the atmosphere exists in the :

    (A) Troposphere

    (B) Stratosphere

    (C) Mesosphere

    (D) Thermosphere

60. Article 51(A) of the Indian Constitution states that :

    (A) The state has to ensure as its primary duty to bring improvement in public health

    (B) The state has to protect and improve the environment

    (C) The state has to ensure as its primary duty to raise the standard of living

    (D) The citizens are required to protect and improve the natural environment

61. Winds in the boundary layer (upto about 1000 m from ground upwards) are controlled by :

   (A) Pressure gradient force and Coriolis force

   (B) Pressure gradient force and frictional force

   (C) Pressure gradient force, frictional force, Coriolis force and centripetal force

   (D) Pressure gradient force and centripetal force

62. In areas away from tropics (high Coriolis force) geotrophic wind is a steady wind which is a balanced motion where :

   (A) Pressure gradient force is balanced by Coriolis force

   (B) Pressure gradient force is balanced by centripetal force

   (C) Coriolis force is balanced by centripetal force

   (D) Coriolis force and centripetal force are balanced by pressure gradient force

63. Atmosphere is a mechanical mixture of several gases and principal components are Nitrogen, Oxygen and Argon. The remain gases which amount to .... of the total mass are called minor gases.

   (A) 10%

   (B) 15%

   (C) 5%

   (D) Less than 1%

64. A body which is radiating energy such as the sun has a wavelength where it has maximum energy emission (λ_m) that is given by, where T is temperature, P is pressure :

   (A) $\lambda_m T$ = Constant

   (B) λ_m / P = Constant

   (C) λ_m / T = Constant

   (D) $\lambda_m P$ = Constant

65. Equinoxes are the periods when :

   (A) The sun is directly overhead at $23\frac{1}{2}°$ S

   (B) The sun is directly overhead at $23\frac{1}{2}°$ N

   (C) The earth is nearest to the sun

   (D) The sun shines equally on both Northern and Southern hemisphere

66. The mean molecular weight of AIR is nearly 28.9. It remains constant upto a height of .... and then ....

   (A) 80 km, increases

   (B) 60 km, increases

   (C) 80 km, decreases

   (D) 50 km, increases

67. Thunderstorms are generally characterised by :

   (A) Thunder, lightning and showery precipitation

   (B) Light drizzle type precipitation

   (C) Light drizzle without thunder and lightning

   (D) No precipitation but thunder and lightning

68. A parcel of air initially at 4000 m descends dry adiabatically to 1000 m height. If the initial temperature was 280 K, what will be its temperature at 1000 m ? (Given DALR = 9.8º/km).

   (A) 290 K

   (B) 309.4

   (C) 200.6

   (D) 256.4

69. Thunderstorms are quite common in India during premonsoon season (March-May). They are most frequently reported from areas in ....

   (A) NE India and Bengal

   (B) Central India

   (C) Rajasthan and Gujarat

   (D) Punjab and Haryana

70. Tropical cyclones are called hurricanes in .... regions and are considered as very destructive weather system.

   (A) South Indian Ocean

   (B) NE Pacific Ocean

   (C) N. W. Pacific Ocean

   (D) North Atlantic Ocean

71. First law of Thermodynamics for an adiabatic process is given by the equation :

   (A) $CvdT = -pd\alpha$

   (B) $CpdT = -pd\alpha$

   (C) $CvdT = -\alpha dp$

   (D) $dq = dE + vdp$

72. Formation of $O(^1D)$ atom in the $O_3 + hv \rightarrow O_2 + O(^1D)$ reaction is due to :

    (A) Collision

    (B) Photolysis

    (C) Termolecular reaction

    (D) Nuclear fusion

73. What range of electromagnetic radiation are most abundantly emitted by the Earth surface ?

    (A) Microwave

    (B) Radio wave

    (C) Ultraviolet

    (D) Infrared

74. Ozone-hole in the atmosphere is largely caused by the presence of :

    (A) Oxygen

    (B) Hydrogen

    (C) Chloro-fluoro-carbon

    (D) Radioactive-waste

75. Which instrument is used to measure the relative humidity of the air ?

    (A) Hydrometer

    (B) Hygrometer

    (C) Barograph

    (D) Barometer

76. The major gases responsible for acid rain are :

    (A) O_3 and NO_2

    (B) CO_2 and CO

    (C) SO_3 and CO

    (D) SO_2 and NO_2

77. Which of the following is not benefit of vegetation in a watershed ?

    (A) Increases soil compaction

    (B) Slows runoff

    (C) Reduces raindrop splash

    (D) Reduces sediment runoff

78. Formation of ozone is maximum over :

    (A) Africa

    (B) America

    (C) Antarctica

    (D) China

79. Which one of the following has a shortest lifetime in the atmosphere ?

(A) NH_3

(B) O_3

(C) CO

(D) OH

80. Lightning in the atmosphere produces :

(A) CO

(B) NO

(C) CO_2

(D) NH_3

81. An element $_{94}A^{238}$ forms another element B after one α-particle. The atomic number and the atomic mass of the element B will be :

(A) 92 and 236 respectively

(B) 95 and 238 respectively

(C) 92 and 234 respectively

(D) 93 and 234 respectively

82. Earth Summit at Rio de Janeiro in 1992 released a blueprint for Environment and Development is known as :

(A) Conference of Parties

(B) Clean Development Mechanism

(C) Agenda 21

(D) Kyoto Protocol

83. Number of minerals in Mohs scale of hardness is :

(A) 8

(B) 10

(C) 12

(D) 15

84. Denitrification is a process of :

(A) Hydration

(B) Carbonation

(C) Oxidation

(D) Reduction

85. Which one of the following is a Ramsar site ?

(A) Koyana reservoir

(B) Ujani dam

(C) Chilka lake

(D) Jayakwadi

86. According to Beer's law, the intensity of transmitted light is decreased in proportion of :

(A) Distance

(B) Concentration

(C) Volume

(D) Time

87. The role of suppresser in ion chromatography is to :

   (A) Maintain the pH of eluent

   (B) Reduce the baseline conductivity

   (C) Increase the concentration of eluent

   (D) Control the interference of metals

88. Density of water is maximum at :

   (A) 10ºC

   (B) 5ºC

   (C) 4ºC

   (D) 0ºC

89. Five days BOD is taken at a temperature of :

   (A) 0ºC

   (B) 5ºC

   (C) 15ºC

   (D) 20ºC

90. Chlorination of water is done to remove :

   (A) Hardness

   (B) Bacteria

   (C) Sediments

   (D) Suspended solids

91. Molar mass of a compound is the :

   (A) Mass in 1 lit solvent

   (B) Mass in 1 mol of a substance

   (C) Mass in 1 ml of solvent

   (D) Mass in 1 g of a compound

92. 63 g/mol HNO_3 contains :

   (A) 6.022×10^{23} HNO_3 molecules

   (B) 1000 molecules of HNO_3

   (C) 1 molecule of HNO_3

   (D) 100 HNO_3 molecules

93. Which one of the following will not react with water to produce H_2 gas even at red hot conditions ?

   (A) Li

   (B) Be

   (C) Ca

   (D) Mg

94. One molecule of pentane has :

   (A) 17 hydrogen atoms

   (B) 12 hydrogen atoms

   (C) 5 hydrogen atoms

   (D) 9 hydrogen atoms

95. How many electrons are in Ba^{++} ?

    (A) 46

    (B) 54

    (C) 56

    (D) 62

96. In an aquatic ecosystem level of D.O. from top to bottom shows :

    (A) Same D.O. level at all the depth

    (B) Less on the top and more at bottom

    (C) An increase from top to bottom

    (D) A decrease from top to bottom

97. An example of a lentic ecosystem is :

    (A) River

    (B) Stream

    (C) Flowing water

    (D) Lake

98. The various sources of pollutants cause a body of water becomes rich with nutrients. This process is known as :

    (A) Trophic level

    (B) Oligotrophic

    (C) Entropic

    (D) Entropy

99. Which one of the following units of sewage treatment plant is used for removal of dissolved substances ?

    (A) Activated sludge

    (B) Secondary clarifier

    (C) Grit chamber

    (D) Sludge digestion

100. Role of eukaryotic and prokaryotic organisms is been utilized in the oxidation pond method for treatment of clarified sewage. These organisms are :

    (A) Bacteria and Algae

    (B) Algae and Mushrooms

    (C) Mushroom and Lichens

    (D) Lichens and Mosses

ROUGH WORK