

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

Booklet Serial No. **837525**

Test Booklet Series

SCIENTIST- 'A'
OMR Examination - 2025

A

Time Allowed: 120 Minutes

Maximum Marks: 120

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number, Booklet Serial No. and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.
DO NOT write anything else on the Test Booklet.
4. This Test booklet contains **120** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the appropriate. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. *See directions in the Response Sheet.*
6. **All** items carry equal marks.
7. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
8. Sheets for rough work are appended in the Test Booklet at the end.
9. While writing Centre Code and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "**ONLY BLUE/BLACK BALL POINT PEN**".
10. **Penalty for wrong answers:**

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THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, $(\frac{1}{4})$ of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

(Set - A)

(Set - A)

(2)

1. The upper part of the planet Earth's interior is known as

A) Atmosphere	B) Hydrosphere
C) Biosphere	D) Lithosphere

2. The part of the earth in which life exists in any form i.e., plants, animals and humans is referred to as:

A) Lithosphere	B) Atmosphere
C) Biosphere	D) Hydrosphere

3. The atmosphere of the earth can be defined as

A) Surrounding mass of water	B) Envelope of air mass
C) Surrounding soil mass	D) Surrounding liquid mass

4. The study of relationships and interactions between biotic and abiotic components is known as

A) Ecology	B) Virology
C) Biology	D) Ecosystem

5. The functional unit in ecology is

A) Biotic system	B) Abiotic system
C) Ecosystem	D) Biological system

6. Within an ecosystem any physical entity that occupies space, and can be seen, smelled or felt, is known as.

A) Environment	B) Matter
C) Mass	D) Density

7. The ability to perform work is known as

A) Energy	B) Work
C) Force	D) Weight

8. Identify the wrong statements

A) The Coriolis force acts perpendicular to the direction of motion
B) Pressure gradient force acts in the direction of low pressure
C) Both (A) and (B)
D) Pressure gradient force and Coriolis force are always in opposite direction

9. Frontal inversion is caused when a

A) Warm air mass passes under a cold air mass
B) Cold air mass passes under a warm air mass
C) When cold and hot air masses meet at a height
D) When cold and hot air masses diverge at a height

(Set - A)

(4)

17. Due to climate change, species extinction may occur at
- A) Lower latitudes and lower elevations
 - B) Higher latitudes and lower elevations
 - C) Higher latitudes and higher elevations
 - D) Lower latitudes and higher elevations
18. A large regional unit characterized by vegetation type and fauna in a specific climatic zone
- A) Landscape
 - B) Biome
 - C) Ecosystem
 - D) None
19. In the logistic growth curve for population growth, the effect of environmental resistance is observed in
- A) Asymptotic phase
 - B) Acceleration phase
 - C) Deceleration phase
 - D) Logarithmic phase
20. A unit of land with natural boundary having different patches of ecosystems is called as
- A) Landscape
 - B) Lithosphere
 - C) Biome
 - D) None
21. Match the following

Set - A

- 1. System
- 2. Closed System
- 3. Open System
- 4. Surroundings

Set - B

- i. Rest of the universe beyond the defined boundary of the system
- ii. Both energy and matter can flow across the boundary
- iii. Anything with an imaginary boundary around
- iv. Energy is allowed to flow across boundary, but matter is not allowed

Choose the Correct Option:

- A) (1)-(ii), (2)-(i), (3)-(iii), (4)-(iv)
- B) (1)-(i), (2)-(iv), (3)-(ii), (4)-(iii)
- C) (1)-(iii), (2)-(i), (3)-(ii), (4)-(iv)
- D) (1)-(iii), (2)-(iv), (3)-(ii), (4)-(i)

22. Consider the following statements:

- i. Energy can neither be created nor destroyed
- ii. When work is done there will always be some inefficiency.
- iii. Every bit of energy can be accounted for while taking part in the process under study.
- iv. Some portion of the energy put into the process will end up as waste heat.

Which of the above statements are correct for First Law of thermodynamics?

- A) (i), (iv)
- B) (ii), (iii)
- C) (i), (iii)
- D) (ii), (iv)

23. Match the following

Set -A

- 1. Specific heat
- 2. Latent heat of fusion
- 3. Internal energy
- 4. Latent heat of vaporization

Set -B

- i. Energy stored in the system
- ii. Energy required to cause phase change from liquid to vapour
- iii. Energy required to cause phase change from solid to liquid
- iv. Amount of energy required to raise the temperature of unit mass of substance by 1 degree

Choose the Correct Option:

- A) (1)-(iv), (2)-(ii), (3)-(i), (4)-(iii)
- B) (1)-(iii), (2)-(iv), (3)-(ii), (4)-(i)
- C) (1)-(iv), (2)-(iii), (3)-(i), (4)-(ii)
- D) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)

24. Mixing height is

- A) Height above the earth surface to the inversion aloft
- B) Height above the earth surface to the base of inversion aloft
- C) Height between base and top of the inversion layer
- D) None of the above

25. The anemometer at 10m height from the earth's surface measures the average wind speed as 10.2 m/s. The mixing height is 500m. The ventilation coefficient will be?

- A) $100.2 \text{ m}^2/\text{s}$
- B) 49.0 s
- C) $5100 \text{ m}^2/\text{s}$
- D) 5000 m^2

26. Consider the following pairs:

Set - A

1. Organisms
2. Population
3. Biological community
4. Aquatic systems

Set - B

- i. Primary lakes, rivers and marine ecosystems
- ii. The populations of plants, animals, bacteria and fungi having distinct species composition and structures
- iii. Group of individuals inhabiting each area having group characteristics
- iv. Basic unit of study in ecology to understand the form, physiology and behaviour

Which one among the pairs given below is correct:

- A) (1)-(iv), (2)-(iii), (3)-(ii), (4)-(i)
- B) (1)-(iii), (2)-(iv), (3)-(ii), (4)-(i)
- C) (1)-(iii), (2)-(ii), (3)-(iv), (4)-(i)
- D) (1)-(iv), (2)-(iii), (3)-(i), (4)-(ii)

27. Consider the following pairs:

Set - A

1. Autotrophs
2. Photoautotrophs
3. Photoheterotrophs
4. Chemotrophs

Set - B

- i. Obtain carbon from reduced carbon compounds generated by other organisms
- ii. Obtain energy from either inorganic or organic carbon sources
- iii. They obtain carbon from inorganics sources.
- iv. Photosynthetic organisms that obtain their carbon from inorganic sources

Which one among the pairs given below is correct:

- A) (1)-(iv), (2)-(iii), (3)-(ii), (4)-(i)
- B) (1)-(iii), (2)-(iv), (3)-(i), (4)-(ii)
- C) (1)-(iii), (2)-(ii), (3)-(iv), (4)-(i)
- D) (1)-(iv), (2)-(iii), (3)-(i), (4)-(ii)

28. Major driving force in the carbon cycle is

- A) Photosynthesis
- B) Respiration
- C) Decomposition
- D) Conversion

29. Which one of the following is the major sink of carbon

- A) Earth surface
- B) Grasslands
- C) Oceans
- D) Mountains

30. In the lakes, nitrogen is found usually in the form of

- A) NH_3
- B) NH_4^+
- C) NO_3^-
- D) N_2O

(Set - A)

(7)

[P.T.O.]

- 31.** Consider the following statements:

 - Wind is air in motion relative to the earth's surface
 - Wind is air in motion relative to atmosphere.
 - Wind is air in motion relative to Earth's rotation.
 - Vertical motion of the wind is responsible for the movement of pollutants.

Which of the above statements are correct?

A) (i), (iv) B) (ii), (iv)
C) (i), (iii) D) (i), (ii), (iii)

32. Consider the following statements:

 - The specific humidity is an index of humidity
 - The specific humidity is a dimensionless index of humidity that changes with pressure
 - The specific humidity is a dimensionless index of humidity that does not change with pressure or temperature
 - Specific humidity indices index are not commonly used in air quality studies

Which of the above statements are correct?

A) (i), (iv) B) (iii), (iv)
C) (i), (iii) D) (ii), (iv)

33. The pressure on a map is depicted by

A) Isopleth B) Isobar
C) Isoclines D) Isodop

34. In situ bioremediation stimulating microorganisms within

A) Vadose zone B) Zone of saturation
C) Impervious Zone D) None of the above

35. Consider the following statements:

 - In intrinsic bioremediations, the contaminants should be organic compounds.
 - In intrinsic bioremediation, natural biodegradation occurs slower than migration.
 - The site requirement for intrinsic bioremediation includes adequate supply of trace nutrients.
 - In intrinsic bioremediation, adequate pH buffering is required to counter the alkaline environment that results from microbial activity.

Which of the above statements are correct?

A) (i), (ii)
B) (i), (iv)
C) (i), (iii)
D) (ii), (iii)

- 36.** Biodegradation occurs in
- A) Aerobic only
 - B) Anaerobic only
 - C) Aerobic and anaerobic both
 - D) None of the above

- 37.** Consider the following statements:
- i. Biodegradation converts the original material into volatile matter
 - ii. Biodegradation converts the original material into water, carbon dioxide and minerals.
 - iii. Biodegradation includes heterotrophic bacteria.
 - iv. Biodegradation breaks down large polymers into monomers or oligomers.

Which of the above statements are correct?

- A) (ii), (iv)
- B) (i), (iv)
- C) (i), (ii)
- D) (ii), (iii)

- 38.** Consider the following statements:
- i. Phytoremediation is an alternative to engineering procedures that are usually more destructive to the soil.
 - ii. Phytoremediation is limited to the impervious zone of soil.
 - iii. Phytoremediation technologies are not available for various environments and types of contaminants.
 - iv. Phytoremediation has limited application where the concentrations of contaminants are toxic to plants

Which of the above statements are not correct?

- A) (ii), (iv)
- B) (ii), (iii)
- C) (i), (iv)
- D) (i), (iii)

- 39.** Biomagnification occurs when
- A) Organisms at the bottom of the food chain concentrate the material above its concentration in the surrounding soil or water.
 - B) Organisms at the top of the food chain concentrate the material above its concentration in the surrounding soil or water.
 - C) Organisms at the bottom of the food chain concentrate the material below its concentration in the surrounding soil or water.
 - D) Organisms at the top of the food chain concentrate the material below its concentration in the surrounding soil or water.

- 40.** Consider the following statements:
- i. An ecosystem is much smaller than a biome
 - ii. A biome is a large area with similar flora, fauna and microorganisms
 - iii. Ecosystem does not fail if it doesn't remain in balance
 - iv. Tropical dry forests are not among major biomes of the world
- Which of the above statements are correct?**
- A) (iii), (iv) B) (ii), (iii)
C) (i), (iv) D) (i), (ii)
- 41.** A food chain is
- A) path of food from producer to final consumer
B) path of food from final consumer to producer
C) path of food from final consumer to decomposer
D) path of food from decomposer to final consumer
- 42.** The hydrologic cycle does not comprise
- A) Precipitation and Run-off
B) Infiltration and evaporation
C) Diffusion and dispersion
D) Transpiration and ground water flow
- 43.** The true color is
- A) Direct measurement of humic substances in the water
B) Indirect measurement of humic substances in the water
C) Decay measurement of humic substances in the water
D) Destructive measurements of humic substances in the water
- 44.** Consider the following pairs:
- | | |
|--------------|---|
| 1. Turbidity | Measure of the extent to which light is absorbed or scattered by suspended matter |
| 2. Turbidity | Measure of the extent to which light is absorbed or scattered by dissolved matter |
| 3. Turbidity | Turbidity is not a direct quantitative measure of suspended solids |
| 4. Turbidity | Soaps and detergents do not produce stable colloids that cause turbidity |

Which of the above pairs match correctly?

- A) 1 and 4
B) 2 and 3
C) 1 and 3
D) 2 and 4

- 45.** Suspended organic solids
- A) Do not degrade biologically
 - B) Produce objectionable byproducts
 - C) Do not include disease causing organisms
 - D) Do not include toxic producing algae
- 46.** Size ranges of dissolved, colloidal and suspended substances are:
- i. 10^{-5} to 10^{-6} μm
 - ii. 10^{-3} to $1 \mu\text{m}$
 - iii. 10^{-5} to 10^{-1} mm
 - iv. 10^{-8} to 10^{-6} mm
 - v. 1 to $10^2 \mu\text{m}$
 - vi. 10^{-3} to 10 mm
- Choose the Correct Option:**
- A) i, iii, v
 - B) ii, iv, vi
 - C) iv, ii, v
 - D) i, iii, vi
- 47.** Alkalinity is a measure of
- A) The ability of water to reduce acids
 - B) The ability of water to oxidize acids
 - C) The ability of water to neutralize acids
 - D) The ability of water to dissolve acids
- 48.** Hardness is classified based on
- A) Cations with which it associates
 - B) Anions with which it associates
 - C) Cations and anions with which it associates
 - D) Univalent metallic cations with which it associates
- 49.** Consider the following pairs:

- Set - A**
- 1. BOD
 - 2. COD
 - 3. TOC
 - 4. Ultimate BOD

- Set - B**
- i. Measure of natural organic matter
 - ii. BOD equal to the initial oxygen equivalent of the water
 - iii. Organic matter chemically oxidized
 - iv. Amount of oxygen consumed during microbial utilization of organics
 - v. Conversion of substrates to cells

Which one among the pairs given below is correct:

- A) (1)-(v), (2)-(iii), (3)-(ii), (4)-(i)
- B) (1)-(iv), (2)-(iii), (3)-(i), (4)-(ii)
- C) (1)-(ii), (2)-(i), (3)-(iv), (4)-(v)
- D) (1)-(iii), (2)-(v), (3)-(i), (4)-(ii)

- 50.** The probability distribution that characterizes some aspects of sampling variability is known as
- A) Sampling randomness
 - B) Sampling distribution
 - C) Sampling Error
 - D) Sampling Mean

- 51.** Consider the following statements:
- i. Student's t distribution depends on the quantity called degree of freedom
 - ii. Student's t distribution is symmetric, and bell shaped
 - iii. Student's t distribution have a smaller standard deviation
 - iv. As the sample size increases the student's t distribution approaches Poisson distribution

Which of the above statements are correct?

- A) (ii), (iv)
 - B) (i), (iii)
 - C) (i), (ii)
 - D) (iii), (iv)
- 52.** In one of the monitoring experiments conducted in the field, the following concentrations of NO_x in $\mu\text{g}/\text{m}^3$ were obtained:
75.83, 76.03, 82.35, 82.7, 87.08, 88.25, 97.43, 108.12, 125.28
What is the median?
- A) $82.7 \mu\text{g}/\text{m}^3$
 - B) $88.25 \mu\text{g}/\text{m}^3$
 - C) $87.08 \mu\text{g}/\text{m}^3$
 - D) $82.35 \mu\text{g}/\text{m}^3$

- 53.** The standard deviation of data set is
- A) Root of the variance
 - B) Square root of median
 - C) Square root of variance
 - D) Percentile of variance
- 54.** In one of the water quality experiments in the field the following concentration of NO_3 was obtained in mg/l:
46, 46, 50, 54, 54
The variance of the above experimental data is 12.8. What is the standard deviation?
- A) 3.57 mg/l
 - B) 4.28 mg/l
 - C) 3.12 mg/l
 - D) 3.85 mg/l

- 55.** Consider the following statements:
- i. Lognormal distribution fits the skewed data sets
 - ii. In the normal distribution curve, around 95% of the values are within one standard deviation of the mean
 - iii. The normal distribution curve is not symmetrical about its central line
 - iv. Normal distribution fits the symmetrical data sets
- Which of the above statements are not correct?**
- A) (ii), (iv)
 - B) (ii), (iii)
 - C) (i), (iii)
 - D) (i), (iv)

- 56.** Consider the following pairs:

Set - A

1. Vegetable residues and garbage
2. Pulp and paper waste
3. Radioactive substance
4. Pathological waste

Set - B

- i. Hazardous waste
- ii. Municipal Solid waste
- iii. Biomedical waste
- iv. Industrial waste

Which one among the pairs given below is correct:

- A) (1)-(iv), (2)-(ii), (3)-(iii), (4)-(i)
- B) (1)-(ii), (2)-(iv), (3)-(i), (4)-(iii)
- C) (1)-(ii), (2)-(i), (3)-(iv), (4)-(iii)
- D) (1)-(iii), (2)-(iv), (3)-(i), (4)-(ii)

- 57.** To obtain the dry mass of solid waste material and to limit the vaporization of volatile materials, the solid waste material is dried in an oven at

- A) 77°C for 24 hours
- B) 77°C for 48 hours
- C) 100°C for 24 hours
- D) 100°C for 48 hours

- 58.** If 'a' is an initial mass of solid waste sample and 'b' is mass of sample after drying. What is the formulae moisture content (in %)?

A) $\left(\frac{a-b}{b} \right) 100$

B) $\left(\frac{b-a}{a} \right) 100$

C) $\left(\frac{b-a}{b} \right) 100$

D) $\left(\frac{a-b}{a} \right) 100$

- 59.** As per the succession of environmental laws, which order among the following is correct?

- I. Water (Prevention and Control of Pollution) Act
- II. Public Liability Act
- III. Air (Prevention and Control of Pollution) Act
- IV. Environment Protection Act

Choose the Correct Option:

- A) IV, III, I, II
- B) IV, I, II, III
- C) III, II, IV, I
- D) I, III, IV, II

- 60.** Which of the following ministry is responsible at the central level for planning, promotion, coordination and overseeing the implementation of environmental pollution legislations?

- A) Ministry of Earth Sciences
- B) Ministry of Law and Justice
- C) Ministry of Environment, Forest and Climate Change
- D) Ministry of Environment and Forest

61. Consider the following pairs:

Set - A

1. The Factories Act, 1948
2. The Atomic Energy Act, 1962
3. Motor Vehicle Act, 1988
4. Wildlife Protection Act, 1972

Set - B

- i. Adequate ventilation and reasonable temperature maintenance
- ii. The protection of wild animals, birds and plants
- iii. Prevention of radiation hazards and guarantee of public safety
- iv. Legislative provisions regarding licensing of drivers and registration of motor vehicles

Which one among the pairs given below is correct:

- A) (1)-(ii), (2)-(iv), (3)-(i), (4)-(iii)
 - B) (1)-(i), (2)-(iii), (3)-(ii), (4)-(iv)
 - C) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)
 - D) (1)-(iv), (2)-(iii), (3)-(i), (4)-(ii)
- 62.** The compost or humus of organic material is end product remaining after
- A) Bacterial activity
 - B) Assimilatory bacterial activity
 - C) Dissimilatory bacterial activity
 - D) Assimilatory and Dissimilatory bacterial activity
- 63.** Major contributors to acid rain are:
- A) Sulphur oxides and nitrogen oxides
 - B) Trichloromethyl
 - C) Chlorous acid
 - D) Free radicals
- 64.** Which of the following initiates the breakdown of ozone
- A) Nitrogen
 - B) Chlorine
 - C) Carbon dioxide
 - D) Oxygen
- 65.** Which of the following is not greenhouse gas?
- A) CO_2
 - B) CH_4
 - C) N_2
 - D) N_2O

Which of the above statements are correct?

- A) (ii), (iv)
 - B) (i), (ii)
 - C) (i), (iii)
 - D) (i), (iv)

- 68.** Consider the following pairs:

Set - A

1. Baseline Analysis
 2. Baseline Assessment
 3. Baseline Survey
 4. Baseline Information

Set - B

- i. Preliminary evaluation of environmental components
 - ii. Any form of measurement that's used for comparison and analysis
 - iii. Conditions at the time the project is proposed
 - iv. Done at the beginning of a project to get knowledge of current status

Which one among the pairs given below is correct:

- A) (1)-(ii), (2)-(iv), (3)-(i), (4)-(iii)
 - B) (1)-(i), (2)-(iii), (3)-(ii), (4)-(iv)
 - C) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)
 - D) (1)-(ii), (2)-(i), (3)-(iv), (4)-(iii)

69. Consider the following pairs:

Set - A	Set - B
1. Simple Matrix	i. Qualitative methods for assessing environmental impacts of proposed projects
2. Time-dependent matrix	ii. Tool that identifies the importance, magnitude, and time frame of potential impacts
3. Magnitude Matrix	iii. Grid or table that lists environmental aspects on one axis and activities on the other
4. Leopold Matrix	iv. Tool that identifies impacts based on their magnitude, importance, and time frame

Which one among the pairs given below is correct:

- A) (1)-(ii), (2)-(iv), (3)-(i), (4)-(iii)
- B) (1)-(iii), (2)-(iv), (3)-(ii), (4)-(i)
- C) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)
- D) (1)-(ii), (2)-(i), (3)-(iv), (4)-(iii)

70. Consider the following pairs:

Set - A	Set - B
1. ISO 14001	i. Guidelines for incorporating eco-design
2. ISO 14006	ii. Environmental labels and decelerations
3. ISO 14020	iii. Environmental management systems - requirements with guidance for use
4. ISO 14040	iv. Life cycle assessment

Which one among the pairs given below is correct:

- A) (1)-(iii), (2)-(i), (3)-(ii), (4)-(iv)
- B) (1)-(iii), (2)-(iv), (3)-(ii), (4)-(i)
- C) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)
- D) (1)-(ii), (2)-(i), (3)-(iv), (4)-(iii)

71. The Polluter pay principle is

- A) Polluter has to bear the cost of compliance with environmental standards
- B) Polluter has to carry out the EIA
- C) Polluter has to identify the impact based on magnitude
- D) Polluter is paid the cost of creating pollution

72. Which of the following are not characteristics of an ideal indicator organism?
- The indicator organism must not be present when fecal contamination is present
 - The indicator organism must exhibit same greater survival characteristics in the environment as the target pathogen organism for which it is a surrogate
 - The organism should not be a member of the intestinal microflora of warm-blooded animals
 - The indicator organism must be present when fecal contamination is present.

Which of the above statements are not correct?

- A) (ii), (iv)
- B) (i), (iii)
- C) (i), (ii)
- D) (iii), (iv)

73. Consider the following pairs:

Set - A

- Total coliform bacteria
- E. coli
- Fecal coliform bacteria
- Fecal streptococci

Set - B

- The group which has been used in conjunction with fecal coliforms to determine source of fecal contamination
- Species of gram-negative rods that may ferment lactose with gas production
- One of the coliform bacteria populations which is representative of fecal sources
- The group of bacteria based on the ability to produce gas at an elevated incubation temperature.

Which one among the pairs given below is correct:

- A) (1)-(iv), (2)-(i), (3)-(ii), (4)-(iii)
- B) (1)-(ii), (2)-(iii), (3)-(iv), (4)-(i)
- C) (1)-(i), (2)-(iii), (3)-(iv), (4)-(ii)
- D) (1)-(ii), (2)-(i), (3)-(iv), (4)-(iii)

74. The indicator organism for drinking water is

- A) Fecal coliform
- B) Enterococci
- C) Total coliform
- D) E. coli

75. As per the succession of UNFCCC protocols, which order among the following is correct?

- I. Paris Agreement
- II. The US Mayor's Climate Protection Agreement
- III. Conference of Parties (COP)
- IV. Kyoto Protocol

Choose the Correct Option:

- A) I, II, III, IV
- B) III, IV, II, I
- C) III, I, II, IV
- D) II, IV, III, I

76. Which of the following pollutant is emitted from paper mills?

- A) Arsenic vapor
- B) Sulphur dioxide
- C) Nitrogen dioxide
- D) Ozone

77. In a high-volume sampler, the gases are measured using the principle of

- A) Gravity
- B) Adsorption
- C) Absorption
- D) Filtration

78. Which of the following particles enter into the bloodstream of humans

- A) PM₁₀
- B) PM_{2.5}
- C) SPM
- D) PM₁

79. As per the latest records, the number of non-attainment cities in India are

- A) 110
- B) 111
- C) 131
- D) 130

80. Nitrogen dioxide is naturally formed from

- A) Volcano
- B) Lightening
- C) Oceans
- D) Rocks

81. PAN stands for

- A) Peroxy Acetic Nitrogen
- B) Peroxy Acetyl Nitrate
- C) Pure Acetic Nitrogen
- D) Pure Acetyl Nitrate

82. Dispersion is equal to

- A) Diffusion - advection
- B) Diffusion+ advection
- C) Diffusion × advection
- D) Average of diffusion and advection

83. The permissible value of COD in drinking water is

- A) 0 mg/L
- B) 100 mg/L
- C) 30 mg/L
- D) 50 mg/L

84. After nitrogen and oxygen, the next abundant gas in the earth's atmosphere is

 - A) Carbon dioxide
 - B) Methane
 - C) Water vapour
 - D) Argon

85. The temperature at which volatile solids from water gets evaporated is

 - A) 100°C
 - B) 102°C
 - C) 550°C
 - D) 250°C

86. Common ion effect is the reason for

 - A) Increasing solubility of a reaction
 - B) Increasing acidity of a reaction
 - C) Decreasing solubility of a reaction
 - D) Decreasing acidity of a reaction

87. Visakapatnam gas tragedy occurred in 2020 is due to the leakage of

 - A) Methyl Isocynate
 - B) Styrene
 - C) Methyl cynide
 - D) Methyl Mercury

88. PFAS stands for

 - A) Poly- Flouro Alkali substances
 - B) Per -and Polyfluoroalkyl substances
 - C) Pre -Flouro Acidic substances
 - D) Per -chloroflouro acidic substances

89. Saline soils have a pH value of

 - A) 7
 - B) 7 to 8
 - C) >8
 - D) 6 to 8

90. Constant frequency of sounds that are persistant are classified as

 - A) Pink noise
 - B) Blue noise
 - C) White noise
 - D) Black Noise

Which of the above statements are correct?

- A) i, iii
 - B) iii, iv
 - C) ii, iii
 - D) iv, ii

108. Black cotton soil is **NOT** deficient in

- A) Nitrogen
- B) Humus
- C) Phosphorous
- D) Iron

109. Apart from Cesium compounds, the Fukushima nuclear disaster also released a compound of

- A) Uranium
- B) Thorium
- C) Iodine
- D) Lead

110. Sandy Soils are rich in

- A) Humus
- B) Potassium
- C) Nitrogen
- D) Phosphorous

111. Cladosporium is a type of

- A) Mites
- B) Pollen
- C) Mold
- D) Animal Dander

112. In Electrophoresis, at pH above the isoelectric point, the protein has a

- A) Negative charge and moves towards anode
- B) Positive charge and moves towards cathode
- C) Neutral charge and moves Equally towards cathode and anode
- D) Neutral charge and does not move anywhere

113. Sloughing phenomenon occurs in

- A) Activated Sludge process
- B) Trickling filters
- C) Anaerobic digestion
- D) Aerobic digestion

114. Which of the component can be used to protect pumps used in the lifting of sewage

- A) Settling tank
- B) Equilization tank
- C) Both (A) and (B)
- D) Screens

115. The *oxidizing* agent used in the COD experiment is

- A) Potassium chromate
- B) Potassium dichromate
- C) Potassium chloride
- D) Potassium nitrate

- 116.** As per the guidelines in India, the silence zone must not exceed the sound of
- A) 40db in the day and 35db in the night
 - B) 45db in the day and 40db in the night
 - C) 50db in the day and 45 db in the night
 - D) 50db in the day and 40db in the night
- 117.** Brain eating amoeba is also called as
- A) Amoeba gorgonian
 - B) Amoeba limicola
 - C) Naegleria Fowleri
 - D) VespertilioAgillis
- 118.** Among the Coastal Regulation Zone (CRZ rules), mangroves are categorized under
- A) CRZ 3
 - B) CRZ 2
 - C) CRZ 1
 - D) CRZ 4
- 119.** The key element present in organic chemicals is
- A) Carbon
 - B) Arsenic
 - C) Lead
 - D) Cadmium
- 120.** For fish and aquatic animal species the minimum required dissolved oxygen in the river is
- A) 3 mg/L
 - B) 0 mg/L
 - C) 2 mg/L
 - D) 1 mg/L
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ROUGH WORK

(Set - A)

(24)