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FOR KSET PREPARATION

KSET 2024 Environmental Sciences Question Paper

EXAM	YEAR	TYPE
KSET	2024	Question Paper

ಕ್ರಮ ಸಂಖ್ಯೆ

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ಅರ್ಹತಾ / ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆ – 2024

ಪತ್ರಿಕೆ–2

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 100

ಗರಿಷ್ಠ ಅಂಕಗಳು : 200

ನಿಮ್ಮ ನೋಂದಣಿ ಸಂಖ್ಯೆಯನ್ನು ನಮೂದಿಸಿ

ವಿಷಯ : ಪರಿಸರ ವಿಜ್ಞಾನಗಳು

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

ಮಾಡಿ :

1. ಕೊಠಡಿ ಮೇಲ್ವಿಚಾರಕರು ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ನಿಮಗೆ **ಬೆ. 9.55** ಕ್ಕೆ ಕೊಡುತ್ತಾರೆ.
2. ನೋಂದಣಿ ಸಂಖ್ಯೆಯನ್ನು ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಬರೆದು ಅದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ವೃತ್ತಗಳನ್ನು ಸಂಪೂರ್ಣವಾಗಿ ತುಂಬಿದ್ದೀರೆಂದು ಖಾತ್ರಿಪಡಿಸಿಕೊಳ್ಳತಕ್ಕದ್ದು.
3. ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯ ವರ್ಷನ್ ಕೋಡ್ ಅನ್ನು ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಬರೆದು ಅದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ವೃತ್ತಗಳನ್ನು ಸಂಪೂರ್ಣವಾಗಿ ತುಂಬಬೇಕು.
4. ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯ ವರ್ಷನ್ ಕೋಡ್ ಮತ್ತು ಕ್ರಮ ಸಂಖ್ಯೆಯನ್ನು ನಾಮಿನಲ್ ರೋಲ್‌ನಲ್ಲಿ ತಪ್ಪಿಲ್ಲದೆ ಬರೆಯಬೇಕು.
5. ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯ ಕೆಳಭಾಗದ ನಿಗದಿತ ಜಾಗದಲ್ಲಿ ಕಡ್ಡಾಯವಾಗಿ ಸಹಿ ಮಾಡಬೇಕು.

ಮಾಡಬೇಡಿ :

- **ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಮುದ್ರಿತವಾಗಿರುವ ಟೈಮಿಂಗ್ & ಮಾರ್ಕನ್ನು ತಿದ್ದಬಾರದು / ಹಾಳುಮಾಡಬಾರದು / ಅಳಿಸಬಾರದು.**

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಮುಖ್ಯ ಸೂಚನೆಗಳು

1. ಪ್ರಶ್ನೆಗಳಲ್ಲಿ ಬಳಸಿರುವ signs and symbols ಗಳನ್ನು, ಬೇರೆ ರೀತಿಯಲ್ಲಿ ಹೇಳದ ಹೊರತು, ನಿಗದಿತ ಪಠ್ಯಪುಸ್ತಕದಲ್ಲಿನ ಅರ್ಥವನ್ನು ಪರಿಗಣಿಸಬೇಕು.ಪೇಕು.
2. ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಲ್ಲಿ ಒಟ್ಟು **100** ಪ್ರಶ್ನೆಗಳಿದ್ದು, ಪ್ರತಿ ಪ್ರಶ್ನೆಗೂ 4 ಬಹು ಆಯ್ಕೆ ಉತ್ತರಗಳು ಇರುತ್ತವೆ. ಪ್ರತಿ ಪ್ರಶ್ನೆಯ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ನಾಲ್ಕು ಬಹು ಆಯ್ಕೆಯ ಉತ್ತರಗಳಲ್ಲಿ ಸರಿಯಾದ ಒಂದು ಉತ್ತರವನ್ನು ಆಯ್ಕೆ ಮಾಡಿ.
3. **ಬೆಳಿಗ್ಗೆ 10.00** ಗಂಟೆಗೆ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಬಲಭಾಗದಲ್ಲಿರುವ ಸೀಲ್ ತೆಗೆದು ಈ ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಲ್ಲಿ ಯಾವುದೇ ಪುಟಗಳು ಮುದ್ರಿತವಾಗಿಲ್ಲದೇ ಇರುವುದು ಕಂಡು ಬಂದಲ್ಲಿ ಅಥವಾ ಹರಿದು ಹೋಗಿದ್ದಲ್ಲಿ ಅಥವಾ ಯಾವುದೇ ಅಕ್ಷರಗಳು ಬಿಟ್ಟುಹೋಗಿದ್ದಲ್ಲಿ ಪರೀಕ್ಷೆ ಪ್ರಾರಂಭವಾದ **5** ನಿಮಿಷಗಳೊಳಗೆ ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಿಕೊಳ್ಳುವುದು. ನಂತರ ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಉತ್ತರಿಸಲು ಪ್ರಾರಂಭಿಸುವುದು.
4. ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಲ್ಲಿನ ಪ್ರಶ್ನೆಗೆ ಅನುಗುಣವಾಗಿರುವ ಸರಿ ಉತ್ತರವನ್ನು **ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಅದೇ ಕ್ರಮ ಸಂಖ್ಯೆಯ ಮುಂದೆ ನೀಡಿರುವ ಸಂಬಂಧಿಸಿದ ವೃತ್ತವನ್ನು ನೀಲಿ ಅಥವಾ ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್‌ನಿಂದ ಸಂಪೂರ್ಣ ತುಂಬುವುದು.**

ಸರಿಯಾದ ಕ್ರಮ CORRECT METHOD	ತಪ್ಪು ಕ್ರಮಗಳು WRONG METHODS											
① ● ③ ④	⊗ ② ③ ④	① ② ③ ④	① ● ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④	① ② ③ ④

5. ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯನ್ನು ಸ್ಕ್ಯಾನ್ ಮಾಡುವ ಸ್ಕ್ಯಾನರ್ ಬಹಳ ಸೂಕ್ಷ್ಮವಾಗಿದ್ದು ಸಣ್ಣ ಗುರುತನ್ನು ಸಹ ದಾಖಲಿಸುತ್ತದೆ. ಆದ್ದರಿಂದ ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಉತ್ತರಿಸುವಾಗ ಎಚ್ಚರಿಕೆ ವಹಿಸಿ.
6. ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಲ್ಲಿ ಕೊಟ್ಟಿರುವ ಖಾಲಿ ಜಾಗವನ್ನು ಕಚ್ಚಾ ಕೆಲಸಕ್ಕೆ ಉಪಯೋಗಿಸಿ. ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯನ್ನು ಇದಕ್ಕೆ ಉಪಯೋಗಿಸಬೇಡಿ.
7. **ಮಧ್ಯಾಹ್ನ 1.00 ಗಂಟೆಗೆ ಕೊನೆಯ ಬೆಲ್‌ಕೊನ್ ಆದ ನಂತರ ಉತ್ತರಿಸುವುದನ್ನು ನಿಲ್ಲಿಸಿ, ಓ.ಎಂ.ಆರ್. ಉತ್ತರ ಪತ್ರಿಕೆಯನ್ನು ಕೊಠಡಿ ಮೇಲ್ವಿಚಾರಕರಿಗೆ ಯಥಾಸ್ಥಿತಿಯಲ್ಲಿ ನೀಡಿರಿ.**
8. ಕೊಠಡಿ ಮೇಲ್ವಿಚಾರಕರು ಮೇಲ್ಭಾಗದ ಹಾಳೆಯನ್ನು ಪ್ರತ್ಯೇಕಿಸಿ (ಕಚೇರಿ ಪ್ರತಿ) ತಮ್ಮ ವಶದಲ್ಲಿ ಇಟ್ಟುಕೊಂಡು ಹಿಂಬದಿಯ ಯಥಾಪ್ರತಿಯನ್ನು (ಅಭ್ಯರ್ಥಿಯ ಪ್ರತಿ) ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಕೊಡುತ್ತಾರೆ.
9. ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೆ ಸಮಾನ ಅಂಕಗಳಿರುತ್ತವೆ.
10. ಯಾವುದೇ ರೀತಿಯ ಮೊಬೈಲ್ ಫೋನ್, ಕ್ಯಾಲ್ಕ್ಯುಲೇಟರ್ ಮತ್ತು ಇತರೆ ರೀತಿಯ ಎಲೆಕ್ಟ್ರಾನಿಕ್/ಕಮ್ಯುನಿಕೇಷನ್ ಸಾಧನಗಳು ಇತ್ಯಾದಿಗಳನ್ನು ಪರೀಕ್ಷಾ ಕೇಂದ್ರದ ಆವರಣದೊಳಗೆ ತರುವುದನ್ನು ನಿಷೇಧಿಸಿದೆ.

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1. The species determining the ability of large number of other species to persist in a community are called :

(1) Indicator species
(2) Keystone species
(3) Dominant species
(4) Endemic species

2. The composition of rhizospheric microorganisms are dependent on the soil :

A. Texture
B. Organic matter
C. pH
D. Elasticity

Select the correct answer using the codes given below :

(1) Only A
(2) Neither A nor B
(3) A, B and C
(4) A, B, C and D

3. Given below are two statements, one is labelled as Assertion (A) and other as Reason (R) :

Assertion (A) : Chemosynthesis plays an important role in 'S' cycle.
Reason (R) : In chemosynthesis, some sulphur compounds act as a source of energy.

(1) Both (A) and (R) are correct, and (R) is the correct explanation of (A).
(2) Both (A) and (R) are correct, but (R) is ***not*** the correct explanation of (A).
(3) (A) is true, but (R) is false.
(4) (A) is false, but (R) is true.

4. Cryopreservation involves storage of cells from embryos and shoot tips in liquid nitrogen at :

(1) – 196°C
(2) 5°C
(3) 0°C
(4) 100°C

5. A species, the population of which is low enough for it to be at risk of becoming extinct but not low enough that it is in imminent danger of extinction, is called :

(1) Endangered species
(2) Threatened species
(3) Vulnerable species
(4) Rare species

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6. The concept of biosphere reserve was launched as a part of UNESCO's Man and Biosphere programme in :

(1) 1972
(2) 1974
(3) 1970
(4) 1971

7. Which one of the following termite gut microbe contributes to degradation of cellulose ?

(1) Citrobacter sp.
(2) Trichonympha sp.
(3) Enterococcus sp.
(4) Enterobacter sp.

8. Given below are two statements, one is labelled as Assertion (A) and other as Reason (R) :

Assertion (A) : Ecotone shows more diversity.
Reason (R) : Ecotone is a transition zone between two or more diverse communities.

(1) Both (A) and (R) are correct, and (R) is the correct explanation of (A).
(2) Both (A) and (R) are correct, but (R) is ***not*** the correct explanation of (A).
(3) (A) is true, but (R) is false.
(4) (A) is false, but (R) is true.

9. "Ecology is the 'Science of Community' " was stated by :

(1) Charles Elton
(2) Karl Fredericks
(3) Eugene Odum
(4) Frederic Clements

10. The largest unit climax community representing well defined climatic zone is referred to as :

(1) Landscape
(2) Biota
(3) Biosphere
(4) Biome

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11. Which of the following are sedimentary rocks ?

A. Geyserite

B. Pumice rocks

C. Chalk

D. Limestone

(1) A, B, C (2) A, B, D

(3) A, C, D (4) B, C, D

12. Which of the following has the longest residence time ?

(1) Groundwater

(2) Ice caps and glaciers

(3) Lakes

(4) Oceans

13. Which of the statements given below are correct with reference to equilibrium ?

A. Entropy remains constant.

B. Used to define reversible reaction changes.

C. Thermodynamically controlled process.

D. There may be a net heat transfer.

(1) A, B, C (2) A, C, D

(3) A, B, D (4) B, C, D

14. Bulk density of soil may be calculated as :

(1) Moisture content of soil / Volume of soil

(2) Weight of soil / Volume of soil

(3) Moisture content of soil / Weight of soil

(4) Volume of soil / Weight of soil

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15. The factors that slow soil formation include :

A. High lime content in parent material

B. High quartz content in parent material

C. High humidity

D. High clay content in parent material

(1) A, B, C

(2) A, C, D

(3) A, B, D

(4) B, C, D

16. Which of the following is known as Fe-loving element ?

(1) Ironophile

(2) Siderophile

(3) Lithophile

(4) Metallophile

17. The outpouring basaltic magma in effusive volcanic eruption has :

(1) Low viscosity and Low gas

(2) High viscosity and Low gas

(3) Low viscosity and High gas

(4) High viscosity and High gas

18. The movement of fluids through porous materials like rocks due to pressure differences, distance and flow connectivity is explained by :

(1) Fick's law of diffusion

(2) Darcy's law

(3) Coefficient of permeability

(4) Steno's law

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19. The maximum permissible limit for Fluoride in drinking water is :

(1) 0·15 mg/L

(2) 1·5 mg/L

(3) 5 mg/L

(4) 0·5 mg/L

20. Sumatra Tsunami, 2004 was generated by an earthquake measuring _____ on Richter Scale, caused by the subduction of _____.

(1) 8·0, India plate below the Burma plate

(2) 9·3, Indo-Australian plate below the Burma plate

(3) 7·0, plate to the east of Nicobar Island

(4) 8·5, India plate above the Burma plate

21. Hydel projects provide :

(1) Only electricity

(2) Electricity and irrigation

(3) Aquaculture, electricity, irrigation and flood control

(4) Flood control

22. The largest solar park is located in :

(1) Rajasthan, India

(2) Ningxia, China

(3) Karnataka, India

(4) Coahuila, Mexico

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23. Which among the following is used as a moderator in nuclear reactors ?

(1) Plutonium

(2) Lead

(3) Graphite

(4) Cesium

24. The correct distribution of solar energy spectrum is :

(1) 5% ultraviolet, 45% visible light, 50% infrared radiation

(2) 0% ultraviolet, 40% visible light, 60% infrared radiation

(3) 100% visible light

(4) 40% ultraviolet, 40% visible light, 20% infrared radiation

25. The term PCRA stands for

(1) Petroleum Council Research Association

(2) Public Conservation Research Association

(3) Petroleum Conservation Research Association

(4) Partial Counting of Remaining Amendment

26. Match List I with List II and choose the correct answer using the codes given below :

List I	*List II*
a. Vast tracts of land covered with wind power turbines	i. Solar
b. Used directly for heating buildings	ii. Wind power
c. Clean form of energy	iii. Geothermal energy

Codes :

(1) a-iii, b-ii, c-i

(2) a-ii, b-iii, c-i

(3) a-i, b-ii, c-iii

(4) a-iii, b-i, c-ii

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27. Match List I with List II and choose the correct answer using the codes given below :

List I (Type of coal)	*List II Energy content (MJ/kg)*
a. Peat	i. 31 to 36
b. Bituminous	ii. 11 to 16
c. Anthracite	iii. 25 to 35

(1) a-ii, b-iii, c-i
(2) a-iii, b-ii, c-i
(3) a-ii, b-i, c-iii
(4) a-iii, b-i, c-ii

28. The petroleum product used for paving roads, roofing materials and floor covering is :

(1) Petroleum jelly
(2) Paraffin
(3) Petroleum coke
(4) Asphalt

29. The equation representing Stefan-Boltzmann law is :

(1) $E = \sigma T^4$
(2) $E = \sigma T^3$
(3) $E = \sigma T^5$
(4) $E = \sigma T^6$

30. Arrange the following Electromagnetic waves in the increasing order of wavelength :

A. Visible rays
B. Radio waves
C. X-rays
D. Cosmic rays

(1) D < C < A < B
(2) C < D < B < A
(3) D < A < B < C
(4) B < A < C < D

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31. In troposphere, the temperature of the ambient air usually decreases with an increase in altitude. The rate of temperature change in dry adiabatic lapse rate is :

(1) 6°C/km
(2) 9·8°C/km
(3) 8°C/km
(4) 7°C/km

32. Which among the following control devices are most efficient for the removal of particulate matter with size less than 1 μm ?

(1) Fabric filtration
(2) Electrostatic precipitator
(3) Gravitational settling chamber
(4) Centrifugal collector

33. A primary clarifier has an average influent Total Suspended Solids (TSS) concentration of 250 mg/L. If its TSS removal efficiency is expected to be 60 percent, what is the expected average TSS concentration in the effluent ?

(1) 100 mg/L
(2) 150 mg/L
(3) 50 mg/L
(4) 125 mg/L

34. During drinking water treatment process, the following chemical is added as a coagulant :

(1) Ferrous sulphate
(2) Ferric chloride
(3) Alum
(4) Polymer

35. If SPL of 10 dB is 10 times more intense than 1 dB, how much will be the intensity of 30 dB as compared to 1 dB ?

(1) 30 times
(2) 100 times
(3) 300 times
(4) 1000 times

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36. The sound level measured at a 4 m distance from the centerline of a busy highway is 85 dB. What is the sound level at a distance of 12 m from the road centerline ?

(1) 80 dB (2) 120 dB

(3) 50 dB (4) 72 dB

37. The dominant type of radiation emitted are in the following order :

(1) X-ray, Beta, Alpha, Gamma

(2) Alpha, Beta, Gamma, X-ray

(3) Beta, Gamma, X-ray, Alpha

(4) Beta, X-ray, Alpha, Gamma

38. What are the radioactive elements found naturally on Earth ?

(1) Radium and Thorium

(2) Radium and Polonium

(3) Uranium and Thorium

(4) Potassium and Thorium

39. Soils are classified according to the texture in the order of :

(1) Silt, Sand, Clay, Gravel

(2) Silt, Clay, Sand, Gravel

(3) Sand, Clay, Gravel, Silt

(4) Gravel, Sand, Silt, Clay

40. What are the primary sources of marine pollution ?

(1) Deforestation and soil erosion

(2) Agricultural runoff and sewage discharge

(3) Solar radiation and atmospheric gases

(4) Volcanic activity and tectonic processes

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41. Synthetic gaseous and liquid fuels produced from solid coal or sources other than natural gas or crude oil are known as :

(1) Biogas
(2) Biofuels
(3) Synfuels
(4) Liquid fuels

42. Which one of the following can be used to precipitate heavy metals ?

(1) Sulphuric acid
(2) Lime
(3) Hydrochloric acid
(4) Acetic acid

43. Which toxic compound is ***not*** found in e-waste ?

(1) Mercury
(2) Chromium
(3) Neon
(4) Lead

44. Which one of the following is ***not*** a universal waste ?

(1) Pesticides
(2) Batteries
(3) Solvents used in degreasing
(4) Mercury containing equipment

45. The waste with high moisture content and greater proportion of organic biodegradable waste is more suitable for :

(1) Incineration
(2) Pyrolysis
(3) Biomethanation
(4) Gasification

46. Which of the following binding reagents is ***not*** used in solidification and stabilisation ?

(1) Fly ash
(2) Portland cement
(3) CO_2
(4) Gypsum

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47. Clean bins or containers before they start overflowing and avoid multiple handling of wastes in transportation vehicles prior to final disposal are essential components of :

(1) Segregation of municipal solid wastes

(2) Storage of municipal solid wastes

(3) Transportation of municipal solid wastes

(4) Processing of municipal solid wastes

48. Industries generating hazardous waste are classified as :

(1) Brown

(2) Green

(3) Yellow

(4) Red

49. Which of the following substances is generally ***not*** considered toxic ?

(1) Benzene

(2) Carbonic acid

(3) Ethylene

(4) Carbon monoxide

50. When the smaller animals are intoxicated by ingesting plastic, they are passed on to the larger animals disrupting the interrelated connections within the food chain and further the process goes on to higher level in the food chain. This is called :

(1) Pollution

(2) Biomagnification

(3) Bioconversion

(4) Toxicant

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51. Match List I with List II and choose the correct answer using the codes given below :

	List I		*List II*
a.	Category A	i.	Screening required. Will be divided into two categories
b.	Category B	ii.	Screening indicates requirement of EIA
c.	Category B_1	iii.	Screening indicates no requirement of EIA
d.	Category B_2	iv.	EIA required. No screening required

Codes :

(1) a-iv, b-ii, c-iii, d-i

(2) a-iv, b-iii, c-i, d-ii

(3) a-iv, b-i, c-ii, d-iii

(4) a-iii, b-iv, c-ii, d-i

52. Which of the following best describes the function of Environmental Management Plan as part of the EIA report / ES ?

(1) It describes the baseline environmental impacts.

(2) It describes the environmental impacts of the proposal.

(3) It describes the actions and auditing procedures required.

(4) It describes the project proposal in detail.

53. "Cradle to Grave" approach was introduced in which analysis ?

(1) Cost-benefit analysis

(2) Life cycle analysis

(3) Environmental impact analysis

(4) Environmental management plan

54. Risk characterization provides information to :

(1) Exclude uncertainty from risk assessment.

(2) Conduct hazard identification.

(3) Set regulatory standards.

(4) Select perfect risk management options.

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55. What is the role of Access and Benefit-Sharing Clearing-House (ABSCH) under the Nagoya Protocol ?

(1) It monitors illegal trade of genetic resources.

(2) It promotes unrestricted access to genetic resources.

(3) It provides a platform for sharing research findings.

(4) It facilitates the exchange information related to access and benefit sharing.

56. What is the colour code for biomedical waste containers used for disposing of human anatomical wastes, such as body parts and tissues ?

(1) Black

(2) Blue

(3) Red

(4) Yellow

57. How often does the Conference of the Contracting Parties (COP) to the Ramsar Convention meet ?

(1) Every year

(2) Every three years

(3) Every four years

(4) Every five years

58. What type of activities are allowed in CRZ-1 areas ?

(1) All type of construction and development

(2) Industrial activities

(3) Activities related to traditional fishing communities and local population improvement

(4) Tourism related activities

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59. Which set of goals succeeded the Millenium Development Goals in 2015 ?

(1) Global Economic Development Goals

(2) Global Environmental Goals

(3) Universal Human Rights

(4) Sustainable Development Goals

60. World Environment Day is celebrated every year on June 5^{th} to remember the :

(1) First Earth Summit

(2) Second Earth Summit

(3) World Commission on Environment and Development

(4) Montreal Protocol

61. Which of the following is the most unstable average ?

(1) Harmonic Mean

(2) Median

(3) Mode

(4) Geometric Mean

62. According to Yule and Kendall, average must possess the following features :

A. It should be capable of further algebraic treatment.

B. It should have sampling stability.

C. It should be based on all the items in the data.

D. It should not be unduly influenced by any single item or a group of items.

(1) A, B, C

(2) A, C, D

(3) B, C, D

(4) A, B, C, D

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63. Quartile deviation is always a/an _____ measure of dispersion.

(1) Absolute

(2) Reciprocal

(3) Frequent

(4) Assumed

64. The first four central moments of a distribution are 0, 2·5, 0·7, and 18·75. Calculate the β_1 of the distribution.

(1) 3 (2) + 0·031

(3) 33 (4) + 0·31

65. r is _____ when the two regression lines coincide.

(1) 0·9 (2) 0·1

(3) < 1 (4) 1

66. Calculate correlation coefficient from the following data :

$b_{xy} = 0·72$, $b_{yx} = 0·78$

(1) – 0·06 (2) + 0·06

(3) 0·749 (4) 0·923

67. The Lotka-Volterra model :

A. describes the interaction between a prey and a predator.

B. is based on matrix.

C. is based on differential equation.

D. is an example of Kolmogorov model.

(1) A, B, C (2) A, B, D

(3) B, C, D (4) A, B, C, D

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68. Which of the following is/are ***not*** correct ?

A. If there is no difference between the expected and observed frequencies, the χ^2 is zero.

B. If the difference between expected and observed frequencies is not significant, then the hypothesis is accepted.

C. If the calculated χ^2 value is higher than the expected frequency the difference is significant, then the hypothesis is accepted.

(1) C

(2) A, C

(3) B, C

(4) B

69. The merits of Arithmetic Mean are :

A. It is based on the value of every item in the series.

B. It gives greater importance to bigger items of a series and lesser importance to smaller items.

C. Its formula is rigidly defined. The mean is the same for the series, whosoever calculates it.

D. The mean is a more stable measure of central tendency.

(1) A, B, C

(2) A, C, D

(3) B, C, D

(4) A, B, C, D

70. Which one is best used to analyse the difference of means ?

(1) t-test

(2) Kurtosis

(3) χ^2 test

(4) Skewness

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71. Which of the following can help in reducing biodiversity loss ?

(1) Continued growth of urban area

(2) Introduction of invasive species

(3) Overexploitation of resources

(4) Implementing sustainable land use policy

72. Which of the following global environmental issues is caused by melting of ice sheets ?

(1) Air pollution

(2) Sea level rise

(3) Ocean acidification

(4) Soil erosion

73. _____ is an effect of sea level rise.

(1) Decreased coastal erosion

(2) Infusion of salt water into coastal aquifers

(3) Extension of coastal habitats

(4) Increased availability of fresh water

74. The Ramsar Convention is focused on the conservation of _____.

(1) Industries (2) Forests

(3) Mountains (4) Wetlands

75. In which year was the National Action Plan on Climate Change launched ?

(1) 2006

(2) 2008

(3) 2010

(4) 2014

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76. Match List I with List II and choose the correct answer using the codes given below :

a.	Chilika	i.	Kerala
b.	Vembanad	ii.	Madhya Pradesh
c.	Kolleru	iii.	Odisha
d.	Tawa	iv.	Andhra Pradesh

Codes :

(1) a-iii, b-ii, c-iv, d-i
(2) a-iii, b-i, c-iv, d-ii
(3) a-ii, b-iii, c-i, d-iv
(4) a-i, b-iii, c-ii, d-iv

77. Where did the Silent Valley Movement take place ?

(1) Himalayan Forest
(2) Sundarban Forest
(3) North Eastern States
(4) Western Ghats

78. The movement initiated by Sunderlal Bahuguna is _____.

(1) Chipko Movement
(2) Silent Valley Movement
(3) Sunderban Movement
(4) Appiko Movement

79. Which one of the following is the key threat to achieve the aims of Project Tiger ?

(1) Deforestation for plantations
(2) Contaminated water bodies
(3) Afforestation
(4) Poaching

80. India's first Green building CII-Godrej Green Business Centre is located at :

(1) Chennai
(2) Hyderabad
(3) New Delhi
(4) Mumbai

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81. Which of the following boundary exists between 40 and 50 kilometres above the Earth's surface ?

(1) Tropopause

(2) Stratopause

(3) Stratosphere

(4) Mesopause

82. The phenomena of decline in temperature with increasing altitude is referred to as :

(1) Temperature reduction rate

(2) Environmental weather rate

(3) Environmental lapse rate

(4) Environmental temperature change

83. The mass of water vapour in a given volume of air is :

(1) Absolute humidity

(2) Relative humidity

(3) Mixing ratio

(4) Vapour pressure

84. Given below are two statements, one is labelled as Assertion (A) and other as Reason (R) :

Assertion (A) : A considerable amount of water is retained in the soil due to capillary action.

Reason (R) : Water is characterized by the highest surface tension among all other liquids.

(1) Both (A) and (R) are true, and (R) is the correct reason of (A).

(2) Both (A) and (R) are not true.

(3) (A) is true, but (R) is false.

(4) (A) is false, but (R) is true.

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85. Match List I with List II and choose the correct answer using the codes given below :

List-I (SDG No.)	*List-II (SDG)*
a. SDG 5	i. Life below water
b. SDG 6	ii. Climate Action
c. SDG 13	iii. Life on Land
d. SDG 14	iv. Clean Water and Sanitation
e. SDG 15	v. Gender equality

Codes :

(1) a-v, b-iv, c-i, d-ii, e-iii

(2) a-v, b-iv, c-iii, d-i, e-ii

(3) a-v, b-iv, c-ii, d-i, e-iii

(4) a-iv, b-v, c-ii, d-i, e-iii

86. The rate of cooling of vertically moving unsaturated air is _____.

(1) 1°C/1000 metres

(2) 5°C/1000 metres

(3) 10°C/1000 metres

(4) 20°C/1000 metres

87. Match List I with List II and choose the correct answer using the codes given below :

List-I Biogeographic Zone	*List-II Distribution*
a. Trans-Himalaya	i. Rajasthan
b. Semi-Arid	ii. Jammu and Kashmir, Ladakh
c. Desert	iii. North Gujarat, Rajasthan
d. Indo-Gangetic Plain	iv. Bihar, West Bengal
e. Coast	v. Tamil Nadu, Maharashtra

Codes :

(1) a-i, b-ii, c-iii, d-v, e-iv

(2) a-ii, b-iii, c-iv, d-i, e-v

(3) a-ii, b-iii, c-i, d-iv, e-v

(4) a-v, b-iv, c-i, d-ii, e-iii

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88. Energy possessed by the molecules by virtue of their motion is called _____.

(1) Activated energy
(2) Kinetic energy
(3) Static energy
(4) Internal energy

89. The Satellite data for the Indian Subcontinent is available for the user through _____ portal maintained by NRSC.

(1) GAGAN
(2) Bhuvan
(3) IIRS
(4) ISRO

90. The environmental applications of RS and GIS like climate change assessment and Land Use and Land cover changes can be assessed through _____ data.

(1) NDVI
(2) NDBI
(3) NDWI
(4) NDQI

91. The solubility of CO_2 in a solution is 0·003 M at 2 atm pressure. What will be the solubility of CO_2 at 6 atm pressure provided the temperature remains constant ?

(1) 0·009 M
(2) 0·5 M
(3) 0·006 M
(4) 0·01 M

92. Photochemical smog was first observed in :

(1) London
(2) Los Angeles
(3) Paris
(4) Tokyo

93. The basic principle governing Spectrophotometry is _____.

(1) Snell's law of reflection
(2) Huygens' principle of refraction
(3) Beer-Lambert's law
(4) Fermat's principle

94. If 0·05 Molar Proline-Ninhydrin complex solution has a molecular absorbance of 0·15 at 520 nm wavelength in a 1 cm cuvette, calculate the molar extinction coefficient (ε).

(1) 50 mM^{-1} cm^{-1}
(2) 3 M^{-1} cm^{-1}
(3) 1 M^{-1} cm^{-1}
(4) 0·1 M^{-1} cm^{-1}

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95. Given below are two statements, one is labelled as Assertion (A) and other as Reason (R) :

Assertion (A) : Radon is an inert gas and is radioactive.

Reason (R) : All inert gases are radioactive.

(1) Both (A) and (R) are correct, and (R) is the correct explanation of (A).

(2) Both (A) and (R) are correct, and (R) is ***not*** the correct explanation of (A).

(3) (A) is true, but (R) is false.

(4) (A) is false, but (R) is true.

96. Dioxins and Furans are two toxic gaseous pollutants which are measured by the instrument :

(1) GC – MS (2) TLC

(3) ICP – AAS (4) AAS

97. Greenhouse gases can absorb radiations of wavelength :

(1) < 0.3 μm (2) $> 2 - 3$ μm

(3) > 4 μm (4) < 4 μm

98. Solubility (S) of a sparingly soluble salt of type AB is related to the solubility product (K_{sp}) as :

(1) $S = K_{sp}^2$ (2) $S = 2\ K_{sp}$

(3) $S = \sqrt{K_{sp}}$ (4) $S = K_{sp}$

99. Biological Oxygen Demand (BOD) is always less than :

(1) Dissolved Oxygen (DO)

(2) Maximum Probable Number (MPN)

(3) Chemical Oxygen Demand (COD)

(4) Standard Plate Count (SPC)

100. High exposure to Cd, Hg, and Pb will cause severe harm to the _____ of human beings.

(1) Lungs (2) Liver

(3) Kidneys (4) Neutrons

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