

Test Paper : III
Test Subject : ENVIRONMENTAL SCIENCE
Test Subject Code : **K-2915**

Test Booklet Serial No. : _____

OMR Sheet No. : _____

Roll No.

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(Figures as per admission card)

Name & Signature of Invigilator/s

Signature : _____

Name : _____

Paper : III

Subject : ENVIRONMENTAL SCIENCE

Time : 2 Hours 30 Minutes

Maximum Marks : 150

Number of Pages in this Booklet : 16

Number of Questions in this Booklet : 75

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

- ಈ ಪುಟದ ಮೇಲ್ಭಾಗದಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ.
- ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
- ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ ಪ್ರಶ್ನೆಪುಸ್ತಕವನ್ನು ನಿಮಗೆ ನೀಡಲಾಗುವುದು. ಮೊದಲ 5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪುಸ್ತಕವನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರೀಕ್ಷಿಸಲು ಕೋರಲಾಗಿದೆ.
(i) ಪ್ರಶ್ನೆ ಪುಸ್ತಕಕ್ಕೆ ಪ್ರವೇಶವಾಗುವ ಪದವಿಗಳು, ಈ ಹೊಂದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ಕ್ರೇಪ್ ಸೀಲ್ ಇಲ್ಲದ ಅಥವಾ ತೆರದ ಪುಸ್ತಕವನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ.
(ii) ಪುಸ್ತಕದಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳಿ ನೋಡಿರಿ. ಪುಟಗಳು/ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವ್ಯತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪುಸ್ತಕವನ್ನು ಕೂಡಲೇ 5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವಿಧಾನದ ಸರಿ ಇರುವ ಪುಸ್ತಕಕ್ಕೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಬಳಿಕ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಲಾಗುವುದಿಲ್ಲ, ಯಾವುದೇ ಹೆಚ್ಚು ಸಮಯವನ್ನೂ ಕೊಡಲಾಗುವುದಿಲ್ಲ.
- ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೂ (A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದ ನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಿವೆ. ನೀವು ಪ್ರಶ್ನೆಯ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂಡಾಕೃತಿಯನ್ನು ಕಪ್ಪಾಗಿಸಬೇಕು.
ಉದಾಹರಣೆ:

| | | | |
|---|---|---|---|
| A | B | C | D |
|---|---|---|---|

(C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ.
- ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಗಳನ್ನು, ಪತ್ರಿಕೆ III ಪುಸ್ತಕಿಯೊಳಗೆ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸತಕ್ಕದ್ದು. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿನ ಅಂಡಾಕೃತಿ ಹೊರತುಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಗುರುತಿಸಿದರೆ, ಅದರ ಮಾಲ್ಯಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.
- OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.
- ಎಲ್ಲಾ ಕರಡು ಕೆಲಸವನ್ನು ಪುಸ್ತಕಿಯ ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು.
- ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು, ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆದರೆ, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗುತ್ತೀರಿ.
- ಪರೀಕ್ಷೆಯು ಮುಗಿದ ನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವಿಧಾನದಂತೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರೀಕ್ಷಾ ಕೊಠಡಿಯ ಹೊರಗೆ OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯಕೂಡದು.
- ಪರೀಕ್ಷೆಯ ನಂತರ, ಪರೀಕ್ಷಾ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಮತ್ತು ನಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.
- ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.
- ಕ್ಯಾಲ್ಕುಲೇಟರ್ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯು ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.
- ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಿಗೆ ಋಣ ಅಂಕ ಇರುವುದಿಲ್ಲ.
- ಕನ್ನಡ ಮತ್ತು ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಗಳಲ್ಲಿ ಯಾವುದೇ ರೀತಿಯ ವ್ಯತ್ಯಾಸಗಳು ಕಂಡುಬಂದಲ್ಲಿ, ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳಲ್ಲಿರುವುದೇ ಅಂತಿಮವೆಂದು ಪರಿಗಣಿಸಬೇಕು.

Instructions for the Candidates

- Write your roll number in the space provided on the top of this page.
- This paper consists of seventy five multiple-choice type of questions.
- At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
(i) To have access to the Question Booklet, tear off the paper seal on the edge of the cover page. Do not accept a booklet without sticker seal or open booklet.
(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 pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
- Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.
Example :

| | | | |
|---|---|---|---|
| A | B | C | D |
|---|---|---|---|

where (C) is the correct response.
- Your responses to the question of Paper III are to be indicated in the **OMR Sheet kept inside the Booklet**. If you mark at any place other than in the ovals in OMR Answer Sheet, it will not be evaluated.
- Read the instructions given in OMR carefully.
- Rough Work is to be done in the end of this booklet.
- If you write your name or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.
- You have to return the test OMR Answer Sheet to the invigilators at the end of the examination compulsorily and must NOT carry it with you outside the Examination Hall.
- You can take away question booklet and carbon copy of OMR Answer Sheet soon after the examination.
- Use only Blue/Black Ball point pen.**
- Use of any calculator or log table etc., is prohibited.**
- There is no negative marks for incorrect answers.**
- In case of any discrepancy found in the Kannada translation of a question booklet the question in English version shall be taken as final.**



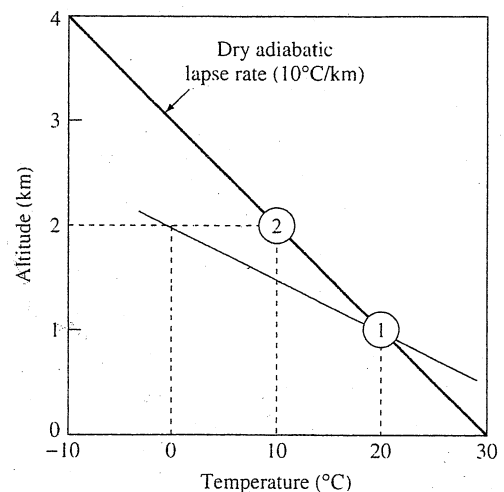
ENVIRONMENTAL SCIENCE

PAPER – III

Note : This paper contains **seventy-five (75)** objective type questions. **Each** question carries **two (2)** marks. **All** questions are **compulsory**.

1. Wind rose diagram that depicts wind velocity and wind direction is a
 - (A) Histogram
 - (B) Polar Diagram
 - (C) $ax + b$ graph
 - (D) Linear radial diagram
2. Evapotranspiration is the term used to refer to the following three processes together
 - (A) Evaporation, infiltration and percolation
 - (B) Transpiration, sublimation and evaporation
 - (C) Evaporation, condensation and percolation
 - (D) Evaporation, precipitation and percolation
3. The second law of thermodynamics is best seen in the process of
 - (A) Biogeochemical cycles
 - (B) Transpiration
 - (C) Photosynthesis
 - (D) Energy flow
4. La Nina refers to
 - (A) Cold Event
 - (B) Hot Event
 - (C) Recurring Event
 - (D) Non-recurring Event

5. Shown below is a temperature ~ Altitude diagram where curve (2) represents the Dry Adiabatic Lapse rate ($10^{\circ}\text{C}/\text{km}$) and curve (1) represents the ambient temperature profile for air. The ambient air temperature in this case is



- (A) Sub-adiabatic
 - (B) Super Adiabatic
 - (C) Adiabatic
 - (D) Isothermal
6. Which one of the following does not contribute to conservation of water ?
 - (A) Waste water treatment
 - (B) Waste land development
 - (C) Watershed protection
 - (D) Rainwater harvesting



7. Solubility of iron in water
- (A) Increases with increasing pH
 - (B) Decreases with increasing pH
 - (C) Independent of pH
 - (D) Dependent only on redox potential and not on pH
8. In flame photometry, the burner system consists of
- (A) Nebulizer, mixing chamber and burner head
 - (B) Nebulizer and burner head
 - (C) Venturimeter and burner head
 - (D) Mixing chambers and burner head
9. Solubility (s) is related to the solubility product by the expression
- (A) $S = \sqrt{K_{SP}}$
 - (B) $K_{SP} = [A^+] [B^-]$
 - (C) $K_{SP} = a_{Ag^+} \times a_{Cl^-}$
 - (D) $K_{SP} = \sqrt{S}$
10. The molecules can be resolved on the basis of their distribution between a gas and either a liquid or solid by separation method known as
- (A) HPLC
 - (B) AAS
 - (C) GC
 - (D) FES
11. Blue Baby syndrome is caused by
- (A) Nitrates
 - (B) Nitrite
 - (C) Sulfite
 - (D) Sulfate
12. The primary source of OH radicals in the atmosphere is
- (A) Oxidation of water
 - (B) Photolysis of water
 - (C) Reduction of water
 - (D) Redox of water
13. The standard Gibbs Energy for the reaction :
- $$Zn_{(s)} + Cu^{2+}_{(aq)} \rightarrow Zn^{2+}_{(aq)} + Cu_{(s)}$$
- having standard electrode potential 1.1 volt is
- (A) 312.3 kJ/mole
 - (B) 213.2 kJ/mole
 - (C) 212.3 kJ/mole
 - (D) 313.2 kJ/mole
14. The reaction is in equilibrium if Gibbs Free Energy (G)
- (A) Increases i.e. $\Delta G > 0$
 - (B) Decreases i.e. $\Delta G < 0$
 - (C) Remains same i.e. $\Delta G = 0$
 - (D) Varies i.e. $\Delta G > 0$ or $\Delta G < 0$



15. The productivity of which of the following ecosystems is highest ?
- (A) Grassland Ecosystem
 - (B) Pond Ecosystem
 - (C) Mangrove Ecosystem
 - (D) Deciduous Forest Ecosystem
16. The choice of selecting prey is completely exercised in which of the following relationships ?
- (A) Parasitism
 - (B) Mutualism
 - (C) Commensalism
 - (D) Predation
17. The law that explains at every trophic level, 10% of energy is wasted before it is transferred to next trophic level.
- (A) Law of Tithe
 - (B) Lindeman's concept
 - (C) Birge's law
 - (D) Box Model law
18. Which of the following groups has a maximum number of endangered species ?
- (A) Mammals
 - (B) Amphibians
 - (C) Reptiles
 - (D) Fishes
19. The term defining the amount of living organisms in a unit area in a unit time is
- (A) Biomass
 - (B) Gross primary production
 - (C) Net primary production
 - (D) Standing crop
20. The process of succession that replaces the forest after a forest fire is
- (A) Primary succession
 - (B) Secondary succession
 - (C) Commensalism
 - (D) Colonisation
21. Given below are two statements, one labelled as Assertion (A) and the other labelled Reason (R).
- Assertion (A) :** Lake Ecosystems can be protected by manipulating trophic levels
- Reason (R) :** Eutrophication of lakes can be, prevented by removing decomposers.
- Choose the correct answer :
- Codes :**
- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
 - (B) Both (A) and (R) are true but (R) is not the correct explanation of (A)
 - (C) (A) is true, but (R) is false
 - (D) (A) is false, but (R) is true
22. A Seismograph measures the
- (A) Energy released by an earthquake
 - (B) Magnitude of an earthquake
 - (C) Amount of structural damage caused by an earthquake
 - (D) Ground acceleration



23. The point at which a vertical line through the perspective centre of the camera lens pierces the plane of the aerial photograph is
- (A) Principal point
 - (B) Focal point
 - (C) Nadir point
 - (D) Perspective centre
24. If RR = Relative risk factor, PR = Risk probability, IB = Immediate benefit factor, PY = person-year, then Hazard Planning (HP) is proportional to which of the following expressions ?
- (A) $HP = RR \times PR \times IB \times PY$
 - (B) $HP = RR + PR + IB + PY$
 - (C) $HP = (RR \times PR) + (IB \times PY)$
 - (D) $HP = (RR \times IB) + (PR \times PY)$
25. The increase in concentration of which gas in the ground water is an indicator for future earthquake ?
- (A) Krypton
 - (B) Xenon
 - (C) Radon
 - (D) Argon
26. Avalanches are
- (A) Endemic to any mountain range that accumulates a standing snowpack
 - (B) Common in areas where snow accumulates
 - (C) Unknown in mountain areas
 - (D) Endemic to hilly areas
27. The inversions due to compressive heating of descending air masses in high pressure zones are
- (A) Radiation inversions
 - (B) Frontal inversions
 - (C) Subsidence inversions
 - (D) Landscape related inversions
28. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
- Assertion (A) :** The oceans have already experienced a drop in pH of about 0.1 since pre-industrial times and it is likely that ocean pH will fall by another 0.3 by the year 2100.
- Reason (R) :** The reaction
- $$\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}_2\text{CO}_3 \rightleftharpoons \text{H}^+ + \text{HCO}_3^-$$
- release hydrogen ions, which make the water more acidic as CO_2 absorption increases.
- Choose the correct answer :
- Codes :**
- (A) Both (A) and (R) are true and (R) is the correct explanation
 - (B) Both (A) and (R) are true but (R) is not the correct explanation
 - (C) (A) is true, but (R) is false
 - (D) (A) is false, but (R) is true



29. Photo-voltaics generate electrical power using
- (A) Conducting materials
 - (B) Semi-conducting materials
 - (C) Non-conducting materials
 - (D) Potential energy
30. The first solar pond was built in India at
- (A) Bengaluru
 - (B) Hyderabad
 - (C) Trivandrum
 - (D) Bhuj
31. Old faithful geyser is located in
- (A) Corbett National Park
 - (B) Yellowstone National Park
 - (C) Khaziranga National Park
 - (D) Ranthambore National Park
32. Which among the following is considered to be an energy source of future ?
- (A) Wind
 - (B) Ocean
 - (C) Hydrogen
 - (D) Helium
33. The digestion process in biogas plant begins with
- (A) Methanogenesis
 - (B) Hydrolysis
 - (C) Acedogenesis
 - (D) Acetogenesis
34. Coke is a
- I. Solid carbonaceous residue
 - II. Derived from low-ash coal
 - III. Derived from low-sulfur bituminous coal
 - IV. Natural available energy resource
- Find the correct combination according to the code :
- Codes :**
- (A) I, II and III are correct
 - (B) II, I and IV are correct
 - (C) II, III and IV are correct
 - (D) I, III and IV are correct
35. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
- Assertion (A) :** Partial combustion of fuel encourages release of more CO from automobiles
- Reason (R) :** Partial combustion of fuel gives less mileage
- Choose the correct answer :
- Codes :**
- (A) Both (A) and (R) are true and (R) is the correct explanation
 - (B) Both (A) and (R) are true but (R) is not the correct explanation
 - (C) (A) is true, but (R) is false
 - (D) (A) is false, but (R) is true



36. At the time of Methyl isocyanate leak from Bhopal MIC plant in December 3, 1984 the pressure indicator had gone above
- (A) 45 psi
 - (B) 40 psi
 - (C) 55 psi
 - (D) 30 psi

37. Match the List – I and List – II which contain various air pollution control devices and minimum particulate sizes.

| List – I | List – II |
|--------------------------------|-------------------------|
| a) Gravity setting chambers | i) 5-25 μm |
| b) Cyclone Collectors | ii) > 10 μm |
| c) Wet scrubbers | iii) > 50 μm |
| d) Electrostatic precipitators | iv) 1 μm |

Identify the correct code :

Codes :

| | a | b | c | d |
|-----|-----|----|-----|----|
| (A) | iii | ii | iv | i |
| (B) | iii | i | ii | iv |
| (C) | i | ii | iii | iv |
| (D) | ii | i | iii | iv |

38. The genetically engineered micro-organisms used to remediate oil spills in oceans
- (A) Trichoderma
 - (B) Bacillus
 - (C) Xanthomonas
 - (D) Pseudomonas
39. Three Mile Island nuclear accident occurred in
- (A) Netherlands
 - (B) Japan
 - (C) Russia
 - (D) USA

40. Match the List – I and List – II which contain various places recommended by CPCB and permissible noise levels (in dBA), during day time.

| List – I | List – II |
|---------------------|-----------|
| a) Industrial zone | i) 50 |
| b) Commercial zone | ii) 75 |
| c) Residential zone | iii) 65 |
| d) Silence zone | iv) 55 |

Identify the correct code :

Codes :

| | a | b | c | d |
|-----|----|-----|-----|-----|
| (A) | ii | iv | iii | i |
| (B) | i | iii | ii | iv |
| (C) | ii | iv | i | iii |
| (D) | ii | iii | iv | i |



41. Match the List – I and List – II which contain various methods of solid waste disposal and terms pertaining to the methods.

| List – I | List – II |
|-----------------------|--|
| a) Incineration | i) Requires presorting, grinding and turning |
| b) Sanitary landfill | ii) Limited to special wastes and selected materials |
| c) Composting | iii) High operational and maintenance cost |
| d) Salvage by sorting | iv) Tractor |

Identify the correct code :

Codes :

| | a | b | c | d |
|-----|-----|-----|-----|-----|
| (A) | i | ii | iv | iii |
| (B) | iv | iii | ii | i |
| (C) | iii | iv | i | ii |
| (D) | ii | i | iii | iv |

42. Given below are two statements , one labelled as Assertion (A) and the other labelled as Reasons (R).

Assertion (A) : Immediately on release, the CFC's attack ozone layer in the stratosphere, causing ozone depletion.

Reason (R) : Each CFC molecule can destroy one lakh ozone molecules

Choose the correct answer :

Codes :

- (A) Both (A) and (R) are true and (R) is the correct explanation
- (B) Both (A) and (R) are true but (R) is not the correct explanation
- (C) (A) is true, but (R) is false
- (D) (A) is false, but (R) is true

43. The Environmental Management Plan with respect to biodiversity should emphasize on

- (A) Population size of wildlife
- (B) Maintenance of ecosystem
- (C) Management of biodiversity
- (D) Resilience of natural ecosystem



44. ISO 14031 provides

- (A) Guidance on how an organisation can evaluate its environmental performance
- (B) A range of different approaches to environmental labels and declarations including self-declared environmental claims
- (C) The world's most recognised EMS framework
- (D) General principles, frameworks and methodological requirements for LCA of products and services

45. The waste audit includes the evaluation of

- (A) Neighbourhood survey to assess the impacts on land and water bodies
- (B) Training of workers to face different types of emergent situations
- (C) The quantity and quality of the required fuels and other raw materials being consumed
- (D) Proper quality and maintenance of electrical and mechanical equipments and installations

46. Match the List – I and List – II which contain nature of events and the examples

List – I

List – II

- | | |
|--|--|
| a) Single large events | i) Road project in a region |
| b) Multiple inter-related events | ii) A major landslide into a river system |
| c) Incremental wide spread slow change | iii) A large project |
| d) Catastrophic sudden events | iv) Poorly designed culverts extending through a watershed |

Identify the correct code :

Codes :

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | iii | i | iv | ii |
| (B) | i | iii | ii | iv |
| (C) | ii | iv | iii | i |
| (D) | iv | iii | ii | i |



47. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : Socioeconomic and cultural aspects of the region are very important for EIA studies

Reason (R) : Demographic data is not available for all regions

Choose the correct answer :

Codes :

- (A) Both (A) and (R) are true and (R) is the correct explanation
- (B) Both (A) and (R) are true but (R) is not the correct explanation
- (C) (A) is true, but (R) is false
- (D) (A) is false, but (R) is true

48. The validity period for environmental clearance for hydroproject is how many years ?

- (A) 30 years
- (B) 5 years
- (C) 10 years
- (D) 20 years

49. In the order of increasing energy content

- (A) Lignite, Peat, Anthracite, Bituminous coal
- (B) Peat, Lignite, Bituminous Coal, Anthracite
- (C) Anthracite, Lignite, Bituminous coal, Peat
- (D) Bituminous coal, Anthracite, Lignite, Peat

50. The Air (Prevention and Control) of Pollution Act, 1981 is a follow up action taken based on

- (A) Stockholm Conference
- (B) Earth Summit
- (C) Kyoto Treaty
- (D) Montreal Treaty

51. The Environment Protection Act, 1986 was enacted by Parliament in the

- (A) 37th Year of Republic of India
- (B) 35th Year of Republic of India
- (C) 27th Year of Republic of India
- (D) 40th Year of Republic of India

52. The UN convention of Biological Diversity came into force on

- (A) 29th December 1993
- (B) 28th October 1993
- (C) 29th December 2002
- (D) 28th October 2002

53. Who is the approving authority for the transfer of biological resource or knowledge

- (A) Ministry of Environment and Forests
- (B) National Biodiversity Authority
- (C) State Biodiversity Board
- (D) State Forest Department



54. The Schedule – I of Environment (Protection) Rules, 1986 prescribed

- (A) The standards for emission or discharge of environmental pollutants from industries, operations or process
- (B) The standards for emission of smoke, vapour, etc.
- (C) List of authorities or agencies to be intimated
- (D) National Ambient Air Quality Standards

55. The basic objectives of National Forest Policy, 1988 are

- I. Maintenance of environmental stability
- II. Conservation of natural heritage
- III. Increasing substantially the forest cover
- IV. Appointing special force to protect forests

Find the correct combination according to the code :

Codes :

- (A) I, III and IV are correct
- (B) I, II and III are correct
- (C) I, II and IV are correct
- (D) II, III and IV are correct

56. What is the Plan Period during which the environmental planning started effectively ?

- (A) Second Five Year Plan
- (B) Sixth Five Year Plan
- (C) Fifth Five Year Plan
- (D) Fourth Five Year Plan

57. Hazardous Waste (Management and Handling) Rules, 1989 (Amended in 2000) apply to

- (A) 7 categories of wastes
- (B) 18 categories of wastes
- (C) 8 categories of wastes
- (D) 17 categories of wastes

58. Harmonic mean of the numbers 4, 5 and 10 is

- (A) 4.45
- (B) 5
- (C) 5.45
- (D) 4

59. A bell-shaped curve is mesokurtic because

- (A) It is kurtic in the center
- (B) It is kurtic at one end
- (C) It is kurtic at both ends
- (D) It is not kurtic



60. If we take each one of a collection of sample variances, divide them by the known population variance and multiply these quotients by $(n - 1)$, where "n" means the number of items in the sample, we shall obtain

- (A) A t-distribution
- (B) A F-distribution
- (C) A χ^2 distribution
- (D) A normal distribution

61. If assumed Average (A) is used while finding deviations then the standard deviation (σ) would be worked out for "n" numbers of values (X_i) as

- (A) $\sigma = \sqrt{\frac{\sum X_i^2}{n} - \left(\frac{\sum X_i}{n}\right)^2}$
- (B) $\sigma = \sqrt{\frac{\sum (X_i - A)^2}{n} - \left(\frac{\sum (X_i - A)}{n}\right)^2}$
- (C) $\sigma = \sqrt{\frac{\sum X_i^2}{n} - \left(\frac{\sum (X_i - A)}{n}\right)^2}$
- (D) $\sigma = \sqrt{\frac{\sum (X_i - A)^2}{n} - \left(\frac{\sum X_i}{n}\right)^2}$

62. If Null hypothesis (H_0) is true and the decision to reject (H_0) the error is

- (A) α error
- (B) Type II error
- (C) β error
- (D) Zero

63. If $H_0 : \mu = \mu_{H_0}$ and $H_a : \mu \neq \mu_{H_0}$ then which test will be appropriate

- (A) One-tailed
- (B) Two-tailed
- (C) Left-tailed
- (D) Right-tailed

64. The idea of sustainable development was defined for the first time by the World Commission on Environment and Development (i.e. Brundtland Commission) in the year

- (A) 1985
- (B) 1987
- (C) 1989
- (D) 1991

65. The method of rain water harvesting which can be adopted by individual house owners is

- (A) On channel storage of water
- (B) Creation of new water bodies
- (C) Construction of recharge trenches
- (D) Roof top rain water harvesting

66. Post-disaster recovery stage does not include which of the following aspects

- (A) Relief
- (B) Rehabilitation
- (C) Emergency plans
- (D) Learning review



67. The minimum forest required under the National Forest Policy of India is

- (A) 65 million hectares
- (B) 310 million hectares
- (C) 110 million hectares
- (D) 210 million hectares

68. Match List – I with List – II and select the correct answer using the codes given below the lists.

| List – I | List – II |
|------------------|---------------------|
| (Air Pollutants) | (Emitted mainly by) |

- | | |
|---------------------------|-------------------|
| a) Hydrocarbons | i) Coal burning |
| b) Particulates and gases | ii) Gasoline fuel |
| c) Sulphur dioxide | iii) Tyres |
| d) Carbon monoxide | iv) Carburettor |

Identify the correct code :

Codes :

- | | a | b | c | d |
|-----|-----|-----|----|----|
| (A) | iii | iv | ii | i |
| (B) | iv | iii | ii | i |
| (C) | iii | iv | i | ii |
| (D) | iv | iii | i | ii |

69. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : The average biodegradable waste in MSW in India is 40- 45%

Reason (R) : Low biodegradable content in MSW makes composting non-economical

Choose the correct answer :

Codes :

- (A) Both (A) and (R) are true and (R) is the correct explanation
- (B) Both (A) and (R) are true but (R) is not the correct explanation
- (C) (A) is true but (R) is false
- (D) (A) is false but (R) is true

70. Arrange the following important days in the order they are observed in a calendar year

- (A) World Water Day, World Environment Day, World Forest Day and World Wildlife Week
- (B) World Forest Day, World Water Day, World Environment Day and World Wildlife Week
- (C) World Environment Day, World Forest Day, World Wildlife Week and World Water Day
- (D) World Water Day, World Environment Day, World Forest Day and World Wildlife Week



71. The essential elements in the curriculum of environmental education are

- (A) Empirical ethical and aesthetic
- (B) Ecological, economic and social
- (C) Poverty, pollution and prosperity
- (D) Training, practice and transfer

72. In-situ programme involves the following categories of protected areas

- I. Biosphere reserves
- II. Sanctuaries
- III. National Parks
- IV. Local Parks

Find the correct combination according to the code :

Codes :

- (A) I, II and III are correct
- (B) II, III and IV are correct
- (C) I, II and IV are correct
- (D) I, III and IV are correct

73. The earthworms used in vermiculture is

- (A) Eudrillus
- (B) Phexetima
- (C) Acarina
- (D) Sacculina

74. In a food chain if a trophic level is removed

- (A) The food chain remains constant
- (B) Whole ecosystem collapses over a period of time
- (C) Some animals die due to scarcity of food
- (D) The ecosystem is eutrophicated

75. Inversions are formed frequently during

- (A) Summer season
- (B) Rainy season
- (C) Winter season
- (D) Throughout the year



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