

Test Paper : III
Test Subject : ENVIRONMENTAL SCIENCE
Test Subject Code : K-2916

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 ಎಪ್ಪತ್ತೈದು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
- ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ನಿಮಗೇ ನೀಡಲಾಗುವುದು. ಮೊದಲ 5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರಿಶೀಲಿಸಲು ಕೋರಲಾಗಿದೆ.
(i) ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಗೆ ಪ್ರವೇಶಾಪಕಾರ ಪಡೆಯಲು, ಈ ಹೊದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ವಿಚ್ ಸೀಲ್ ಇಲ್ಲದ ಅಥವಾ ತೆರೆದ ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ.
(ii) ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳಿ ನೋಡಿರಿ. ಪುಟಗಳು/ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವ್ಯತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ಕೂಡಲೇ 5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವೀಕ್ಷಕರಿಂದ ಸರಿ ಇರುವ ಪ್ರಶ್ನೆಗೆ 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 ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯೊಳಗೆ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸತಕ್ಕದ್ದು. OMR ಹಾಳೆಯಲ್ಲಿನ ಅಂಡಾಕೃತಿ ಹೊರತುಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಗುರುತಿಸಿದರೆ, ಅದರ ಮೌಲ್ಯಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.
- OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.
- ಎಲ್ಲಾ ಕರೆಡು ಕೆಲಸವನ್ನು ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯ ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು.
- ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು, ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆದರೆ, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗಿರುತ್ತೀರಿ.
- ಪರೀಕ್ಷೆಯು ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ 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, ವಿದ್ಯುನ್ಮಾನ ಉಪಕರಣ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ 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 circle 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 circles in OMR 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 after the examination.
- Use only Blue/Black Ball point pen.
- Use of any calculator, Electronic gadgets 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.

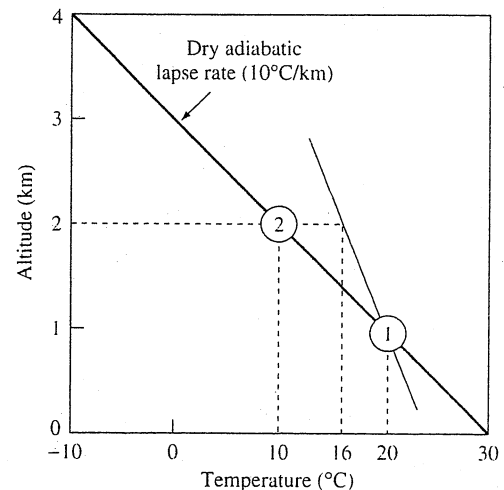


ENVIRONMENTAL SCIENCE
Paper – III

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

1. Which one of the following is not absorbed by the ozone layer ?
(A) UV – C
(B) UV – B
(C) UV – A
(D) UV – A and UV – B
2. The concept of Rear and Release applies to
(A) In-situ conservation
(B) Ex-situ conservation
(C) Biosphere reserve
(D) National parks
3. UV – B radiation causes
(A) Yellow fever
(B) Skin cancer
(C) Diarrhoea
(D) Dysentery
4. The primary producers in the marine ecosystem are
(A) Eubacteria and Algae
(B) Cyanobacteria and Algae
(C) Algae and protozoans
(D) Blue green algae and fungi

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) Subadiabatic (B) Superadiabatic
(C) Adiabatic (D) Isothermal
6. The diffusion of air pollutants will be faster at
(A) Higher temperatures, higher wind speed and lesser relative humidity
(B) High temperatures, high wind speed and high relative humidity
(C) Low temperatures, high wind speed and high relative humidity
(D) Low temperature, low wind speed and low relative humidity



7. The law of conservation of energy is described by
- (A) Zeroth law of thermodynamics
 - (B) Fourth law of thermodynamics
 - (C) Second law of thermodynamics
 - (D) Third law of thermodynamics
8. The concentration of CO_2 in our environment in the last fifty four year since 1960 increased about
- (A) 20%
 - (B) 10%
 - (C) 14%
 - (D) 6%
9. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
- Assertion (A) :** Effect of temperature determines solubility of gases in liquids at constant pressure.
- Reason (R) :** It decreases or diminishes with an increase in temperature.
- 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
10. Arsenic problem in India is primarily due to over-exploitation of
- (A) Arsenopyrite in the hinterland
 - (B) Coal in Bihar and Bengal
 - (C) Ground water in the affected areas
 - (D) Surface water in the affected areas
11. In the periodic table of elements
- (A) Non-metallic property increases vertically
 - (B) Metallic property increases from right to left
 - (C) Non-metallic property increases from right to left
 - (D) Metallic property increases left to right and from top to bottom
12. The main chemical species which causes ozone depletion in the stratosphere is
- (A) Halons
 - (B) Oxides of Nitrogen
 - (C) Organic compounds
 - (D) PAH
13. Which of the following is the initiator for the formation of photochemical smog ?
- (A) Sunlight
 - (B) Volatile hydrocarbons
 - (C) Nitrogen oxide
 - (D) Ozone



14. Which of the following is not correct ?
- (A) $K_w = 1 \times 10^{-14}$
- (B) $\text{pH} = \text{pKa} + \log \frac{[\text{acid}]}{[\text{salt}]}$
- (C) $a_{\text{H}^+} = 10^{-\text{pH}}$
- (D) $\text{pK}_w = \text{pH} + \text{pOH}$
15. Nitrogen based aquatic fern that is used as a biofertiliser for rice is
- (A) Rhizobium
- (B) Frankia
- (C) Azorhizobium
- (D) Azolla
16. Agrobacterium tumefaciens is
- (A) A bacterium that causes loss of weight in human beings
- (B) A bacterium used to introduce DNA into plants
- (C) A fungi that is used to produce antibiotics in large amounts
- (D) A bacterium that causes loss of weight in humans
17. Coexistence theory is a mathematical model in
- (A) Species ecology
- (B) Population ecology
- (C) Community ecology
- (D) Synecology
18. The organisms which feed on dead organisms are known as
- (A) Producers (B) Carnivores
- (C) Consumers (D) Decomposers
19. Which of the following is an example of a lentic ecosystem ?
- (A) Stream ecosystem
- (B) Pond ecosystem
- (C) Wetland ecosystem
- (D) Forest ecosystem
20. The most productive zone of a sea is the
- (A) Littoral zone (B) Neritic zone
- (C) Bathyl zone (D) Abyssal zone
21. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
- Assertion (A)** : Endangered animals are protected by declaring their habitats as sanctuaries.
- Reason (R)** : The tiger population in India is revived by the Project tiger taken up by the Government of India.
- 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



22. An area which is susceptible to damage or destruction by a hazard is called
- (A) Vulnerable area
 - (B) Potential area
 - (C) Core zone
 - (D) Buffer zone
23. WGS 1984 datum has origin at
- (A) Postdam
 - (B) Meades Ranch
 - (C) Earth's centre of mass
 - (D) Antipodal point
24. Out of all the minerals found in India, the mineral with maximum life expectancy is
- (A) Coal
 - (B) Diamond
 - (C) Bauxite
 - (D) Gold
25. Which of the following effects is not caused by over-exploitation of ground waters ?
- (A) Increased concentration of fluorides in ground waters
 - (B) Increased concentration of arsenic in ground waters
 - (C) Consumption of increased energy
 - (D) Water-logging and salinity
26. Surface wave magnitude is a function of the observed amplitude of which wave
- (A) P-wave
 - (B) S-wave
 - (C) L-wave
 - (D) R-wave
27. Following Tsunami triggered Nuclear accident of Japan in 2011 which isotope has been spread into water and air ?
- (A) U^{238}
 - (B) U^{235}
 - (C) Cs^{137}
 - (D) Ar^{40}
28. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
- Assertion (A)** : As Do level drops in a waterbody, fish and other aquatic life are threatened and in extreme case, killed.
- Reason (R)** : Oxygen demanding wastes are substances that oxidize in the receiving body of water.
- 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. Solar radiation is usually measured with a

- (A) Thermometer
- (B) Radiometer
- (C) Pyranometer
- (D) Lysimeter

30. Hybrid technology in renewable energies is used currently as a combination of

- (A) Solar and geothermal energy
- (B) Wind and tidal energy
- (C) Solar and wind energy
- (D) Geothermal and ocean thermal energy

31. Match the List – I and List – II which contains Energy and Process/Material

List – I

List – II

- | | |
|--------------------|--------------------|
| a) Sun's energy | i) Uranium |
| b) Bioenergy | ii) Nuclear fusion |
| c) Wind energy | iii) Methane |
| d) Nuclear fission | iv) Wheeling |

Identify the correct code :

Codes :

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

32. What are the major sectors where water requirement is the prime concern ?

- (A) Agriculture, Domestic
- (B) Agriculture, Livestock, Power generation, Domestic and Industries
- (C) Livestock, Power generation
- (D) Livestock, Power generation and Industries

33. What are the continuous resources ?

- I. Uranium
- II. Geothermal
- III. Seawave
- IV. Biomass

Find the correct combination according to the code :

Codes :

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



34. What are the categories of metals that exist in the earth's crust ?

- I. Structural metals
- II. Common metals
- III. Scarce metals
- IV. Precious metals

Find the correct combination according to the code :

Code :

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

35. In natural communities, energy used to perform work

- (A) can be consumed by animals
- (B) cannot be consumed by other organisms
- (C) can be consumed by carnivores
- (D) can be consumed by top carnivores

36. The famous book "Silent Springs" which provides information on documented cases of the damages caused by the use of pesticides was written by

- (A) Rachel Carson
- (B) Robin Cook
- (C) Charles Darwin
- (D) Rachel Cook

37. The sound pressure level (L_p) in decibel is

$$(A) L_p = 10 \log_{10} \frac{(\text{measured pressure})^2}{(\text{reference pressure})^2}$$

$$(B) L_p = -10 \log_{10} \frac{(\text{measured pressure})^2}{(\text{reference pressure})^2}$$

$$(C) L_p = \log_{10} \frac{(\text{measured pressure})^2}{(\text{reference pressure})^2}$$

$$(D) L_p = -\log_{10} \frac{(\text{measured pressure})^2}{(\text{reference pressure})^2}$$

38. For completion of BOD analysis in three days the temperature required is

- (A) 29°C
- (B) 20°C
- (C) 27°C
- (D) 21°C

39. Arrange the following in order of their increasing efficiency in absorption of fine particulates

- (A) Settling chambers, Fabric filters, Cyclones, Electrostatic precipitators, Scrubbers
- (B) Settling chambers, Fabric filters, Cyclones, Scrubbers and Electrostatic precipitators,
- (C) Scrubbers, Cyclones, Fabric filters, Electrostatic precipitators, Settling chambers
- (D) Electrostatic precipitators, Scrubbers, Cyclones, Fabric filters, Settling chambers



40. Match the List – I and List – II which contains cause and effect.

List – I**List – II**

- | | |
|--------------------|------------------------|
| a) Carbon monoxide | i) Acid rain |
| b) Carbon dioxide | ii) Explosion |
| c) Methane | iii) Asphyxiation |
| d) Sulphur dioxide | iv) Green house effect |

Identify the correct code :

Codes :

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

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

Assertion (A) : A village nearby an industry is protected from the industrial emissions by manipulating effective stack height.

Reason (R) : Increased effective stack height increases mixing height that carries the emissions to farther places.

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

42. The sound power from a voice shouting is 0.001 Watt. The sound level in dB is

- (A) 90 dB (B) 60 dB
(C) 30 dB (D) 120 dB

43. Which of the following particulars is documented during Pre-audit activities ?

- (A) Environmental management policy of the industrial unit and organisational set-up
(B) Opinion of workers, supervisor, managers of different units
(C) Water balance including recycling
(D) Efficiency of all waste treatment system in place

44. Which of the following gives the correct sequence of steps in phase II (impact assessment) of the EIA process ?

- (A) Prediction of impacts – Evaluation of impacts – Identification of mitigation needs – Description of the environment – Identification of impacts
(B) Evaluation of impacts – Prediction of impacts – Identification of mitigation needs – Description of the environment – Identification of impacts
(C) Description of the environment – Identification of impacts – Prediction of impacts – Evaluation of impacts – Identification of mitigation needs
(D) Identification of mitigation needs – Description of the environment – Prediction of impacts – Identification of impacts – Evaluation of impacts



45. Match the List – I and List – II which contains Basic checklist methodologies used in EIA and Nature of checklist.

List – I	List – II
a) Simple checklist	i) Identification of environmental parameters with information basis to subjective scaling or parameter values
b) Descriptive checklist	ii) List of parameters without guidelines to interpret an environmental parameter
c) Scaling checklist	iii) Capable of quantifying impacts
d) Scaling weighting checklist	iv) Identification of environmental parameters and guidelines on how parameter data are to be measured

Identify the correct code :

Codes :

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

46. ISO 14010 provides

- (A) Guidance on the general principles common to the conduct of any environmental audit
- (B) Guidance for determining the goal and scope of an LCA study
- (C) Guiding principles and procedures for third party environmental labelling certification programs
- (D) Guidance on the terminology, symbols and testing and verification methodologies

47. If the range of consequences and damage by an event is negligible but the event is frequently repeatable then.

- (A) Risk reduction measures should be implemented
- (B) Risk is acceptable
- (C) Risk is unacceptable
- (D) Risk is remote

48. In EIA study preliminary review to decide whether to carry out of full assessment is called

- (A) Pre-development monitoring
- (B) Screening
- (C) Scoping
- (D) Assessing



49. Pollution indices are used in EIA studies to indicate
- (A) Gross level of pollution with reference to standard limits
 - (B) Types of pollutants and their dispersions
 - (C) Total pollution load
 - (D) Per capita share of the pollutants
50. Under which section of the Wildlife (Protection) Act 1972, the State Government can declare an area as a sanctuary
- (A) Section 17
 - (B) Section 18
 - (C) Section 19
 - (D) Section 20
51. Animal Welfare Board of India is a
- (A) Statutory body
 - (B) Financing body
 - (C) Executive body
 - (D) Guiding body
52. Cattle waste has COD several times higher than BOD because
- (A) High levels of fibre
 - (B) High levels of microflora
 - (C) High levels of cellulose
 - (D) High levels of fibre, cellulose and lignin
53. Which one of the following is not an energy recovery method of solid waste management ?
- (A) Pelletisation
 - (B) Biomethanation
 - (C) Pyrolysis
 - (D) Composting
54. Gases emitted from municipal landfill sites include
- (A) SO_2 and CH_4
 - (B) NH_3 , CO , SO_2 and CH_4
 - (C) NH_3 , H_2S and CO
 - (D) CH_4 , H_2S , CO_2 , NH_3
55. The Combustion Efficiency (CE) is
- (A) $\text{CE} = \frac{\% \text{ of } \text{CO}_2}{\% \text{ of } \text{CO}_2 + \% \text{ of } \text{CO}} \times 100$
 - (B) $\text{CE} = \frac{\text{Atomic mass of } \text{CO}}{50} \times 100$
 - (C) $\text{CE} = \% \text{ of } \text{CO}_2 + \text{CO}$
 - (D) $\text{CE} = \% \text{ of } \text{O}_2 + \text{CO}_2$
56. The Forest Conservation Act was enacted in India in the year
- (A) 1975
 - (B) 1977
 - (C) 1979
 - (D) 1980



57. Hazardous wastes are materials that are known to exhibit

- I. Ignitability
- II. Reactivity
- III. Corrosivity
- IV. Antitoxicity

Find the correct combination according to the code :

Code :

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

58. For negatively skewed distribution

- (A) Mean < Median < Mode
- (B) Median < Mode < Mean
- (C) Mode < Mean < Median
- (D) Mode = Mean = Median

59. Which theorem assures that the sampling distribution of the mean approaches normal distribution as the sample size increases ?

- (A) Pythagoras theorem
- (B) Testing of hypothesis theorem
- (C) Central limit theorem
- (D) Sampling theorem

60. If $H_0 : \mu = \mu_{H_0}$ and $H_a : \mu < \mu_0$ then which test will be appropriate

- (A) Two-tailed
- (B) Right-tailed
- (C) One-tailed
- (D) Both left and right tailed

61. If Null hypothesis (H_0) is false and the decision is to accept (H_0) the error is

- (A) α error
- (B) Type I error
- (C) β error
- (D) zero

62. If assumed Average (A) is used while finding deviations then the standard deviation (σ) would be worked out in case of frequency distribution (f_i) of values (x_i) as

$$(A) \sigma = \sqrt{\frac{\sum f_i x_i^2}{\sum f_i} - \left(\frac{\sum f_i x_i}{\sum f_i}\right)^2}$$

$$(B) \sigma = \sqrt{\frac{\sum f_i x_i^2}{\sum f_i} - \left(\frac{\sum f_i (x_i - A)}{\sum f_i}\right)^2}$$

$$(C) \sigma = \sqrt{\frac{\sum f_i (x_i - A)^2}{\sum f_i} - \left(\frac{\sum f_i (x_i - A)}{\sum f_i}\right)^2}$$

$$(D) \sigma = \sqrt{\frac{\sum f_i (x_i - A)^2}{\sum f_i} - \left(\frac{\sum f_i x_i}{\sum f_i}\right)^2}$$



63. If the sample consists of 600 items out of which 120 are successes and 480 are failures the standard deviation for the binomial probability distribution is
(A) $4\sqrt{3}$ (B) $3\sqrt{3}$
(C) $4\sqrt{6}$ (D) $4\sqrt{5}$
64. The latest standards specified for vehicular emissions are
(A) Euro – II (B) Bharat – I
(C) Asia – I (D) India – II
65. Montreal protocol treaty was opened for signature on
(A) September 16, 1987
(B) October 16, 1987
(C) November 16, 1997
(D) September 16, 1997
66. Which of the following stands as a precursor of a desert ?
(A) Waste land
(B) Productive land
(C) Uncultivated land
(D) Wet land
67. The goals, objectives and guiding principles of Environmental Education were formulated and adopted at
(A) UNCED
(B) Stockholm Conference
(C) Tbilisi Conference
(D) Kyoto Summit
68. Carbon credit is a mechanism created under
(A) Kyoto protocol
(B) Montreal protocol
(C) Earth summit
(D) Convention on climate change
69. Sardar Sarovar Dam is located in
(A) Odisha
(B) Gujarat
(C) West Bengal
(D) Rajasthan
70. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Composting is the most commonly used process for the decomposition of the organic components of municipal solid wastes.
Reason (R) : Bangalore method is a common anaerobic method for biological conversion of the organic components of municipal solid wastes.
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



71. Match List – I with List – II which contains contaminants in water in excess of permissible limits and harmful health effects.

List – I

- a) Cadmium
- b) Antimony
- c) Lead
- d) Thallium

List – II

- i) Bio-accumulation in human liver and in marine organisms
- ii) Hair loss and hypertension
- iii) Ouch ouch
- iv) Mental retardation

Identify the correct code :

Codes :

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

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

Assertion (A) : Thornthwaite (1948) and Koppen (1956) have given agroclimatic zonation for India.

Reason (R) : The cropping pattern in India is climate based.

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

73. Coal is classified as

- (A) Renewable, Conventional, In-exhaustible
- (B) Nonrenewable, Conventional, Exhaustible
- (C) Renewable, Nonconventional, Exhaustible
- (D) Nonrenewable, Nonconventional, In-exhaustible

74. The acid rain results from chemical transformation and transport of

- (A) Sulphur dioxide and nitrogen oxides
- (B) Phosphorus pentoxides and sulphur compounds
- (C) Chlorine gas and nitrous oxide
- (D) Iron oxides and copper nitrate

75. The predominant gas emitted during the early life of a Municipal Solid waste Landfill is

- (A) CO
- (B) CO₂
- (C) CH₄
- (D) VOC



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