

Test Paper : II

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 : II

Subject : ENVIRONMENTAL SCIENCE

Time : 1 Hour 15 Minutes

Maximum Marks : 100

Number of Pages in this Booklet : 8

Number of Questions in this Booklet : 50

**ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು**

1. ಈ ಪುಟದ ಮೇಲ್ಭಾಗದಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರ್‌ನ್ನು ಬರೆಯಿರಿ.
2. ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಐವತ್ತು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
3. ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ ಪ್ರಶ್ನೆಪುಸ್ತಕವನ್ನು ನಿಮಗೇ ನೀಡಲಾಗುವುದು. ಮೊದಲ 5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪುಸ್ತಕವನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರಿಶೀಲಿಸಿ ಕೋರಲಾಗಿದೆ.  
(i) ಪ್ರಶ್ನೆ ಪುಸ್ತಕಕ್ಕೆ ಪ್ರವೇಶಾಪಕಾರ ಪಡೆಯಲು, ಈ ಹೊದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ವಿಚ್ ಸೀಲ್ ಇಲ್ಲದ ಅಥವಾ ತೆರದ ಪುಸ್ತಕವನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ.  
(ii) ಪುಸ್ತಕಿಯಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳೆ ನೋಡಿರಿ. ಪುಟಗಳು/ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವ್ಯತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪುಸ್ತಕವನ್ನು ಕೂಡಲೆ 5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವೀಕ್ಷಕರಿಂದ ಸರಿ ಇರುವ ಪುಸ್ತಕಕ್ಕೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಬಳಿಕ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಲಾಗುವುದಿಲ್ಲ. ಯಾವುದೇ ಹೆಚ್ಚು ಸಮಯವನ್ನೂ ಕೊಡಲಾಗುವುದಿಲ್ಲ.
4. ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೂ (A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದ ನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಿವೆ. ನೀವು ಪ್ರಶ್ನೆಯ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂಡಾಕೃತಿಯನ್ನು ಕವಚಿಸಬೇಕು.  
ಉದಾಹರಣೆ: 

A	B	C	D
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(C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ.
5. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ I ರಲ್ಲಿ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ I ಮತ್ತು ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ II ರಲ್ಲಿ ಇರುವ ಪ್ರಶ್ನೆಗಳಿಗೆ ನಿಮ್ಮ ಉತ್ತರಗಳನ್ನು ಸೂಚಿಸತಕ್ಕದ್ದು. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಅಂಡಾಕೃತಿಯಲ್ಲದ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಉತ್ತರವನ್ನು ಗುರುತಿಸಿದರೆ, ಅದರ ಮೌಲ್ಯಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.
6. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.
7. ಎಲ್ಲಾ ಕರಡು ಕೆಲಸವನ್ನು ಪುಸ್ತಕಿಯ ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು.
8. ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆದರೆ, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗಿರುತ್ತೀರಿ.
9. ಪರೀಕ್ಷೆಯು ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರೀಕ್ಷಾ ಕೊಠಡಿಯ ಹೊರಗೆ OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯಕೂಡದು.
10. ಪರೀಕ್ಷೆಯ ನಂತರ, ಪರೀಕ್ಷಾ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಮತ್ತು ನಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.
11. ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.
12. ಕ್ಯಾಲ್ಕುಲೇಟರ್ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.
13. ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಿಗೆ ಋಣ ಅಂಕ ಇರುವುದಿಲ್ಲ.
14. ಕನ್ನಡ ಮತ್ತು ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಗಳಲ್ಲಿ ಯಾವುದೇ ರೀತಿಯ ವ್ಯತ್ಯಾಸಗಳ ಕಂಡುಬಂದಲ್ಲಿ, ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳಲ್ಲಿರುವುದೇ ಅಂತಿಮವೆಂದು ಪರಿಗಣಿಸಬೇಕು.

**Instructions for the Candidates**

1. Write your roll number in the space provided on the top of this page.
2. This paper consists of fifty multiple-choice type of questions.
3. 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.
4. 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
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where (C) is the correct response.
5. Your responses to the questions are to be indicated in the OMR Sheet kept inside the Paper I Booklet only. If you mark at any place other than in the ovals in the Answer Sheet, it will not be evaluated.
6. Read the instructions given in OMR carefully.
7. Rough Work is to be done in the end of this booklet.
8. 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.
9. 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.
10. You can take away question booklet and carbon copy of OMR Answer Sheet soon after the examination.
11. Use only Blue/Black Ball point pen.
12. Use of any calculator or log table etc., is prohibited.
13. There is no negative marks for incorrect answers.
14. 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 – II**

**Note :** This paper contains **fifty (50)** objective type questions. **Each** question carries **two (2)** marks. **All** questions are **compulsory**.

1. The nature of plume caught in between two inversion layers is  
(A) Coning  
(B) Fanning  
(C) Trapping  
(D) Looping
2. Who was the scientist who coined the term 'ecosystem' ?  
(A) Carl Linnaeus  
(B) Charles Darwin  
(C) Julian Huxley  
(D) Arthur Tansley
3. P and S waves belong to  
(A) Light waves  
(B) Seismic waves  
(C) Tidal waves  
(D) Sound waves
4. When was the Biological Diversity Act passed by the Parliament ?  
(A) October 11, 2002  
(B) December 11, 2002  
(C) August 17, 2012  
(D) December 11, 2012
5. The Southern Oscillation is the atmospheric component of  
(A) Tropical cyclone  
(B) Tornado  
(C) Hurricane  
(D) El Nino
6. Oxygen which is liberated during photosynthesis comes from  
(A)  $\text{CO}_2$   
(B)  $\text{H}_2\text{O}$   
(C) Phosphoglyceric Acid  
(D) Chlorophyll
7. End product of the photochemical smog is  
(A) PCB  
(B) PAH  
(C) PAN  
(D) Hydrocarbons
8. Baygon belongs to which class of pesticides ?  
(A) Organo chlorine pesticides  
(B) Organo phosphorous pesticides  
(C) Carbamate pesticides  
(D) Halons
9. Which of the following ion is important for coagulation ?  
(A)  $\text{Na}^+$   
(B)  $\text{K}^+$   
(C)  $\text{Ca}^{++}$   
(D) Phosphate



10. Flame photometry is based on  
(A) Diffraction of Radiation  
(B) Polarisation of Radiation  
(C) Emission of Radiation  
(D) Absorption of Radiation
11. Phytoplankton in aquatic food webs are  
(A) Obligate photo autotrophs  
(B) Obligate heterotrophs  
(C) Facultative heterotrophs  
(D) Obligate autotrophs
12. Inhalation anthrax is a/an  
(A) Contagious disease  
(B) Communicable disease  
(C) Air borne disease  
(D) Non-communicable disease
13. Which one of the following refers to a typical Mangrove plant family ?  
(A) Burseraceae  
(B) Dipterocarpaceae  
(C) Ebenaceae  
(D) Rhizophoraceae
14. An area containing at least 0.5% of plant species as endemics is called as  
(A) Degraded area  
(B) Deforested area  
(C) Hot Spot of Biodiversity  
(D) Terrestrial Biodiversity

15. Match the List – I with List – II :

**List – I****List – II**

- |                         |                               |
|-------------------------|-------------------------------|
| a) Bengal White Tiger   | i) Khaziranga National Park   |
| b) Great Indian Bustard | ii) Jim Corbett National Park |
| c) Rhinoceros           | iii) Sundarbans               |
| d) Tiger                | iv) Ghana                     |
- (A) a – iv, b – ii, c – iii, d – i  
(B) a – ii, b – iv, c – i, d – iii  
(C) a – i, b – ii, c – iii, d – iv  
(D) a – iii, b – i, c – iv, d – ii

16. The water in a well rises upto the isopiestic level in

- (A) Aquitard  
(B) Aquiclude  
(C) Unconfined aquifer  
(D) Confined aquifer

17. The Ring of Fire is the area that exists around

- (A) Indian Ocean  
(B) Atlantic Ocean  
(C) Pacific Ocean  
(D) Antarctic Ocean



18. Remote sensing is

- I. Acquisition of information about an object without physical contact with the object.
  - II. Acquisition of information about an object with physical contact.
  - III. It is an aerial sensor technology to detect and classify objects on earth.
  - IV. It is done by means of propagated signals.
- (A) I, II and III are correct  
(B) II, III and IV are correct  
(C) I, III and IV are correct  
(D) I, II and IV are correct

19. Lithological settings, slope and seismic patterns are essential for preparation of which of the following hazard zone mapping

- (A) Land slide prone areas  
(B) Cyclone prone areas  
(C) Flood prone areas  
(D) Tsunami prone areas

20. An element in a sample that has an average concentration of less than 100 ppm measured in atomic count is called

- (A) Trace element  
(B) Heavy element  
(C) Radioactive element  
(D) Light element

21. Bitumen coal contains

- (A) Low sulfur content  
(B) High nitrogen content  
(C) High sulfur content  
(D) Low nitrogen content

22. Wind Energy is

- (A) Chemical energy  
(B) Potential energy  
(C) Kinetic energy  
(D) Mechanical energy

23. Sun is an example of the process of

- (A) Nuclear fission  
(B) Nuclear fusion  
(C) Cold fusion  
(D) Hot fusion

24. LPG is

- I. With high calorific value
  - II. With low heat content
  - III. Convenient for easy transportation
  - IV. Colourless and odourless
- (A) I, II and III are correct  
(B) I, III and IV are correct  
(C) II, III and IV are correct  
(D) I, II and IV are correct

25. Match the following :

- |     | <b>List – I</b>   |          | <b>List – II</b> |          |
|-----|-------------------|----------|------------------|----------|
| a)  | Nuclear fusion    | i)       | Coal             |          |
| b)  | Geothermal energy | ii)      | Hot springs      |          |
| c)  | Potential energy  | iii)     | Methane          |          |
| d)  | Biogas            | iv)      | Uranium          |          |
|     | <b>a</b>          | <b>b</b> | <b>c</b>         | <b>d</b> |
| (A) | iii               | i        | iv               | ii       |
| (B) | iv                | ii       | i                | iii      |
| (C) | ii                | iii      | iv               | i        |
| (D) | ii                | iii      | i                | iv       |



26. Which hormone is released in the human body on exposure to high level noise ?  
(A) Thyroxin  
(B) Adrenalin  
(C) Progesterone  
(D) Androgen
27. Highly hazardous liquid wastes that cannot be treated is handled by  
(A) Releasing into the atmosphere  
(B) Releasing into the green belts  
(C) Forced evaporation  
(D) Releasing after dilution
28. Which of the bacteria is used for biological leaching ?  
(A) Thiobacillus ferrooxidans  
(B) Pseudomonas putida  
(C) E. coli  
(D) Pseudomonas auriginosa
29. Which one of the air pollutants denatures chlorophyll ?  
(A) NO<sub>2</sub>                      (B) CO<sub>2</sub>  
(C) SO<sub>2</sub>                        (D) CO
30. Fly-ash is a  
(A) Very fine, powdery material composed mostly of silica  
(B) Very rough, granular material composed mostly of carbon  
(C) Very rough, non-granular material, composed mostly of tritium  
(D) Very fine, powdery material composed mostly of uranium
31. The validity period for environmental clearance of a mining project is  
(A) 10 years  
(B) 30 years  
(C) 5 years  
(D) 17 years
32. An organisation adopting Environmental Management System is certified as  
(A) ISO 9001 Organisation  
(B) ISO 14001 Organisation  
(C) ISO 18001 Organisation  
(D) ISO 31001 Organisation
33. Sustainable Development is  
(A) Meeting the needs of the present as well as future  
(B) Meeting the needs of the present only  
(C) Meeting the needs and greeds of the present only  
(D) Meeting the needs and greeds of the present as well as future
34. In EIA, the qualitative information is called as  
(A) Hard Data  
(B) Soft Data  
(C) Continuous variable  
(D) Discrete variable
35. Fault tree analysis is normally used to evaluate failures in  
(A) Engineering systems  
(B) EIA systems  
(C) Life cycle assessment  
(D) Environmental management systems



36. The human anatomical waste from hospitals is disposed by  
(A) Chemical disinfection  
(B) Autoclaving  
(C) Incineration  
(D) Vermi composting
37. The Wildlife (Protection) Act, 1972 prohibits hunting of the animals specified in schedules  
(A) I to V  
(B) I  
(C) I to IV  
(D) IV to V
38. The Ecomark for food grade products is  
(A) Orange  
(B) Green  
(C) Red  
(D) Black
39. The International treaty which aims at protection of wetlands is  
(A) Montreal protocol  
(B) Kyoto protocol  
(C) Ramsar protocol  
(D) CITES
40. Which one is the most effective disaster management model ?  
(A) Disaster management cycle  
(B) Expand-contract model  
(C) Disaster crunch model  
(D) Pressure model
41. The Geometric Mean of the series :  
1, 10, 100, 100000 is  
(A) 1  
(B) 100  
(C) 1000  
(D) 10000
42. Gaussian Plume Model is related to  
(A) Radioactive Pollution Dispersion  
(B) Water Pollution Dispersion  
(C) Air Pollution Dispersion  
(D) Soil Pollution Dispersion
43. In a positively skewed distribution  
(A) Mean = Median = Mode  
(B) Mode < Median < Mean  
(C) Mean < Median < Mode  
(D) Median < Mean < Mode
44. If the significance level is 5 percent and the two-tailed test is to be applied, the probability of the rejection area will be  
(A) 0.025  
(B) 0.001  
(C) 0.05  
(D) 0.01



45. If  $\bar{X}$  is the arithmetic mean of a data set,  $\mu$  is the assumed mean,  $\sigma$  is the standard deviation of the data set and 'n' is the number of records, then the 't' statistic is

(A)  $t = \frac{(\bar{X} - \mu)\sigma}{\sqrt{n}}$

(B)  $t = \frac{(\bar{X} - \mu)}{\sigma/\sqrt{n}}$

(C)  $t = \frac{(\bar{X} - \mu)}{\sigma \times \sqrt{n}}$

(D)  $t = \frac{(\mu - \bar{X})}{\sigma/\sqrt{n}}$

46. Which one of the following statements about the environmental education is incorrect ?

- (A) Environmental education teaches us to lead a sustainable life style
- (B) Environmental education will prepare our next generation to plan appropriate strategies for addressing developmental and environmental issues
- (C) Environmental education does not advocate a particular view point or course of action
- (D) Environmental education is essential for the younger generations alone

47. Epidemiology is the science that studies the

- (A) Pattern, causes and effects of health and disease conditions in defined populations
- (B) Patterns, causes and effects of health and disease conditions in un-defined populations
- (C) Causes and effects of climate change on defined populations
- (D) Causes and effects of climate change on un-defined populations

48. Which is the tallest dam in India ?

- (A) Nagarjuna Sagar dam
- (B) Tehri dam
- (C) Almatti dam
- (D) Sardar Sarovar dam

49. Agenda-21 is

- (A) A document to take India to 21<sup>st</sup> century
- (B) A document with resolutions of Earth Summit
- (C) A document with resolutions of Montreal Protocol
- (D) A document with resolutions of Copenhagen meet

50. Which one is the largest inland wetland in India ?

- (A) Linganamakki
- (B) Kolleru
- (C) Chilika
- (D) Sundarbans



Total Number of Pages : 8

ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ  
Space for Rough Work