

Test Paper : II

Test Subject : ENVIRONMENTAL SCIENCE

Test Subject Code : K-2916

Test Booklet Serial No. : _____

OMR Sheet No. : _____

Roll No. _____

(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 ನಂಬರನ್ನು 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 ಪರೀಕ್ಷಿಸಲು 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 ಕೂಡಲೇ 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)
(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 ಹಾಳೆಯಲ್ಲಿ ಅಂಡಾಕೃತಿಯಲ್ಲದೆ 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 ಬಾಧ್ಯರಾಗುತ್ತೀರಿ.
9. ಪರೀಕ್ಷೆಯು ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರೀಕ್ಷಾ ಕೋಡಿಯ 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, ವಿದ್ಯುನ್ಮಾನ ಉಪಕರಣ 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 circle as indicated below on the correct response against each item.
Example : (A) (B) (C) (D)
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 circles in the OMR 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 after the examination.
11. Use only Blue/Black Ball point pen.
12. Use of any calculator, Electronic gadgets 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. In the atmosphere, Ozone absorbs UV radiations and decomposes into
- (A) $\dot{C}O_2, \dot{O}$
(B) O_2, \dot{O}
(C) \dot{O}_2, \dot{O}
(D) \dot{O}
2. Energy that comes from the steam and hot water trapped within the earth crust is
- (A) Hydraulic energy
(B) Geyser
(C) Geothermal energy
(D) Thermal energy
3. Match the List – I and List – II. Choose the correct answer from the codes given below :
- | List – I
(Mineral groups) | List – II
(Elements) |
|------------------------------|-------------------------|
| (a) Chalcophile | (i) Carbon |
| (b) Lithophile | (ii) Nitrogen |
| (c) Siderophile | (iii) Sulphur |
| (d) Atmosphile | (iv) Oxygen |
| (e) Biophile | (v) Iron |
- Codes :**
- | (a) | (b) | (c) | (d) | (e) |
|---------|-----|-----|-----|-----|
| (A) v | iv | iii | ii | i |
| (B) iii | iv | v | ii | i |
| (C) iv | v | i | ii | iii |
| (D) iii | i | ii | iv | v |
4. Heavy metal ions and micro surface interaction in non-directed physico-chemical processes is known as
- (A) Biotransformation
(B) Biomining
(C) Biosorption
(D) Bioconversion
5. Which of the following is not correctly matched ?
- (A) Group zero elements – Noble gases
(B) Subgroup IA elements – Alkali metals
(C) Sub-group IIA elements – Alkaline earth metals
(D) Sub-group IIIA elements – Main group elements
6. Which of the following radiation continuously act on ^{14}N to produce ^{14}C isotope in the atmosphere ?
- (A) X-rays (B) γ -rays
(C) β -rays (D) Cosmic-rays
7. Identify the correct sequence of gases in the increasing order of their global warming potential.
- (A) $CH_4 < N_2O < CFC < SF_6$
(B) $CO_2 < N_2O < CH_4 < CFC$
(C) $CO_2 < CH_4 < SF_6 < CFC$
(D) $N_2O < CH_4 < CO_2 < CFC$



8. Conversion of ${}_{94}^{239}\text{Pu}$ to ${}_{92}^{235}\text{U}$ involved the following types of decay.
- (A) α and β
(B) α and γ
(C) β and γ
(D) Only β
9. What is the molarity of 0.6N AlCl_3 solution ?
- (A) 0.6 M
(B) 0.2 M
(C) 0.3 M
(D) 1.8 M
10. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R).
- Assertion (A)** : Azolla-Anabeena is an excellent example of a mutual relationship between microorganisms and plants.
- Reason (R)** : Anabeena fix large quantities of atmospheric nitrogen.
- Choose the correct answer from the codes :
- (A) Both (A) and (R) are true and (R) is the correct explanation
(B) Both (A) and (R) are true and (R) is not correct explanation
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true
11. In an aquatic ecosystem, organisms appear in the food chain in the sequence of
- (A) Zooplankton, Phytoplankton, Small fish, Large fish
(B) Phytoplankton, Zooplankton, Small fish, Large fish
(C) Small fish, Phytoplankton, Zooplankton, Large fish
(D) Large fish, Small fish, Phytoplankton, Zooplankton
12. Primary succession refers to Succession on a
- (A) Abandoned contour mine area
(B) Volcanic eruption area
(C) Area where mature trees are cut
(D) Barren area
13. The permanently frozen deeper soil layer of Tundra biomes is referred as
- (A) Frost (B) Loamy soil
(C) Perma frost (D) Sandy soil
14. The response of the individual plant to relative length of day light is called
- (A) Photo period
(B) Photo synthesis
(C) Photo periodism
(D) Photo activism
15. For plant life, soil water is important which is known as
- (A) Capillary water
(B) Combined water
(C) Hygroscopic water
(D) Gravitational water



16. Slope failure that transmit large volumes of material which travel with great velocity is called as
- (A) Sturzstorms
 - (B) Slumps
 - (C) Scarps
 - (D) Alluvial fans
17. Which of the following features indicates former landslides or areas susceptible to slope failure ?
- I) Displaced objects
 - II) Scraps and open tissues
 - III) Hummoky surfaces
- Codes :**
- (A) I and II only
 - (B) II only
 - (C) II and III only
 - (D) I, II and III only
18. Commercially extractable metal from sea water is
- (A) Aluminium
 - (B) Iron
 - (C) Nickel
 - (D) Magnesium
19. A collective term for all detrital material transported and deposited by streams is
- (A) Sediments
 - (B) Alluvium
 - (C) Silt
 - (D) Clay
20. Synthetic Natural Gas (SNG) has Calorific value
- (A) 27 MJm^{-3}
 - (B) 37 MJm^{-3}
 - (C) 47 MJm^{-3}
 - (D) 57 MJm^{-3}
21. The following reaction is
- $$\text{C} + \text{H}_2\text{O}_{(\text{steam})} \rightleftharpoons \text{CO} + \text{H}_2$$
- (A) Exothermic
 - (B) Endothermic
 - (C) Exhaustive
 - (D) Dissociation
22. Which of the following is the most efficient energy conversion process ?
- (A) Photosynthesis
 - (B) Solar cell
 - (C) Electric generator
 - (D) Aircraft Jet engine
23. Primary waste water treatment removes
- (A) Nonsetttable solids
 - (B) Colloidal particles
 - (C) Dissolved organic matter
 - (D) Setttable solids
24. Which one of the following fuel emits maximum SO_2 on burning ?
- (A) Diesel
 - (B) Coal
 - (C) Fire wood
 - (D) Natural gas



25. When the coagulant alum is added to water, the final colloid formed is
(A) $2\text{Al}(\text{OH})_2 \downarrow$ (B) $2\text{Al}(\text{OH})_3 \downarrow$
(C) $\text{Al}_2(\text{SO}_4)_3 \downarrow$ (D) $\text{Al}(\text{OH})_2 \downarrow$
26. Acid rain is mainly neutralized by
(A) Ca^{++} and SO_4^{--}
(B) Na^+ and SO_4^{--}
(C) Ca^{++} and Cl^-
(D) N^+H_4 and Cl^-
27. Modern turbidimeters working on the principle of scattering of light is known as
(A) Optimeters (B) Spectrometers
(C) Tintometers (D) Nephelometers
28. The public hearing shall be completed within a period from the date of receipt of the request letter from the applicant is
(A) 8 days
(B) 15 days
(C) 45 days
(D) 60 days
29. According to EIA notification 2006, Secretary of Expert Appraisal Committee (EAC) and State level Appraisal Committee (SEAC) shall be
(A) A representative from Ministry of Environment and Forest
(B) A Deputy Conservator of Forests
(C) A District Magistrate
(D) A Representative from Local Community
30. Arrange the correct sequence of stages in the prior Environmental Clearance (EC) process for new projects.
(A) Scoping – Public consultation – Appraisal – Screening
(B) Public consultation – Scoping – Appraisal – Screening
(C) Screening – Scoping – Public consultation – Appraisal
(D) Public consultation – Screening – Scoping – Appraisal
31. For the most major projects, the influential zone around the proposed site lies at a radius of
(A) 100 Kmts (B) 200 Kmts
(C) 10 Kmts (D) 25 Kmts
32. Most important guiding principles for the National Land Utilisation Policy is
(A) Project and development are at the centre
(B) Efficient utilisation of land resources for economic growth
(C) Human beings are at centre
(D) Provide more opportunities to MNCs
33. In Integrated Solid Waste Management, the highest priorities are given to
I) Source reduction
II) Disposal
III) Recycling
IV) Landfill
Choose the correct code :
(A) I, II and III
(B) I and II only
(C) II and IV only
(D) I and III only



34. Which is the colour code for disposal of discarded glasswares of hospitals ?
(A) White (B) Red
(C) Blue (D) Black
35. In the order of descending level of risk, choose the correct answer.
(A) Air pollution – Chest X-rays – Fire arms – Cigarette smoking
(B) Alcohol consumption – Swimming – Boating – Air pollution
(C) Cigarette Smoking – Air pollution – Cancer – Boating
(D) Cigarette smoking – Alcohol consumption – Chest X-rays – Air pollution
36. The duty of every citizen to protect and improve the natural environment as a constitutional provision of India, is given under the article
(A) 48(A) (B) 51A (g)
(C) 21 (D) 47
37. The Supreme Court of India directed compulsory environmental education in all education institutions on
(A) 17th July 2014
(B) 22nd Nov. 1991
(C) 16th Aug. 2014
(D) 13th Jan. 2004
38. The range of Karl Pearson correlation co-efficient is
(A) 0 to 1
(B) – 1 to +1
(C) 0 to ∞
(D) $-\infty$ to $+\infty$
39. In which one of the following, the mean, median and mode coincide ?
(A) Skewed distribution
(B) Binomial distribution
(C) Poisson distribution
(D) Normal distribution
40. Which one of the following is the most appropriate central value of a measurement represented in ratio or proportion ?
(A) Harmonic Mean
(B) Median
(C) Mode
(D) Geometric mean
41. In 'J' shaped growth curve, density increases exponentially and stops abruptly due to
(A) Physiological constraints of organism
(B) Inability to reproduce
(C) Environmental resistance
(D) Migration of individuals
42. A population of 25 Protozoa (N) in a culture is increasing by division. If a population of 25 has increased to 75 after an hour, then average rate of change per time per individual is
(A) 100%
(B) 200%
(C) 50%
(D) 25%



43. Among the following states in India, which one has least wasteland area ?
- (A) Punjab
 - (B) Tamilnadu
 - (C) Kerala
 - (D) Jammu and Kashmir
44. In E-waste recycling, chemical stripping using nitric acid and hydrochloric acid will be generally used for
- (A) Plastic from keyboard and monitor
 - (B) Cathode ray tubes
 - (C) Chips and gold plated components
 - (D) Video cameras
45. Paris agreement to combat climate change under UNFCCC is effective from
- (A) 4th November 2016
 - (B) 12th December 2015
 - (C) 22nd April 2016
 - (D) 30th November 2015
46. The GWP Value of CFC-11 (Life time 45 Yr.) at 20 Yrs. time horizon is
- (A) 5350
 - (B) 7020
 - (C) 3790
 - (D) 1550
47. The portion of incident sunlight on the earth used by the green plant and algae for photosynthesis is
- (A) 0.6%
 - (B) 1.2%
 - (C) 0.16%
 - (D) 0.32%
48. The Higher and Lower Heating Value (HHV and LHV) of Kerosene (MJ/Kg) is
- (A) 141.80 and 119.96
 - (B) 44.80 and 43.4
 - (C) 51.90 and 47.62
 - (D) 46.20 and 43.00
49. Arsenic contamination in drinking water leads to
- (A) Dermatitis, jaundice and liver damage
 - (B) Acute chemical pneumonitis
 - (C) Tetragonosis
 - (D) Degenerative changes in nerves and paralysis
50. Which radioactive element is considered under indoor pollutant category ?
- (A) Oxygen – 16
 - (B) Nitrogen – 13
 - (C) Carbon – 14
 - (D) Radon



Total Number of Pages : 8

ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ
Space for Rough Work