

Test Paper : II
Test Subject : EARTH SCIENCE
Test Subject Code : K-3216

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 : EARTH 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

- ಈ ಪುಟದ ಮೇಲ್ಭಾಗದಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ.
- ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಐವತ್ತು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
- ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ ಪ್ರಶ್ನೆಪುಸ್ತಕವನ್ನು ನಿಮಗೇ ನೀಡಲಾಗುವುದು. ಮೊದಲ 5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪುಸ್ತಕವನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರಿಶೀಲಿಸಲು 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 ಪುಸ್ತಕಿಯನ್ನು ಕೂಡಲೆ 5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವೀಕ್ಷಕರಿಂದ ಸರಿ ಇರುವ ಪುಸ್ತಕಿಗೆ 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 ಕವಚಿಸಬೇಕು.
ಉದಾಹರಣೆ: (A) (B) (C) (D)
(C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ.
- 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.
- 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 ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರಿಶೀಲಿಸಲು ಕೊಡಲು OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯಕೂಡದು.
- ಪರೀಕ್ಷೆಯ ನಂತರ, ಪರಿಶೀಲಿಸಿದ 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 ವ್ಯತ್ಯಾಸಗಳ 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 fifty 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 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.
- 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.

**EARTH SCIENCE**
Paper – II

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

1. Pallasite meteorite is a
 - (A) Stony-iron meteorite with nickel, iron and olivine
 - (B) Carbonaceous chondrite
 - (C) Meteorite with sulphides and organic compounds
 - (D) Meteorite with silicates, oxides, water and inorganic compounds
2. _____ has the highest surface temperature.
 - (A) Jupiter (B) Mercury
 - (C) Pluto (D) Saturn
3. Who proposed the principle of uniformitarianism ?
 - (A) Alfred Wegener
 - (B) Georgius Agricola
 - (C) Charles Darwin
 - (D) James Hutton
4. Golitsyn's layer corresponds to the
 - (A) Upper part of SIMA
 - (B) Lower part of the outer core
 - (C) Lower part of the upper mantle
 - (D) Boundary between the core and mantle
5. The average composition of the Earth corresponds to
 - (A) Harzburgite (B) Chondrite
 - (C) Siderite (D) Peridotite
6. The _____ represents the maximum time interval in the Earth's history.
 - (A) Cenozoic (B) Mesozoic
 - (C) Palaeozoic (D) Precambrian
7. A calcareous fossil is found to have $\frac{1}{4}$ of its original ^{14}C activity. (half life of $^{14}\text{C} = 5,730$ years). Its age, therefore, is
 - (A) 5,730 years (B) 1,432.5 years
 - (C) 11,460 years (D) 22,920 years
8. Reverse and thrust faults are common structures along _____ plate margins.
 - (A) Divergent (B) Transform
 - (C) Convergent (D) Transcurrent
9. Which of the following components of deformation indicates a change in shape ?
 - (A) Translation (B) Distortion
 - (C) Rotation (D) Dilation



10. _____ is the dominant rock type in the upper mantle.

- (A) Basalt (B) Norite
- (C) Diorite (D) Peridotite

11. When a rock layer bends in response to stress and does NOT recover its original shape when the stress is removed, its behavior is said to be

- (A) Plastic (B) Brittle
- (C) Elastic (D) Brittle and Elastic

12. _____ exhibits varying hardness.

- (A) Tremolite (B) Kyanite
- (C) Actinolite (D) Chlorite

13. Match the following and select the correct answer using the code given below :

- | | |
|-------------------|---|
| a. Recumbent fold | 1. Horizontal displacement of fractured ends of rock strata |
| b. Reverse fault | 2. Horizontal axial plane |
| c. Chevron fold | 3. Hanging wall has moved up |
| d. Heave | 4. Sharp crests and troughs |

Codes :

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | 2 | 3 | 4 | 1 |
| (B) | 1 | 4 | 3 | 2 |
| (C) | 4 | 2 | 1 | 3 |
| (D) | 3 | 4 | 2 | 1 |

14. The axial ratio for baryte a : b : c is

- (A) 1 : 1 : 1
- (B) 1 : 1 : 0
- (C) 1.629 : 1 : 1.312
- (D) 1.218 : 1 : 1.729

15. What is the position of the basal conglomerate in relation to unconformity ?

- (A) Above the unconformity
- (B) Below the unconformity
- (C) Cutting across the unconformity
- (D) Neither below nor above the unconformity

16. Mid-oceanic ridges are NOT characterized by

- (A) Shallow focus earthquakes
- (B) Deep focus earthquakes
- (C) Volcanic activity
- (D) Hydrothermal activity

17. Chemical weathering is governed by

- (A) Temperature and wind speed
- (B) Rainfall and wind speed
- (C) Temperature and rainfall
- (D) Temperature and wind direction

18. Alternating ridges and valleys in an area result because of

- (A) Differences in elevation
- (B) Differences in lithology
- (C) Differences in elevation and lithology
- (D) Differences in age

**19. Sedimentary rocks**

Choose the **WRONG** answer from the options given below :

- (A) Are compacted
- (B) Form because of deposition of sediments
- (C) Are primary rocks
- (D) Contain a matrix

20. Volcanoes do not occur along

- (A) Island arcs
- (B) Mid-oceanic ridges
- (C) The Pacific rim
- (D) Plate collision boundaries

21. A point on the surface of the Earth directly above the focus of an earthquake and where the seismic waves arrived first is called

- (A) Hypocenter
- (B) Epicenter
- (C) Exocenter
- (D) Endoexocenter

22. _____ is the likely driving force of plate motion.

- (A) Pressure difference due to the uneven land-ocean coverage
- (B) Reversal of the Earth's magnetic field
- (C) Convective motion set up by heat in the mantle
- (D) Gravitational effect of the cooler and denser material in and around the sinking slab

23. Isostasy involves the

- (A) Core and mantle
- (B) Crust and upper mantle
- (C) Core and transition zone
- (D) Core and lower mantle

24. The strength of the Earth's magnetic field is expressed in

- (A) Ampere meter/cm²
- (B) Milli Tesla
- (C) Ampere/meter
- (D) Volts/meter

25. Most deep-seated earthquakes are found at _____ plate boundaries.

- (A) Divergent
- (B) Transform
- (C) Divergent and transform
- (D) Convergent

26. Which of the following is NOT a factor that causes global warming ?

- (A) Oceanic circulation
- (B) Fossil fuel combustion
- (C) Chloro-fluoro-carbons
- (D) Industrialization

27. The part of the Earth's atmosphere that lies above 80 km altitude with the highest concentration of ions and free electrons is called

- (A) Mesosphere (B) Stratosphere
- (C) Ionosphere (D) Biosphere



28. _____ is NOT a green house gas.
- (A) Carbon dioxide
 - (B) Methane
 - (C) Water vapour
 - (D) Nitrogen
29. What caused the dust and condensing material to accrete into planetesimals ?
- (A) Gravitational attraction and collision
 - (B) Heating of gases
 - (C) Nuclear fusion
 - (D) Rotation of the proto-Sun
30. What causes the formation of Aurora ?
- (A) The interaction of solar wind, Earth's magnetic field and the upper atmosphere
 - (B) The interaction of the Earth's magnetic field with the stratosphere
 - (C) The interaction of the Earth's magnetic field with the solar wind
 - (D) The interaction of the Earth's magnetic field with the mesosphere
31. _____ is the major constituent of the Earth's atmosphere.
- (A) Oxygen
 - (B) Nitrogen
 - (C) Argon
 - (D) Carbon
32. Choose the **WRONG** statement given below about ocean upwelling.
- (A) Upwelling takes place in the equatorial ocean
 - (B) Upwelling takes place along western continental margins
 - (C) Upwelling takes place along eastern continental margins
 - (D) Upwelling brings up nutrient-rich water
33. Deep water circulation in the oceans is caused due to differences in the _____ of sea water.
- (A) Temperature
 - (B) Salinity
 - (C) Density
 - (D) Oxygen concentration
34. When vegetation captures rain water and prevents the latter from reaching the ground, it is called
- (A) Transpiration
 - (B) Absorption
 - (C) Translocation
 - (D) Interception
35. Marine sediments are composed of
- (A) Detrital minerals
 - (B) Authigenic minerals
 - (C) Detrital, authigenic and biogenic materials
 - (D) Biogenic materials



36. Hydrothermal solutions venting at the seafloor are rich in base metal elements. Such metal enrichment can be attributed to the
- (A) Hydrostatic pressure
 - (B) Low temperature of sea water
 - (C) Low salinity of sea water
 - (D) High salinity of sea water
37. Which of the following types of ocean waves generates tsunamis ?
- (A) Wind-generated wave
 - (B) Swell
 - (C) Catastrophic wave
 - (D) Internal wave
38. The uplift of the Himalayan mountain belt started during the
- (A) Late Cretaceous-Eocene
 - (B) Miocene-Pliocene
 - (C) Pliocene-Pleistocene
 - (D) Early Cretaceous
39. Which is the correct chronological sequence of the given mountain ranges from the youngest to the oldest ?
- (A) Himalaya, Deccan traps, Western Ghats, Vindhyan
 - (B) Deccan traps, Western Ghats, Himalaya, Vindhyan
 - (C) Vindhyan, Deccan traps, Western Ghats, Himalaya
 - (D) Western Ghats, Himalaya, Deccan traps, Vindhyan

40. Match the following and select the correct answer using the code given below :

- | | |
|--------------|------------------------|
| a. Cuddappah | 1. BIF and Mn deposits |
| b. Vindhyan | 2. Coal |
| c. Gondwana | 3. Diamond |
| d. Dharwar | 4. Uranium |

Codes :

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | 4 | 3 | 2 | 1 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 2 | 3 | 4 | 1 |
| (D) | 3 | 2 | 4 | 1 |

41. The Indo-Gangetic basin is a
- (A) Peripheral backland basin
 - (B) Peripheral foreland basin
 - (C) Domal basin
 - (D) Erosional basin

42. Choose the **WRONG** statement.

- (A) Deccan Traps are flood basalts
- (B) Deccan Traps are 93 Ma old
- (C) Deccan Traps are interspersed with intertrappean beds
- (D) Deccan Traps occur at the Cretaceous-Paleogene boundary



43. Choose the **WRONG** statement with respect to the Himalaya.
- (A) It is a fold mountain
 - (B) It was produced because of the collision of two continental landmasses
 - (C) It represents a subduction zone
 - (D) It is of volcanic origin
44. Guano is _____ deposit of phosphate.
- (A) A residual
 - (B) An organic
 - (C) An evaporite
 - (D) A placer
45. Acid rain is caused due to the presence of _____ in the atmosphere.
- (A) CO_2
 - (B) O_2
 - (C) CO
 - (D) SO_2
46. Solar energy is
- (A) Non-polluting and non-renewable
 - (B) Polluting and non-renewable
 - (C) Polluting and renewable
 - (D) Non-polluting and renewable
47. _____ does not promote the conservation of mineral resources.
- (A) Use of high grade ore
 - (B) Recycling of scrap metals
 - (C) Substitution
 - (D) Recycling and substitution
48. For safety reasons, a tunnel passing through dipping formations should be aligned _____ the dip of the formations.
- (A) Along
 - (B) Perpendicular to
 - (C) Oblique to
 - (D) With no relation to
49. Groundwater in Kolkata has an abnormal concentration of
- (A) Lead
 - (B) Zinc
 - (C) Arsenic
 - (D) Mercury
50. _____ does not represent a source of contamination.
- (A) Sewage disposal
 - (B) Industrial effluent
 - (C) Radioactive waste
 - (D) Hot water spring



Total Number of Pages : 8

ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ
Space for Rough Work