

Test Paper : **III**
 Test Subject : **EARTH SCIENCE**
 Test Subject Code : **K-3217**

Test Booklet Serial No. :

OMR Sheet No. :

Roll No.

(Figures as per admission card)

Name & Signature of Invigilator/s

Signature : _____
 Name : _____

Paper : III
Subject : EARTH SCIENCE

Time : 2 Hours 30 Minutes

Maximum Marks : 150

Number of Pages in this Booklet : **8**

Number of Questions in this Booklet : **75**

ಅಧ್ಯಕ್ಷರ್ಗಳ ಸೂಚನೆಗಳು

- ಈಪ್ರಯತ್ನದ ಮೇಲ್ತುದಿಯಲ್ಲಿ ಬದಗಿಸಿದ ಸ್ಥಾಕದಲ್ಲಿ ನಿನ್ಮ ದೋಳ ನಂಬಿನ್ನು ಬರೆಯಿರಿ.
- ಈಪ್ರಯತ್ನದ ಮೇಲ್ತುದಿಯಲ್ಲಿ ಬದಗಿಸಿದ ಸ್ಥಾಕದಲ್ಲಿ ನಿನ್ಮ ದೋಳ ನಂಬಿನ್ನು ಬರೆಯಿರಿ.
- ಪರೀಕ್ಷೆಯವರುಧರಿಸಲ್ಪರೀಕ್ಷೆಯನ್ನು ನಿಮ್ಮ ನೀಡಿದ್ದಾಗಾಗುತ್ತದೆ. ಹೊದುತ್ತ 5 ನಿಮಿಷಾಂತಲ್ಲಿ ನಿವೃತ್ತಪ್ರಯತ್ನದನ್ನು ತರೆಯಲು ಮತ್ತು ಕೆಗಿನಂತೆ ಕಡ್ಡಾಯಾಗಿ ಪರಿಣಿಸಲು ಕೋರೆಲಾಗಿದೆ.
- (i) ಪ್ರತ್ಯೇಕಪ್ರಯತ್ನಕ್ಕೆ ಪ್ರಯತ್ನಾವಾಕಾರ ಪದೆಯಲು, ಈ ಹಾದಿಕ ಪ್ರಯತ್ನದ ಅಳಿನ ಮೇಲೆರುವ ವೇಗರೂ ಸೀಲನ್ ದರಿಯಲ್ಲಿ ಅಥವಾ ತೆರದ ಪ್ರಯತ್ನದನ್ನು ಸ್ನಿಗ್ಧರೆಂಬೇಡಿ.
- (ii) ಪ್ರಯತ್ನದಲ್ಲಿ ಪ್ರತ್ಯೇಕ ಸಂಖ್ಯೆ ಮತ್ತು ಪ್ರಯತ್ನ ಸಂಖ್ಯೆಯನ್ನು ಮುಖ್ಯಪ್ರಯತ್ನದ ಮೇಲೆ ಮುದ್ದಿಸಿದ ಮಾಡಿಯೋಂದಿಗೆ ತಾಳಿ ನೋಡಿರಿ. ಪ್ರಯತ್ನ/ಪ್ರತ್ಯೇಕ ಕಾಂತಿಯಾದ, ಅಥವಾ ದೀಪ್ತಿ ಅಥವಾ ಅನುಕ್ತಮಾವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ಷ್ಟೂಪದ ದೋಷಪ್ರತಿರ್ಪತ್ತಪ್ರಯತ್ನಕ್ಕಾದಲ್ಲಿ 5 ನಿಮಿಷದ ಅಳಿ ಒಳಗೆ, ಸಂವಿಳಿಸಿದಂದ ಸರಿ ಇಲ್ಲದ ಪ್ರತ್ಯೇಕಗೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಒಳಕ ಪ್ರತ್ಯೇಕಪ್ರಯತ್ನದನ್ನು ಬದಲಾಯಿಸಲಾಗುವದಲ್ಲಿ ಯಾವುದೇ ಹೆಚ್ಚು ಸಂಖ್ಯೆಯನ್ನು ಕೊಡಲಾಗುವದಲ್ಲಿ.
4. ಪ್ರತಿಯೊಂದು ಪ್ರತ್ಯೇಕ (A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಾದ, ನಿವೃತ್ತಪ್ರಯತ್ನ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂತಾಕ್ಯೆಯನ್ನು ಕಾಣಿಸಬೇಕು.

ಉದಾಹರಣೆ: (A) (B) (C) (D)

5. ಪ್ರತ್ಯೇಕಗೆ ಉತ್ತರಗಳನ್ನು, ಪ್ರತ್ಯೇಕ III ಪ್ರಯತ್ನದಲ್ಲಿ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸಿಕೊಂಡು. OMR ಹಾಳೆಯಲ್ಲಿ ಅಂಡಾಕ್ತಿ ಹಾಲೆತ್ತಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಾಕದಲ್ಲಿ ಗುರುತಿಸಿರೆ, ಅದರ ಮೊಲ್ಯುಮಾವನ ಮಾಡಲಾಗುವದಲ್ಲಿ.
6. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ, ಕೊಟ್ಟಿ ಸೂಚಿಸಿಕೊಂಡು ಜಾಗರೂಕೆಯಿಂದ ಒದಿರಿ.
7. ಎಲ್ಲಾ ಕರಡು ಕೆಲಸಪನ್ನು ಪ್ರತ್ಯೇಕ ಕೆಲಸಯನ್ನು ಮಾಡಿಕೊಂಡು.
8. ನಿನ್ಮ ಗುರುತಕನ್ನು ಬಿಂದಿಗಳನ್ನಿಂಬಿಲು ಮಾಡಿ ಅಥವಾ ಯಾವುದೇ ಬಿಂದ್ಯುಯನ್ನು, ಸಂಗತವಾದ ಸ್ಥಳದಲ್ಲಿ ಮಾಡಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರದರೆ, ನಿವೃತ್ತ ಅನರ್ವರ್ತಗೆ ಬಾಧ್ಯಗಾಗಿರುತ್ತಿರಿ.
9. ಪರಿಣಿಯ ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವಿಳಿಸಿರುವುದು ನಿವೃತ್ತ ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರಿಕ್ಷೆ ಕೆಲಸದಿಯ ಹೂರಗೆ OMR ನ್ನು ನಿಮಿಷಾಂತಗೆ ಕೊಂಡೆಯಿಲ್ಲಿ ಕೊಡಬೇಕು.
10. ಪರಿಣಿಯ ನಂತರ, ಪರಿಕ್ಷೆ ಪ್ರತ್ಯೇಕ ಯನ್ನು ಮತ್ತು ನಿಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿವೃತ್ತಾಂತಿಗೆ ತೆಗೆದುಹಾಕಬೇಕು.
11. ನಿಲ್ಲಿ/ಕವ್ಚಾಲಾಪಾಯಿಂಟ್ ಪೇಸ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.
12. ಕ್ಯಾಲ್ಕುಲೇಟರ್, ವಿದ್ಯುತ್ನಾನ್ ಉಪಕರಣ ಅಥವಾ ಲಾಗ್ ಟೆಬ್ಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿರ್ದಿಷ್ಟಿಸಿರಿ.
13. ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಾಗಿ ಖಚಿತ ಅಂತ ಇರುವದಲ್ಲಿ.
14. ಕನ್ಡುದ ಮತ್ತು ಇಂಗ್ಲೀಷ್ ಅವೃತ್ತಿಗಳ ಪ್ರತ್ಯೇಕ ಪ್ರಯತ್ನದಲ್ಲಿ ಯಾವುದೇ ರೀತಿಯ ಷ್ಟೂಪಗಳು ಕಂಡುಬಂದಲ್ಲಿ, ಇಂಗ್ಲೀಷ್ ಅವೃತ್ತಿಗಳಲ್ಲಿರುವುದೇ ಅಂತಿಮವಂದು ಪರಿಗೊಸಬೇಕು.

Instructions for the Candidates

1. Write your roll number in the space provided on the top of this page.
 2. This paper consists of seventy five 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 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.
 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.

**EARTH SCIENCE****PAPER – III**

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

1. Oxbow lakes are formed due to the action of
 - (A) Erosion
 - (B) Groundwater
 - (C) River
 - (D) Wind
2. Which of the following is not an example of an internal process ?
 - (A) Diastrophism
 - (B) Vulcanism
 - (C) Massive crustal rearrangement
 - (D) Mass wasting
3. The correct erosional sequence in the degradation of land
 - (A) Gully, ravine, rill and bad land
 - (B) Rill, ravine, bad land and gully
 - (C) Rill, gully, ravine and bad land
 - (D) Ravine, gully, rill and bad land
4. Which of the following statements on glacial landform are correct ?
 1. Arete is the knife-edged boundary between cirques
 2. Medial moraines occur in the middle of the glacier
 3. Drumlins are a group of small hills made by glacial erosion
 4. Glacial striae indicate the direction of movement of glaciers
 - (A) 1, 2 and 4
 - (B) 2, 3 and 4
 - (C) 1 and 3
 - (D) 2 and 4
5. Arkose contains which of the following mineral in addition to quartz ?
 - (A) Orthoclase
 - (B) Calcite
 - (C) Aragonite
 - (D) Garnet
6. The grain size and sphericity of the sediments indicate
 - (A) Distance travelled
 - (B) Duration of travel
 - (C) Settling time
 - (D) Nature of terrain
7. In which of the following environment would you expect the sediments to be poorly sorted ?
 - (A) Alluvial
 - (B) Beach
 - (C) Desert
 - (D) Glacial
8. The point of minimum elevation on the vertical profile of a ripple is called as
 - (A) Ripple length
 - (B) Ripple height
 - (C) Stoss side
 - (D) Trough point
9. When did the trilobite disappear from the earth ?
 - (A) Devonian
 - (B) Carboniferous
 - (C) End of Permian
 - (D) End of Cretaceous
10. Corals are exclusively
 - (A) Marine and benthic
 - (B) Brackish and benthic
 - (C) Marine and pelagic
 - (D) Freshwater and neritic
11. Di-myrian condition in lamellibranches refers to the presence of
 - (A) 2 abductor impressions
 - (B) 1 abductor impression
 - (C) 2 abductor impressions
 - (D) 2 adjacent impressions





- 26.** Depleted mantle is characterized by
(A) Low $^{87}\text{Sr}/^{86}\text{Sr}$ and high $^{143}\text{Nd}/^{144}\text{Nd}$ values
(B) High $^{87}\text{Sr}/^{86}\text{Sr}$ and low $^{143}\text{Nd}/^{144}\text{Nd}$ values
(C) High $^{87}\text{Sr}/^{86}\text{Sr}$ and high $^{143}\text{Nd}/^{144}\text{Nd}$ values
(D) Low $^{87}\text{Sr}/^{86}\text{Sr}$ and low $^{143}\text{Nd}/^{144}\text{Nd}$ values
- 27.** Sensitive High Resolution Ion Probe (SHRIMP) is a
(A) Dating method using Zircon crystal
(B) Type of remote sensing survey
(C) Type of film used for remote sensing survey
(D) Type of mineral exploration method
- 28.** When the groundmass is glassy in a porphyritic texture, it is called
(A) Poikilitic texture
(B) Orthophyric texture
(C) Vitrophyric texture
(D) Felsophyric texture
- 29.** Presence of water in the melt causes
(A) Lowering of the solidus and liquidus temperatures
(B) Rising of the solidus and liquidus temperatures
(C) No change of the solidus and liquidus temperatures
(D) A, B and C
- 30.** Extrusive (Volcanic) igneous rocks have smaller grain size than intrusive (plutonic) igneous rocks because
(A) Extrusive rocks cool faster
(B) Extrusive rocks cool more slowly
(C) Oxygen in the atmosphere inhibits crystal growth
(D) Nitrogen in the atmosphere inhibits crystal growth
- 31.** Name of the process where rocks previously metamorphosed under high-grade conditions are later metamorphosed under low-grade conditions.
(A) Metasomatism
(B) Cataclasis
(C) Foliation
(D) Retrograde metamorphism
- 32.** Transformation of shale into a slate and then into a phyllite is indicative of
(A) Increasing metamorphic grade
(B) Decreasing metamorphic grade
(C) Increasing followed by decreasing grade of metamorphism
(D) Decreasing followed by increasing grade of metamorphism
- 33.** Chromite deposits occur in association with
(A) Acid igneous rocks
(B) Acid volcanic rocks
(C) Alkaline rocks
(D) Ultrabasic rocks
- 34.** Minerals in which a country has total inadequacy and depend upon foreign sources for its needs are described as
(A) Strategic minerals
(B) Critical minerals
(C) Essential minerals
(D) Expendable minerals
- 35.** Among the following what is common to the minerals pyrite, galena, magnetite and spalerite.
(A) Opaque
(B) Cubic system
(C) Metallic lustre
(D) Perfect cleavage





49. Which one of the following is an Indian satellite sensor ?
(A) TM (B) LISS III
(C) HRV (D) MSS
50. Healthy vegetation appears on false colour composite image as
(A) Blue (B) Red
(C) Green (D) Black
51. Which of the following remote sensing technologies uses sound ?
(A) Radar
(B) Sonar
(C) Microwave sensing
(D) Thermal infrared imaging
52. An automated system for the capture, storage, retrieval, analysis and display of spatial data is known as
(A) GPS (B) Landsat
(C) GIS (D) DGPS
53. Which one of the following rock possesses higher crushing strength ?
(A) Sandstone
(B) Granite
(C) Vesicular basalt
(D) Conglomerate
54. The type of dam preferred where the river section is wide and the foundation is unsound is
(A) Gravity dam (B) Buttress dam
(C) Arch dam (D) Earth fill dam
55. During tunnel excavation a decrease of a residual stress or a system of stresses, instantaneous or slow in character, accompanied by the movement of rock mass with variable degree of violence is called
(A) Arching around the tunnel
(B) Pressure relief
(C) Logging
(D) Sheathing
56. A horizontal entry into an ore body is called
(A) Adit (B) Shaft
(C) Bench (D) Pit
57. Screening is a ore beneficiation process which takes advantage of the differences in
(A) Size of the particle
(B) Cleavage fracture of the particle
(C) Specific gravity of the particles
(D) Hardness of the particles
58. In a radioactive survey, gamma radiation emitted by one of the following group of elements is recorded
(A) U, Th, Ca (B) U, Th, K
(C) U, Th, Na (D) U, Th, Mg
59. One of the following is a direct evidence for the presence of ore deposit
(A) Geochemical anomaly
(B) Gravity and magnetic anomalies
(C) Float ore
(D) Wallrock alteration
60. Water existing in capillary fringe is a part of
(A) Phreatic water (B) Gravity water
(C) Ground water (D) Vadose water
61. According to Darcy's law, the groundwater flow is assumed to be
(A) Turbulent
(B) Laminar
(C) Zigzag
(D) Both (A) and (B)
62. Ganga-Meghna-Brahmaputra basin covers a land area of 33 percent of India and accounts for _____ percent of India's water resources.
(A) 30 (B) 40
(C) 50 (D) 60





Total Number of Pages : 8

ಚಿತ್ರ ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ
Space for Rough Work