

SUBJECT CODE B-08-17		SUBJECT EARTH SCIENCE		PAPER II	
HALL TICKET NUMBER			QUESTION BOOKLET NUMBER		
OMR SHEET NUMBER			200471		
DURATION 1 Hour 15 Minutes		MAXIMUM MARKS 100	NUMBER OF PAGES 12	NUMBER OF QUESTIONS 50	

This is to certify that, the entries made in the above portion are correctly written and verified.

Candidate's Signature

Name and Signature of Invigilator

INSTRUCTIONS FOR THE CANDIDATES

- Write your Hall Ticket 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 :
 - To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal and do not accept an open booklet.
 - 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.
 - After this verification is over, the Test Booklet Number should be entered in the OMR Sheet and the OMR Sheet Number should be entered on this Test Booklet.
- 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 items are to be indicated in the OMR Answer Sheet given to you. If you mark at any place other than in the circle in the OMR Answer Sheet, it will not be evaluated.
- Read instructions given inside 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.
- The candidate must handover the OMR Answer Sheet to the invigilators at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. The candidate is allowed to take away the carbon copy of OMR Sheet and used Question Paper Booklet at the end of the examination.
- Use only Blue/Black Ball point pen.
- Use of any calculator or log table etc., is prohibited.
- There is no negative marks for incorrect answers.

అభ్యర్థులకు సూచనలు

- ఈ పుట పై భాగంలో ఇవ్వబడిన స్థలంలో మీ హాల్ టికెట్ నంబరు రాయండి.
- ఈ ప్రశ్న పత్రము యాభై బహుళైచ్ఛిక ప్రశ్నలను కలిగి ఉంది.
- పరీక్ష ప్రారంభమున ఈ ప్రశ్నపత్రము మీకు ఇవ్వబడుతుంది. మొదటి ఐదు నిమిషములలో ఈ ప్రశ్నపత్రమును తెరిచి కింద తెలిపిన అంశాలను తప్పనిసరిగా పరిపాషుకొండి.
 - ఈ ప్రశ్న పత్రమును చూడడానికి కవర్ పేజీ అంచన ఉన్న కాగితపు సీలును చించండి. స్టికర్ సీలులేని మరియు ఇదివరకే తెరిచి ఉన్న ప్రశ్నపత్రమును మీరు అంగీకరించవద్దు.
 - కవరు పేజీ పై ముద్రించిన సమాచారం ప్రకారం ఈ ప్రశ్నపత్రములోని పేజీల సంఖ్యను మరియు ప్రశ్నల సంఖ్యను సరిచూసుకోండి. పేజీల సంఖ్యకు సంబంధించి గానీ లేదా సూచించిన సంఖ్యలో ప్రశ్నలు లేకపోవుట లేదా ఏదైనా నిజప్రతి కాకపోవుట లేదా ప్రశ్నలు క్రమపద్ధతిలో లేకపోవుట లేదా ఏదైనా తేడాలుండటం వంటి దోషపూరితమైన ప్రశ్న పత్రాన్ని వెంటనే మొదటి ఐదు నిమిషాల్లో పరీక్షా పర్యవేక్షకునికి తిరిగి ఇచ్చివేసి దానికి బదులుగా సరిగ్గా ఉన్న ప్రశ్నపత్రాన్ని తీసుకోండి. తదనంతరం ప్రశ్నపత్రము మార్చబడదు అదనపు సమయం ఇవ్వబడదు.
 - పై విధంగా సరిచూసుకొన్న తర్వాత ప్రశ్నపత్రం సంఖ్యను OMR పత్రము పై అభివేధంగా OMR పత్రము సంఖ్యను ఈ ప్రశ్నపత్రము పై నిర్దిష్టస్థలంలో రాయవలెను.
- ప్రతి ప్రశ్నకు నాలుగు ప్రత్యామ్నాయ ప్రతిస్పందనలు (A), (B), (C) మరియు (D) లుగా ఇవ్వబడ్డాయి. ప్రతి ప్రశ్నకు సరైన ప్రతిస్పందనను ఎన్నుకొని కింద తెలిపిన విధంగా OMR పత్రములో ప్రతి ప్రశ్నా సంఖ్యకు ఇవ్వబడిన నాలుగు వృత్తాల్లో సరైన ప్రతిస్పందనను సూచించే వృత్తాన్ని బాల్ పాయింట్ పెన్ తో కింద తెలిపిన విధంగా ఘోషించాలి.
ఉదాహరణ : (A) (B) (C) (D)
(C) సరైన ప్రతిస్పందన అయితే
- ప్రశ్నలకు ప్రతిస్పందనలను ఈ ప్రశ్నపత్రముతో ఇవ్వబడిన OMR పత్రము పై ఇవ్వబడిన వృత్తాల్లోనే ఘోషించి గుర్తించాలి. అలాకాక సమాధాన పత్రంపై వేరొక చోట గుర్తిస్తే మీ ప్రతిస్పందన మూల్యాంకనం చేయబడదు.
- ప్రశ్న పత్రము లోపల ఇచ్చిన సూచనలను జాగ్రత్తగా చదవండి.
- చిత్తుపనిని ప్రశ్నపత్రము చివర ఇచ్చిన ఖాళీస్థలములో చేయాలి.
- OMR పత్రము పై నిర్దేశ స్థలంలో సూచించవలసిన వివరాలు తప్పించి ఇతర స్థలంలో మీ గుర్తింపును తెలిపే విధంగా మీ పేరు రాయడం గానీ లేదా ఇతర చిహ్నాలను పెట్టడం గానీ చేసినట్లయితే మీ అనర్హతకు మీరే బాధ్యులవుతారు.
- పరీక్ష పూర్తయిన తర్వాత మీ OMR పత్రాన్ని తప్పనిసరిగా పరీక్ష పర్యవేక్షకుడికి ఇవ్వాలి. వాటిని పరీక్ష గది బయటకు తీసుకువెళ్లకూడదు. పరీక్ష పూర్తయిన తరువాత అభ్యర్థులు ప్రశ్న పత్రాన్ని, OMR పత్రం యొక్క కార్బన్ కాపీని తీసుకువెళ్లవచ్చు.
- నీలి/నల్ల రంగు బాల్ పాయింట్ పెన్ మాత్రమే ఉపయోగించాలి.
- లాగరిథమ్ బేబుల్స్, క్యాలిక్యులేటర్లు, ఎలక్ట్రానిక్ పరికరాలు మొదలగునవి పరీక్షగదిలో ఉపయోగించడం నిషేధం.
- తప్ప సమాధానాలకు మార్కులు తగ్గంపు లేదు.





10-10-10-10-10

DO NOT WRITE HERE

EARTH SCIENCE

Paper - II

1. 'Interstellar Dust hypothesis' for the origin of the earth was given by :
- (A) Laplace
(B) Otto Schmidst
(C) Kant
(D) Jeans and Jeffreys
2. Permian Period belongs to :
- (A) Palaeozoic era
(B) Mesozoic era
(C) Caenozoic era
(D) Pre Cambrian era
3. The state of equilibrium between uplying and lowlying areas on a rotating earth is known as :
- (A) Isochrone
(B) Isoneph
(C) Isohyet
(D) Isostasy
4. When geomorphic forms and processes oscillate around a stable average value due to self regulatory mechanism is known as :
- (A) Steady Time
(B) Cyclic Time
(C) Graded Time
(D) Geological Time
5. Match the following :
- | Nickname | Planet |
|-------------------|--------------|
| (a) Green Planet | (i) Venus |
| (b) Ringed Planet | (ii) Mars |
| (c) Red Planet | (iii) Uranus |
| (d) Veiled planet | (iv) Saturn |
- Codes :
- | | | | | |
|-----|-------|-------|-------|------|
| (a) | (b) | (c) | (d) | |
| (A) | (i) | (ii) | (iii) | (iv) |
| (B) | (iv) | (iii) | (ii) | (i) |
| (C) | (iii) | (iv) | (ii) | (i) |
| (D) | (iii) | (iv) | (i) | (ii) |



6. The gravity and magnetic field have the following properties :

- (a) Gravity field follows inverse square law, while magnetic field follows inverse cube law
- (b) Both fields are governed by scalar Laplace equation
- (c) Both fields are derivable from a scalar Potential
- (d) The source of gravity field is a scalar quantity, while that of magnetic field is a vector

The properties are :

- (A) (a), (d)
- (B) (a), (b)
- (C) (c), (d)
- (D) (d), (b)

7. Which of the following is one of Kepler's laws of planetary motion ?

- (A) Planets move on elliptical orbits with the sun at one focus
- (B) Gravitational force between two objects decreases as the distance squared
- (C) An object in motion remain in motion
- (D) Inner planets orbits in a different direction than outer ones

8. Radiometric age is often referred to as _____ age.

- (A) Total
- (B) Absolute
- (C) Historic
- (D) Geologic

9. Which of the following is **not** a method of radiometric dating ?

- (A) U - Pb
- (B) Ar - Ar
- (C) Rb - Rb
- (D) Pb - Pb

10. If a radioactive sample has a mean life of 8270 years, then its half life will be _____.

- (A) 4800 years
- (B) 5732 years
- (C) 6200 years
- (D) 6800 years

11. The chemical composition of microcline is :

- (A) $KAlSi_3O_8$
- (B) $KAl_2Si_2O_8$
- (C) $KAlSi_4O_8$
- (D) $KAlSiO_4$

12. Cancrinite belongs to the mineral group of :

- (A) Feldspars
- (B) Amphiboles
- (C) Feldspathoids
- (D) Spinel

13. Which one of the following is the correct order of increasing grade T of metamorphism ?

- (a) Andalusite - Kyanite - Sillimanite
- (b) Andalusite - Sillimanite - Kyanite
- (c) Kyanite - Andalusite - Sillimanite
- (d) Kyanite - Sillimanite - Andalusite

Codes :

- (A) (c)
- (B) (b)
- (C) (a)
- (D) (d)

14. Which layer of the earth has this bulk chemical composition ?

$SiO_2 = 44\%$, $Al_2O_3 = 2\%$, $FeO = 8\%$

$CaO = 2\%$, $MgO = 42\%$, $Rest = 2\%$

- (A) Crust
- (B) Upper mantle
- (C) Lower mantle
- (D) Core

15. Match the following :

- | | |
|-------------|-----------------------------------|
| (a) Fo - Fa | (i) Orthopyroxene solid solution |
| (b) Ab - An | (ii) Clinopyroxene solid solution |
| (c) En - Fs | (iii) Olivine solid solution |
| (d) Di - Hd | (iv) Plagioclase solid solution |

Codes :

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



16. Exfoliation of rocks is due to :

- (A) Wind action
- (B) Glacial action
- (C) River action
- (D) Differential weathering

17. The surficial process, 'sedimentation', refers to :

- (A) Weathering
- (B) Transportation
- (C) Deposition
- (D) Weathering, transportation and deposition

18. Vitreous luster is characteristic of :

- (A) Nepheline
- (B) Orthoclase
- (C) Anorthite
- (D) Quartz

19. Telangana state is located on :

- (A) Eastern Dharwar Craton
- (B) Eastern and Western Dharwar Craton
- (C) Western Dharwar Craton
- (D) Eastern Ghats Mobile Belt

20. 'Supergene enrichment' refers to formation of :

- (A) REE - deposits
- (B) Fe - deposits
- (C) Cu - deposits
- (D) Mn - deposits

21. The zone between two plates sliding horizontally past one another is called :

- (A) Divergent Boundary
- (B) Transform Boundary
- (C) Convergent Boundary
- (D) Triple Junction



22. The process by which the oceanic lithosphere splits at oceanic ridges and moves away from the ridge axes is known as :

- (A) Sea - floor spreading
- (B) Mid - oceanic ridge
- (C) Triple Junction
- (D) Transform plate boundary

23. The liquid layer of the Earth is called :

- (A) Inner core
- (B) Mantle
- (C) Crust
- (D) Outer core

24. Match the following :

- | | |
|----------------|-------------------------------------|
| (a) Inner core | (i) Peridotite |
| (b) Mantle | (ii) Liquid Nickel - Iron - Alloy |
| (c) Crust | (iii) Solid Nickel - Iron - Alloy |
| (d) Outer core | (iv) Oxygen - Silicon and Aluminium |

Codes :

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

25. Seismic waves of P-Type travel :


- (A) Slowest in materials
- (B) Slower than S-waves
- (C) Fastest in materials
- (D) On the surface of the material

26. "Strain is proportional to the stress". This statement is related to :

- (A) Darcy's Law
- (B) Hooke's Law
- (C) Ghyben Herzberg concept
- (D) Newton's Law

27. Instrument used to measure the intensity of an earthquake is known as :

- (A) Seismograph
- (B) Seismogram
- (C) Gravimeter
- (D) Magnetometer

- 
28. The folds in which the strata are uparched (convex upwards), older rocks occupy in the interior of the fold and limbs dip away from each other are called :
- (A) Conjugate folds
 - (B) Recumbent folds
 - (C) Synclines
 - (D) Anticlines
29. When two normal faults appear on either side of a central wedge shaped elongated block in such a way that the central wedge appears raised high up with respect to sides, the resultant structure is known as :
- (A) Graben
 - (B) Gouge
 - (C) Horst
 - (D) Nappe
30. Columnar jointing is prominently observed in :
- (A) Basalts
 - (B) Granites
 - (C) Schists
 - (D) Gneisses
31. The atmospheric motion is not mainly governed by the following physical law _____.
- (A) Conservation of mass
 - (B) Momentum
 - (C) Energy
 - (D) Friction
32. _____ atmosphere depends only on the pressure field.
- (A) Barotropic
 - (B) Baroclinic
 - (C) Geostrophic
 - (D) Quasi baroclinic
33. The mean height of troposphere over the Tropics is about _____ km.
- (A) 8
 - (B) 10
 - (C) 12
 - (D) 15



34. The size of Indian South-west monsoon is on a _____ scale.

- (A) Planetary
- (B) Synoptic
- (C) Meso
- (D) Micro

35. Troposphere consists of _____% of total atmospheric weight.

- (A) 25
- (B) 50
- (C) 75
- (D) 90

36. In India, the Tsunami advisory is issued by the _____ organization.

- (A) NIO
- (B) INCOIS
- (C) NRSC
- (D) IMD

37. The well-mixed surface layer in the oceans extends to a depth of about _____ m.

- (A) 100
- (B) 500
- (C) 1000
- (D) 900

38. The Vertical Velocity in a developed cumulonimbus cloud is about _____.

- (A) 4 m/sec
- (B) 8 m/sec
- (C) 12 m/sec
- (D) 16 m/sec

39. Match the following weather disturbances and their tracts using climatology of data :

- | (A) | | (B) | |
|----------------------------|--------------------------------|-----|--|
| (a) Monsoon Depression | (i) Westward direction | | |
| (b) Post - monsoon cyclone | (ii) Northward direction | | |
| (c) Pre - monsoon cyclone | (iii) Southwest direction | | |
| (d) Western disturbance | (iv) North-Northwest direction | | |

Codes :

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

40. The height of Easterly jetstream is _____ km during south-west monsoon season.

- (A) 8
- (B) 12
- (C) 16
- (D) 20

41. A rock body or formation which may be porous to hold enough quantity of water and also allow an easy and quick flow through it :

- (A) Aquifer
- (B) Aquiclude
- (C) Aquifuge
- (D) Aquitard

42. The refractive index of the ocean water :

- (A) increases with salinity
- (B) increases with temperature
- (C) decreases with salinity
- (D) decreases with temperature

43. Which gas exists in the highest concentration in the Earth's atmosphere ?

- (A) Hydrocarbon
- (B) Ozone
- (C) Oxygen
- (D) Nitrogen

44. Which of the following is not a major contributor to the greenhouse effect ?

- (A) CO₂
- (B) CO
- (C) Chlorofluorocarbons
- (D) Methane gas

45. Ozone depletion is caused by :

- (A) Nitrous oxide
- (B) Carbon dioxide
- (C) Chlorofluorocarbon
- (D) Methane



46. Sodium is usually estimated by which of the following analytical technique ?
- (A) Flame photometry
 - (B) Calorimetry
 - (C) High pressure liquid chromatography
 - (D) Visible spectrophotometry
47. Acid rain is caused by :
- (A) CO and CO₂
 - (B) SO₂ and O₂
 - (C) SO₂ and NO₂
 - (D) NO₂ and O₂
48. Which of the following does **not** contribute to conservation of water ?
- (A) Waste water treatment
 - (B) Waste land development
 - (C) Watershed protection
 - (D) Rain water harvesting
49. Bacterial decomposition of biological material under aerobic condition is :
- (A) Fermentation
 - (B) Fertilization
 - (C) Contamination
 - (D) Composting
50. The quantity of water that a unit volume of aquifer drains by gravity is called :
- (A) Safe yield
 - (B) Specific capacity
 - (C) Transmissibility
 - (D) Storage coefficient

- o o o -



Space For Rough Work

SEAL