

Earth, Atmospheric, Ocean and Planetary Sciences Paper II

Time Allowed : 75 Minutes]

[Maximum Marks : 100

Note : This Paper contains Fifty (50) multiple choice questions. Each question carries Two (2) marks. Attempt All questions.

- Which of the following layered igneous complex is *not* employed in Deccan Volcanic Province ?
 - (A) Sittampundi
 - (B) Girnar
 - (C) Phenaimata
 - (D) Mundwara
- 2. REE's are usually normalised to chondrite reference standard because :
 - (A) Chondrites are ultrabasic rocks
 - (B) Chondrites are very rarely found
 - (C) Chondrites are the unfractionated samples of the solar system dating from original nucleosynthesis
 - (D) Chondrites are most commonly present sediments

- 3. Krol and Tal formations of lesser Himalaya represents the following time horizon :
 - (A) Cambro-Ordovician
 - (B) Precambrian-Cambrian
 - (C) Permo-Triassic
 - (D) Jurassic-Cretaceous
- 4. The capacity of a saturated rock to drain water under the force of gravity is called
 - (A) Adhesion
 - (B) Specific yield
 - (C) Specific retention
 - (D) Surface tension

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- 5. One of the following statements about mass wasting is *incorrect* :
 - (A) When no water is present friction among closely packed particles on slopes holds them in place
 - (B) When no water is present friction among loosely packed particles on slopes holds them in place
 - (C) When the soil is saturated the grains are forced apart and friction is increased allowing the soil to move up slope
 - (D) When the soil is saturated the grains are forced apart and friction is reduced allowing the soil to move downslope

- 6. Gravimetry, Nephelometery, Lidar method etc. are some of the methods used for monitoring
 - (A) Hydrocarbons and ozone
 - (B) Suspended particulate matter
 - (C) Trace metals
 - (D) NO-NO_x
- 7. Major metallogenic provinces are located in :
 - (A) Continental collision zones
 - (B) Mid ocean ridges
 - (C) Active continental margin settings
 - (D) Continental rift settings

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- 8. For the stress-strain relation, the Hooke's law holds true only in the following condition :
 - (A) Plastic Deformation
 - (B) Anelastic limit
 - (C) Linear range of elasticity
 - (D) Permanent strain
- 9. In Brunton Compass which of the following markings are transposed?
 - (A) E and W
 - (B) N and S
 - (C) E, W, N and S
 - (D) W and S
- 10. The muscles close the valves and form the central muscle-scar pattern on the valves of ostracods.
 - (A) Central
 - (B) Abductor
 - (C) Adductor
 - (D) Zenker's

- StudentBounty.com 11. In ACF diagrams, the suffix 'A' stands for :
 - (A) FeO
 - (B) $FeO + Fe_2O_3 + MnO$
 - (C) FeO + MgO + MnO
 - (D) FeO + Fe_2O_3
- 12. Deformation of an early schistosity by a later one gives rise to :
 - (A) Phyllonite
 - (B) Lepidoblastic texture
 - (C) Porphyroblasts
 - (D) Crenulation cleavage
- When water is pumped from wells 13. in some coastal areas, a problem arises known as :
 - (A) Saltwater incursion
 - (B) Permeability decrease
 - (C) Artesian recharge
 - (D) Permeability increase

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- 14. An igneous texture where all cumulus grains are in contact with one another along boundaries is called
 - (A) Adcumulate
 - (B) Mesocumulate
 - (C) Orthocumulate
 - (D) Crescumulate
- 15. Dendritic, bifurcating erosional features called as ril marks are produced by erosion when water drain out of soft sediment surface at the falling water level. These are signatures of
 - (A) dry surface
 - (B) thick water column
 - (C) violently flowing water
 - (D) thin water cover

- - (A) angular unconformity
 - (B) unconformity
 - (C) disconformity
 - (D) non-conformity
- 17. Arkosic and lithic are the terms used for sandstones having :
 (A) < 25% feldspar
 (B) > 25% feldspar and lithic content
 - (C) > 60% of fossil fragments

(D) < 30% of debris



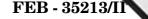
- 18. Oldoinyo lengai volcano in northern Tanzania is known for : (A) Basaltic eruption (B) Carbonatite eruption (C) Rhyolite eruption (D) Andesite eruption 19. The current standard model of the Earth's internal structure called PREM is derived from : (A) Inversion seismology (B) Forward seismology (C) Borehole prediction (D) P-T paths
 - 20. The lunar torque over spinning earth affects the axis of the earth to cause :
 - (A) Tilting
 - (B) Precession
 - (C) Vibration
 - (D) Angular momentum
 - 21. Evolutionary change within population and species is termed as :
 - (A) Macro evolution
 - (B) Micro evolution
 - (C) Syngenetic evolution
 - (D) Biotic evolution

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- 22. The hominids (family Hominidae) the primate family that includes present day humans and their extinct ancestors, have a fossil record extending back.
 - (A) 1.6 million years
 - (B) 2.0 million years
 - (C) 4.4 million years
 - (D) 1.9 million years
- 23. The standard deviation is :
 - (A) a measure of central tendency
 - (B) the square of variance
 - (C) a measure of variability
 - (D) a measure of skewness

- 24. Which one of the following statements is *correct* ?
 - (A) Dinosaurs became extinct during the Pleistocene Ice Age
 - (B) Dinosaurs evolved during the late permian but were most diverse during carboniferous
 - (C) Pterosaurs were non-flying vertebrate animals
 - (D) Triassic mammals and reptiles were not very diverse and all were small sized
- 25. Seawater in equilibrium with atmospheric CO_2 is slightly :
 - (A) Acidic
 - (B) Alkaline
 - (C) Neutral
 - (D) Turbid



- 26. Phanerozoic continental growth occurs in :
 - (A) Rift setting
 - (B) Arc setting along active plate margins
 - (C) Continental collisional settings
 - (D) Intraplate settings
- 27. The Nanga Parbat syntaxis is a northwardly plunging

in the core of which occur proterozoic gneisses.

- (A) Synclinal structure
- (B) Antiformal structure
- (C) Transcurrent fault
- (D) Monoclinal structure

- StudentBounty.com 28.The oldest dated rock in the Dharwar craton is :
 - (A) Closepet granite
 - (B) Kolar granite
 - (C) Gorur gneiss
 - (D) Champion gneiss
- 29. The following represents the correct stratigraphic order in the Siwalik Group :
 - (A) Nagri-Dhok Pathan-Tatrot
 - (B) Chinji-Kamlial-Nagri
 - (C) Nagri-Chinji-Pinjor
 - (D) Tatrot-Chinji-Nagri
- 30. One of the following is *not* associated with steeper alluvial fans in arid regions :
 - (A) Increased grain size
 - (B) Poor sorting
 - (C) Increased discharge
 - (D) Increased concentration of the sendiment load

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- 31. The great increase in atmospheric dust during glaciations is not due to :
 - (A) Increase in wind intensity
 - (B) Increased exposure of extensive sediment source areas on meltwater flood plains
 - (C) Increased chemical weathering
 - (D) Increase in the exposed area of the continental shelves by lowered sea level
- 32. Paired river terraces are significant evidence of :
 - (A) Vertical downcutting in an intermittent fashion
 - (B) Lateral erosion in an intermittent fashion
 - (C) Vertical downcutting in a continuous fashion
 - (D) Lateral erosion in a continuous fashion

- 33. Fluid containing dissolved chemicalsescaping from waste disposal sitesis :
 - (A) Slurry
 - (B) Effluent
 - (C) Influent
 - (D) Leachates
- 34. The washing out of the fine soil components from upper to lower soil horizons is known as :
 - (A) Leaching
 - (B) Solum
 - (C) Illuviation
 - (D) Eluviation



- 35. The distance between the highest level of water in the reservoir and the top of the dam is called as :
 - (A) Free board
 - (B) Suspension board
 - (C) Heel of the dam
 - (D) Toe of the dam
- 36. Abrupt and extremely fast movement of loosened blocks and pieces of jointed or fractured rocks from cliffs and steep slopes is called
 - (A) Debris flow
 - (B) Rock fall
 - (C) Rock slide
 - (D) Earth fall

- 37. Climatologically, the frequency of the thunderstorms is the highest in :
 - (A) Tropical Regions
 - (B) Areas poleward of 45° latitude
 - (C) Polar regions
 - (D) Areas poleward of 60° latitude
- 38. The atmosphere is in the state ofabsolute instability when :
 - (A) Environmental Lapse Rate(ELR) is higher than DryAdiabatic Lapse Rate (DALR)
 - (B) ELR is lower than SaturatedAdiabatic Lapse Rate (SALR)
 - (C) ELR is higher than SALR

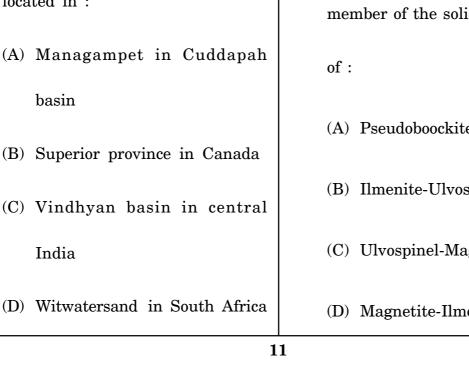
(D) ELR is zero

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- 39. During active monsoon conditions,the position of the monsoon troughis :
 - (A) At the normal position
 - (B) To the north of its normal position
 - (C) To the south of its normal position
 - (D) At equator
- 40. Specific yield is maximum in :
 - (A) Clay
 - (B) Silt
 - (C) Gravel
 - (D) Sand

- 41. In unconfined aquifers, the upper surface of water is called :
 - (A) Phreatic level
 - (B) Water table
 - (C) Vadose level
 - (D) Peizometric surface
- 42. What is high-field strength elements
 - (HFSE) in geochemistry ?
 - (A) Elements that form ions withhigher charge than +2
 - (B) Elements that form ions withlower charge than +2
 - (C) Elements that have ions with charge equal to +2
 - (D) Elements that have ions with charge equal to +1



- 43. Which of the following isotopic 45. Fluorite deposit in India occurs dating method is suitable for at : archaean ultramafic rocks :
 - (A) U-Pb method
 - (B) K-Ar method
 - (C) Rb-Sr method
 - (D) Sm-Nd method

India

- 44. World largest Barites deposit is located in :
 - (A) Managampet in Cuddapah basin
 - (B) Superior province in Canada

- - (C) Kala Dorger
 - (D) Girnar Complex

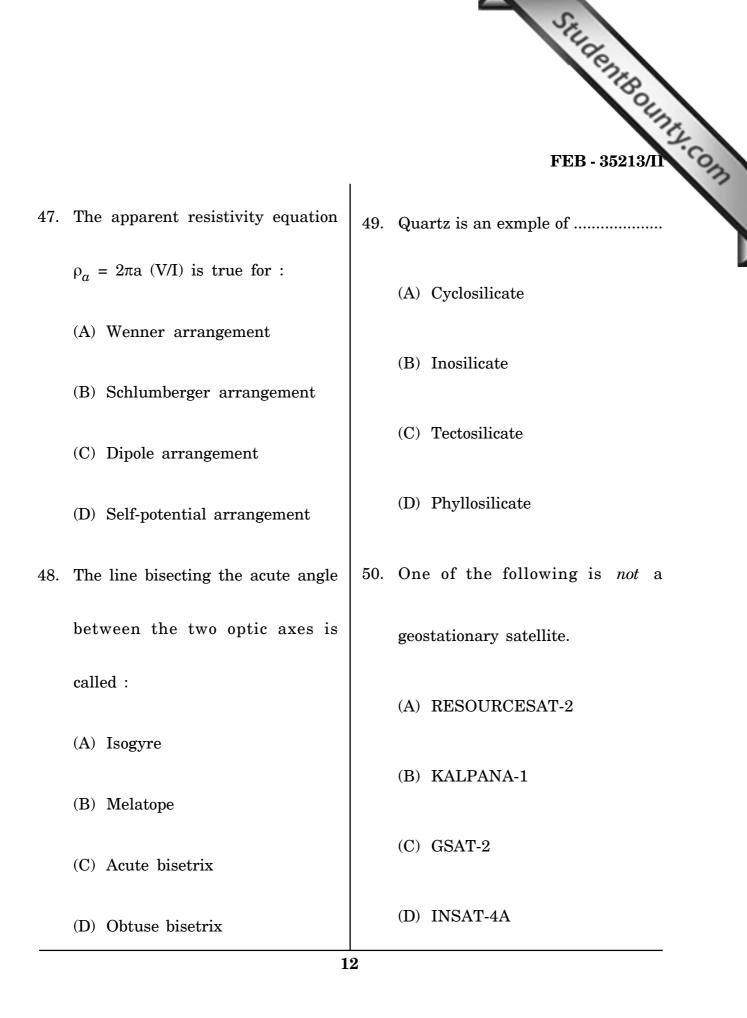
(A) Amba Dorger

(B) Amba Ji

- 46. Magnetite (Fe_3O_4) is the endmember of the solid-solution series
 - (A) Pseudoboockite-Magnetite
 - (B) Ilmenite-Ulvospinel
 - (C) Ulvospinel-Magnetite
 - (D) Magnetite-Ilmentite

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