



StudentBounty.com Earth, Atmospheric, Ocean and Planetary Science 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.

- 1. A progressive increase of toxic substances through food-chain result into toxic effects on the consumers. This is due to :
 - (A) Accumulation
 - (B) Biomagnification
 - (C) Bioexcretion
 - (D) Biorejection
- $\mathbf{2}$. The ecological process that undergoes series of changes bringing in development of biological communities over time and space is known as :
 - (A) Ecological Succession
 - (B) Ecological habitat
 - (C) Ecosystem
 - (D) Autecology

- 3. If an engineering structure has to be built in an area covered with water, the area is surrounded by a wall made of combination of various materials. such structure is referred to as :
 - (A) Cofferdam
 - (B) Pilaster
 - (C) Cut and Cover
 - (D) Caissons or Piers
- 4. Zones that are characterized by shallow, intermediate and deep seismicity, negative gravity anomaly, very low heat flow and sites for sediment accumulations are :
 - (A) Subduction Zones
 - (B) Transform Fault Zones
 - (C) Constructive Plate Margins
 - (D) Triple Junctions

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- 5. Identify the youngest Continental Flood Basalt Province amongst the following :
 - (i) Siberian Traps
 - (ii) Parana Province
 - (iii) Karoo Province and
 - (iv) Columbia River Province
 - (A) Karoo Province
 - (B) Parana Province
 - (C) Siberian Traps
 - (D) Columbia River Province
- 6. Arrange the following rocks in the order of increase in shearing :
 - (i) Rock with mortar texture
 - (ii) Mylonite
 - (iii) Ultramylonite and
 - (iv) Rock with flaser structuresCodes :
 - (A) (i), (iv), (iii) and (ii)
 - (B) (*i*), (*iv*), (*ii*) and (*iii*)
 - (C) (ii), (iii), (iv) and (i)
 - (D) (iii), (ii), (iv) and (i)

- 7. The field strengths of the Earth's magnetic field are usually expressed in :
 - (A) Kilogauss (KG)
 - (B) Nano Tesla (nT)
 - (C) Ampere/meter (A/m)
 - (D) Volts/meter (V/m)
- 8. When a set of seismic waves meet a gap they tend to spread out on other side, the phenomenon can be described as :
 - (A) Refraction
 - (B) Reflection
 - (C) Diffusion
 - (D) Diffraction

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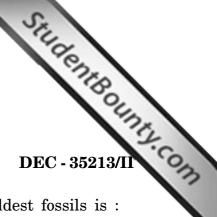
- 9. The Cretaceous-Tertiary boundary is characterised by :
 - (A) Iridium Anomaly
 - (B) Strontium Anomaly
 - (C) Eu Anomaly
 - (D) Nd Anomaly
- 10. Mark the *correct* order of ionmobility in a generalized chemicalweathering zone :
 - (A) Al > Na > K > SO_4
 - (B) Na > SO_4 > K > Ca
 - (C) Na > K > Si > Al
 - (D) Ca > Mg > Fe > SO_4

- 11. A tributary stream which flows for some distance parallel to the main channel as the levees prevent it from entering main stream is called :
 - (A) Yazoo river
 - (B) Crevasse splay
 - (C) Sabkha stream
 - (D) Yardang
- 12. The bowl or arm-chair shaped glacier sources enclosed by steep head walls are known as :
 - (A) Cirque
 - (B) Kame
 - (C) Kettle
 - (D) Roche Montonee

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- 13. The transition between Laminar flow and turbulent flow occurs when the ratio of the inertia fluid force is significantly larger than :
 - (A) Viscous fluid forces
 - (B) Turbulent flow
 - (C) Laminar flow
 - (D) Bed load
- 14. Choose the formation containing reservoir rocks in Cambay Basin :
 - (A) Panna Formation
 - (B) Naredi Formation
 - (C) Broach Formation
 - (D) Ankaleshwar Formation

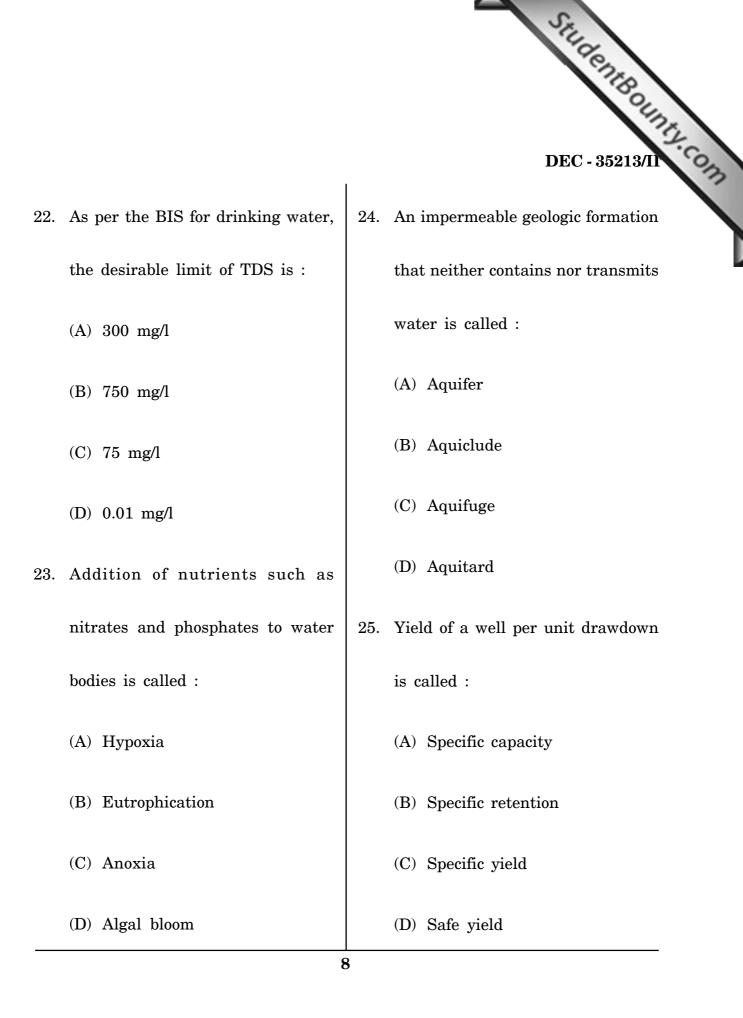
- StudentBounty.com 15. Choose the *correct* combination of lithology and age of the major petroleum reservoirs in Bombay High :
 - (A) Shale-Eocene
 - (B) Sandstone-Eocene
 - (C) Limestone-Miocene
 - (D) Sandstone-Miocene
- 16. Which of the following statements is true for Ekman transport in ocean ?
 - (A) It causes upwelling in coastal regions
 - (B) It leads to decrease in biological productivity
 - (C) It causes downwelling of surface waters
 - (D) Due to Ekman transport the upper layer of the ocean exhibit a net motion parallel to the wind direction



- 17. The pelagic sediment in deep-sea floor, known as ooze, consists dominantly of :
 - (A) wind-blown clay particles
 - (B) turbidities
 - (C) tiny shells of marine organisms
 - (D) phosphates
- 18. A rock sample contains 3 genera of brachiopod whose stratigraphic ranges are, Ordovician to Permian, Devonian to Permian and Cambrian to Devonian respectively. The age of the sample is :
 - (A) Cambrian to Permian
 - (B) Devonian
 - (C) Cambrian
 - (D) Cambrian to Devonian

- 19. The age of the oldest fossils is :
 - (A) 500 million years
 - (B) 1 to 2 billion years
 - (C) 2 to 3 billion years
 - (D) > 3 billion years
- 20. Which of the following genera has taxodont dentition ?
 - (A) Gryphaea
 - (B) Ostrea
 - (C) Pecten
 - (D) Arca
- 21. For separation of which of the following microfossils you will *not* treat the samples with acid ?
 - (A) Dinoflagellate
 - (B) Diatoms
 - (C) Radiolaria
 - (D) Ostracoda

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- 26. Baden Ghyben-Herzberg relationship states that for every foot of groundwater above sea level there are forty feet of fresh water below sea level. This statement is *true* in case of :
 - (A) Homogenous medium
 - (B) Heterogenous medium
 - (C) Multiple aquifers
 - (D) Aquitards
- 27. Arrange the following in the order of their decreasing hydraulic conductivity :
 - (i) Sandstone
 - (ii) Gravel
 - (iii) Unfractured basalt and
 - (iv) Clay
 - Codes:
 - (A) (i), (ii), (iii) and (iv)
 - (B) (*ii*), (*i*), (*iv*) and (*iii*)
 - (C) (*iv*), (*iii*), (*ii*) and (*i*)
 - (D) (ii), (i), (iii) and (iv)

28. In lapse rate, adiabatic means that

there is :

- (A) No exchange of heat
- (B) Exchange of heat
- (C) Latent heat release
- (D) Heat gain
- 29. Temperature inversion occurs when :
 - (A) Cold air covers warm air
 - (B) Warm air covers cold air
 - (C) There is moisture adiabatic

lapse rate

(D) There is dry adiabatic lapse

rate

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dium	to	fine	grained	
entary	rock	with	angular	

- 30. Solar flux density reaching earth (solar constant) is :
 - (A) $\sim 1200 \text{ W/m}^2$
 - (B) ~1000 W/m²
 - (C) ~1400 W/m²
 - (D) ~800 W/m²
- 31. The Earth's average albedo is :
 - (A) ~31%
 - (B) ~25%
 - $(C)~~{\sim}40\%$
 - (D) ~20%
- 32. In the tropics the net radiation throughout the year is :
 - (A) Positive
 - (B) Negative
 - (C) Zero
 - (D) Positive in summer and negative in winter

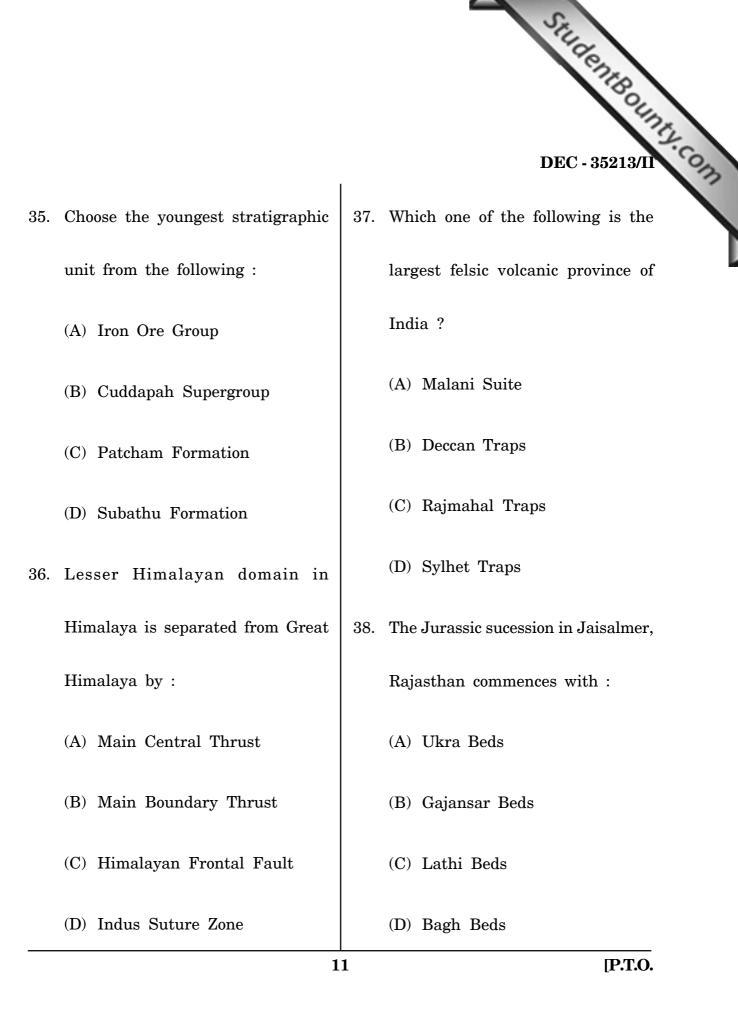
- sedimentary rock with angular framework of quartz, chert and rock fragments is called :
 - (A) Arkose

me

33. A

- (B) Graywacke
- (C) Arenite
- (D) Sandstone
- 34. Below the carbonate compensation depth (CCD), much of the carbonate is dissolved. The CCD is around meter for calcite :
 - (A) 1000 m
 - (B) 2000 m
 - (C) 5000 m

 $(D) \ 10 \ m$





- 39. Rapakivi texture is characterizedby :
 - (A) K-feldspar is surrounded by sodic-plagioclase
 - (B) K-feldspar is surrounded by calcic-plagioclase
 - (C) Plagioclase is rimmed byK-feldspar
 - (D) Plagioclase with exsolved K-feldspar
- 40. Ocean Island Basalt (OIB) magmas are characterized by :
 - (A) Depletion in LILE and LREE compare to MORB
 - (B) Enrichment in LREE and LILE compare to MORB
 - (C) Large scale contamination of continental crust
 - (D) Enrichment of LREE and LILE compare to continental crust

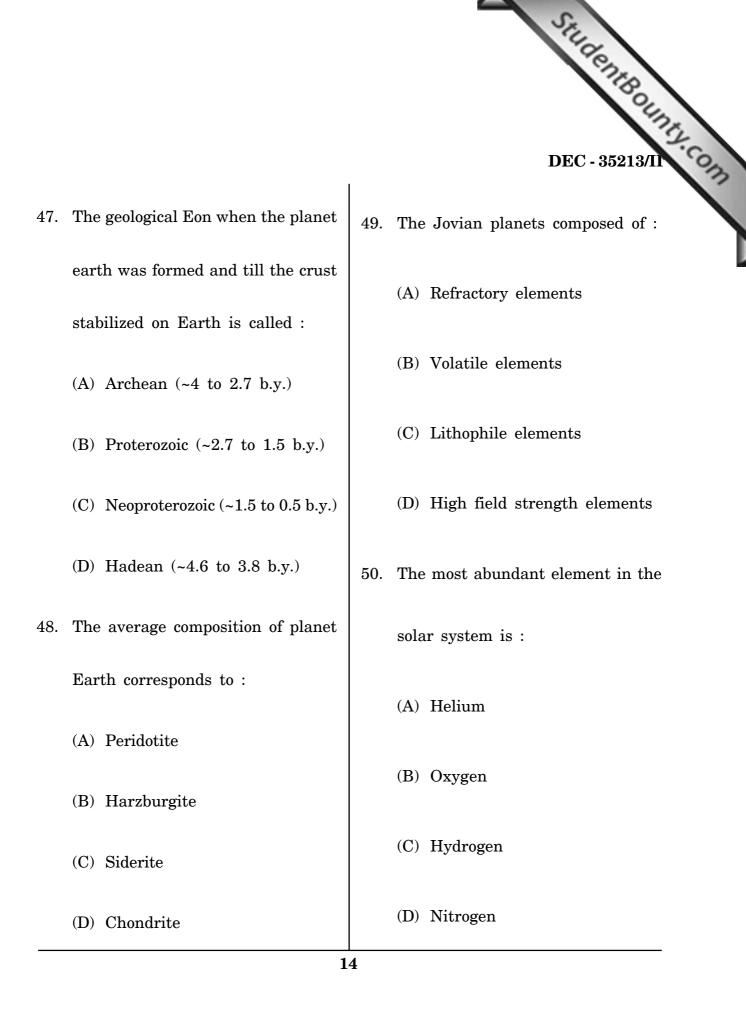
41. The characteristic assemblage of granulite facies is :

- (A) Hornblende-plagioclase-garnet
- (B) Orthopyroxene-plagioclasegarnet
- (C) Scapolite-plagioclase-quartz
- (D) Omphacite-garnet lawsonite
- 42. The ore deposits developed most often, but not invariably at the contact of intrusive plutons and carbonate country rocks are called as :
 - (A) Skarn deposits
 - (B) Calc-silicate hornfels
 - (C) Skarnoid
 - (D) Isochemical metamorphic

- 43. A mineral although complex in composition but essentially an isomorphous mixture of two and members gehlenite (CaAl) and akermanite (CaMg) that occurs in subsilicic igneous rock is :
 - (A) Melilite
 - (B) Nepheline
 - (C) Sodalite
 - (D) Cancrinite
- 44. A characteristic contact metamorphic mineral closely related to olivine and usually found in limestones and dolemites is recognized as :
 - (A) Tephroite
 - (B) Monticellite
 - (C) Larnite
 - (D) Myalosiderite

- StudentBounty.com 45. Ore deposits associated with granoblastic aggregate of quartz and muscovite with accessory amounts of topaz, tourmaline and flourite formed by the post-magmatic metasomatic alternation of granite are referred to as :
 - (A) Greisen deposits
 - (B) Skarn deposits
 - (C) Sedex deposits
 - (D) Kuroko type deposits
- 46. Deep weathering processes akin to lateritisation can also give rise to the formation of high grade manganese deposits generally classified as deposits of :
 - (A) Supergene enrichment
 - (B) Nodular type
 - (C) Gondite type
 - (D) Khondalite type

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