



EARTH SCIENCES
Paper – II

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

1. The heat that caused melting in the Earth's early history was supplied from which of the following events
 - (A) Volcanic activity and radioactivity
 - (B) Solar heating and volcanic activity
 - (C) Large bolide impact and radioactivity
 - (D) Large bolide impact and solar heating
2. The process by which an originally homogeneous earth developed a dense core, mantle and a light crust is called
 - (A) Metamorphism
 - (B) Differentiation
 - (C) Metasomatism
 - (D) Compression
3. Uniformitarianism states
 - (A) "Everything tends toward stable equilibrium"
 - (B) "The present is key to the past"
 - (C) "The present is key to the future"
 - (D) "Order comes out of chaos"
4. The upper mantle has
 - (A) Granitic composition
 - (B) Basic composition
 - (C) Ultramafic composition
 - (D) Felsic composition
5. The asthenosphere exists below the _____
 - (A) Crust
 - (B) Lithosphere
 - (C) Sial
 - (D) Lower mantle
6. The approximate density of the earth is
 - (A) 5.5 g/cc
 - (B) 5.8 g/cc
 - (C) 5.1 g/cc
 - (D) 5.2 g/cc
7. Shear zones are normally produced during
 - (A) Brittle deformation
 - (B) Ductile deformation
 - (C) Cooling and contraction of rocks
 - (D) Sagging of rocks



8. If the beds are repeating on the surface, they could indicate
- (A) Columnar jointing in the bed rocks
 - (B) A thrust faulting of beds
 - (C) Intense shear of bed rocks
 - (D) Folding of the beds
9. The upper shell of the earth up to 100 km depth is called
- (A) Crust
 - (B) Lithosphere
 - (C) Biosphere
 - (D) Asthenosphere
10. The most abundant sedimentary rock found in the Earth's crust is
- (A) Shale
 - (B) Sandstone
 - (C) Limestone
 - (D) Conglomerates and Breccias
11. The majority of crustal rocks composed of minerals that belong to the family of
- (A) Silicates
 - (B) Sulfides
 - (C) Oxides
 - (D) Sulfates
12. Mylonite and gouge normally indicate
- (A) Intense folding
 - (B) Faulting
 - (C) Jointing
 - (D) Fracturing
13. Of the following, the rock that is most resistant to both chemical and mechanical weathering is
- (A) Shale
 - (B) Limestone
 - (C) Marble
 - (D) Quartzite
14. Low precipitation and high evaporation rate are characteristic features of the _____ environment.
- (A) Lacustrine
 - (B) Fluvial
 - (C) Desert
 - (D) Coastal
15. The sediments that a stream carries along the bottom of the stream channel
- (A) Bottom load
 - (B) Suspended load
 - (C) Bed load
 - (D) Fine load
16. The vertical distance between the trough point and the summit point of the ripple is called
- (A) Ripple length
 - (B) Ripple height
 - (C) Summit point
 - (D) Toe point



17. Which of the following process does not occur during diagenesis ?
- (A) Compaction
 - (B) Cementation
 - (C) Lithification
 - (D) Metamorphism
18. Landform formed due to the action of running water is called
- (A) Desert
 - (B) Aeolian
 - (C) Fluvial
 - (D) Lacustrine
19. _____ is the point on earth above the focus of an earthquake.
- (A) Epicentre
 - (B) Centre of gravity
 - (C) Focal point
 - (D) Stress location
20. The descent of oceanic lithosphere into the mantle is the process of _____
- (A) Accretion
 - (B) Subduction
 - (C) Divergence zone
 - (D) Contraction fault
21. Which of the following features is not associated with a convergent plate boundary ?
- (A) A mid-ocean ridge
 - (B) An earthquake
 - (C) A deep-sea trench zone
 - (D) Volcanic activity
22. How thick is the crust of the Earth ?
- (A) about 4 miles
 - (B) about 4 km
 - (C) about 40 km
 - (D) about 400 km
23. The Tethys was located between
- (A) North America and South America
 - (B) North America and Eurasia
 - (C) Eurasia and Africa
 - (D) Antarctica and Australia
24. The most violent volcanoes are referred to as
- (A) Strombolian type
 - (B) Vesuvian type
 - (C) Hawaiian type
 - (D) Pelean type
25. The layer in which ozone is present is called
- (A) Troposphere
 - (B) Stratosphere
 - (C) Mesosphere
 - (D) Exosphere
26. The two most predominant green house gases are
- (A) CO_2 and CFC_5
 - (B) CO_2 and CH_4
 - (C) CO_2 and CO
 - (D) CO_2 and SO_2



- 27.** A dense mass of water on smoke or dust particles in the lower atmospheric layers constitute
- (A) Fog
 - (B) Frost
 - (C) Blizzard
 - (D) Mist
- 28.** What fraction of solar radiation arriving at the top of the atmosphere is absorbed at the earth's surface ?
- (A) 70%
 - (B) 50%
 - (C) 30%
 - (D) 20%
- 29.** Which one of the following is not due to human influence ?
- (A) Greenhouse effect
 - (B) Deforestation
 - (C) Contamination of hydrosphere
 - (D) Formation of jet streams
- 30.** Ozone layer depletion is related to
- (A) Excess carbon dioxide accumulation in the atmosphere
 - (B) Higher solar heat radiation
 - (C) Cooling of the earth
 - (D) Desert storms
- 31.** Excluding the oceans, the largest reservoir of water in the hydrosphere is
- (A) Ground water
 - (B) Lakes and streams
 - (C) Atmosphere
 - (D) Polar ice
- 32.** Which of the following is not a component of hydrosphere ?
- (A) Sea ice
 - (B) Tropical rainstorm
 - (C) Soil
 - (D) Hail
- 33.** What do we call an area of land that receives the runoff ?
- (A) Watershed
 - (B) Estuary
 - (C) Niche
 - (D) Water landscape
- 34.** Chloride and salinity of sea water is expressed in
- (A) Grams per ton
 - (B) Kilogram per ton
 - (C) Grams per kilograms
 - (D) Miligrams per gram
- 35.** The hydrosphere is the
- (A) Continuous shell of water
 - (B) Discontinuous shell of water
 - (C) Uniform shell of water
 - (D) Both (A) and (B)



36. Lenses of low permeability rocks within the permeable ones may result in the formation of
- (A) an artesian system
 - (B) a confined aquifer
 - (C) an aquiclude
 - (D) a perched water table
37. Mesoproterozoic-Neoproterozoic sedimentary basins in the peninsular India are known as
- (A) Purana
 - (B) Dharwars
 - (C) Indo-Gangetic plains
 - (D) Siwalik
38. The southern junction between the Indian and Eurasian plates in the Himalaya has been designated as
- (A) Central Indian Tectonic Zone
 - (B) Indus Tsangpo Suture Zone
 - (C) Main Central Thrust
 - (D) Tso Morari Crystalline
39. Layered Igneous rocks could be good sites for the mineralization of
- (A) Gold
 - (B) Tungsten
 - (C) Chromite
 - (D) Diamonds
40. Which one of the following deposit is conspicuously abundant in India ?
- (A) Nickel
 - (B) Cobalt
 - (C) Aluminum
 - (D) Platinum
41. The tin bearing mineral in the following is
- (A) Sphalerite
 - (B) Smithsonite
 - (C) Pyrrhotite
 - (D) Cassiterite
42. Plateau-like land forms are characteristic of
- (A) Deccan-traps
 - (B) Peninsular gneiss
 - (C) Khondalites
 - (D) Alluvial plains
43. The rapid movement of shallow non-cohesive or loose material down a steep slope following heavy rainfall is called
- (A) Creep
 - (B) Debris flow
 - (C) Flood
 - (D) Landslide
44. What important role do decomposers play in the ecosystem ?
- (A) Predation
 - (B) Pollination
 - (C) Nutrient cycling
 - (D) Symbiosis



45. What is the process that reduces nitrate (NO_3) to gaseous nitrogen (N_2) ?
- (A) Nitrification
 - (B) Nitrofixation
 - (C) Denitrification
 - (D) Assimilation
46. Soil moisture is found in
- (A) Zone of saturation
 - (B) Vadose zone
 - (C) Phreatic zone
 - (D) Below the water table
47. Primary ecological succession may be observed in
- (A) Deep forest
 - (B) New volcanic Islands
 - (C) Coastal areas
 - (D) Delta region
48. The most important Aviation hazard during summer season over North Western India is
- (A) Dust storm
 - (B) Fog
 - (C) Heavy Rain
 - (D) Icing
49. Nuclear clocks help in understanding
- (A) Age of a metamorphic event
 - (B) Ages of igneous rocks and metamorphic events
 - (C) The organic world
 - (D) Structure and evolution of the earth
50. Soil forming process chiefly involves
- (A) Weathering of pre existing igneous rocks
 - (B) Physical and chemical weathering of metamorphic rocks
 - (C) Physical, chemical and biological weathering of rocks
 - (D) Biological and chemical disintegration processes of fractured rocks



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Space for Rough Work