

1. What is the average thickness of the oceanic crust?
A) 6 km B) 16 km C) 26 km D) 36 km
2. What kind of drainage pattern is developed on a massive granite terrain?
A) Dendritic B) Trellis
C) Parallel D) Rectangular
3. Which of the following represents an escarpment?
A) Himalayas B) Vindhya
C) Western Ghats D) Eastern Ghats
4. What kind of structural style of the underlying beds favour formation of cuestas?
A) Horizontal beds B) Vertical beds
C) Steeply dipping beds D) Gently dipping beds
5. What is the term used to denote the smallest addressable screen element in a display device?
A) Resolution B) Pixel C) Unit D) Image
6. Which of the following GPS data formats is standardised and accepted worldwide?
A) Motorola B) SiRF C) TSIP D) NMEA
7. What is ArcGIS?
A) Geoinformatics of Island Arcs B) A printer device used in GIS
C) A software for GIS study D) A portable computer for GIS
8. Which of the following GPS data sets gives the accuracy of the measurements?
A) GGA B) GLL C) GSV D) GSA
9. What is the component of stress acting parallel to the plane of reference?
A) Normal B) Principal
C) Shear D) Parallel
10. What is the condition for forming a normal fault?
A) σ_1 horizontal B) σ_1 vertical
C) σ_2 vertical D) σ_2 horizontal
11. What is the use of dip isogons?
A) To relate apparent and true dips B) To decipher major structures
C) To classify folds D) To classify faults
12. How a vertical lineation will get represented on a stereogram?
A) A vertical line B) An N-S line
C) A point at the centre D) A point at the primitive circle

13. Which one of the following is not used to find out the younging direction?
 A) Pillow lavas B) Graded bedding
 C) Ripple marks D) Columnar joints
14. Which of the following is typically seen along ductile shear zones?
 A) Drag folds B) Reclined folds
 C) Disharmonic folds D) Sheath folds
15. Which one of the following is not a material used to infer a fault?
 A) Mylonite B) Gouge
 C) Breccia D) Conglomerate
16. What is the approximate thickness of a plate in the theory of Plate Tectonics?
 A) 100 km B) 200 km
 C) 300 km D) 400 km
17. With which type of plate boundary Benioff zone is associated?
 A) Divergent B) Convergent
 C) Translational D) Continent-continent collision
18. When did the last magnetic reversal take place?
 A) 78 thousand years ago B) 780 thousand years ago
 C) 7800 thousand years ago D) 78000 thousand years ago
19. From which of the following land mass the western India got rifted?
 A) Australia B) Antarctica
 C) Madagascar D) Arabia
20. With what oceanic feature the 90 degrees East longitude coincide?
 A) Trench B) Ridge
 C) Transform fault D) Hot spot
21. What is associated with the terms Marion, Reunion and Kerguelan?
 A) Mantle plume B) Earth quake
 C) Transcurrent fault D) Orogeny
22. Which of the following boundaries is associated with mass extinctions?
 A) Precambrian-Cambrian B) Permo-Carboniferous
 C) Ordovician-Silurian D) Cretaceous-Tertiary
23. Which of the following is the youngest?
 A) Paleocene B) Jurassic
 C) Mississippian D) Permian
24. What is the age of Deccan volcanism?
 A) 45 Ma B) 55 Ma C) 65 Ma D) 75 Ma

25. Which of the following is not a craton?
 A) Singhbhum B) Dharwar
 C) Bundelkhand D) Eastern ghats
26. Which of the following schist belts is the youngest?
 A) Bababudan B) Sargur
 C) Wynad D) Sathyamangalam
27. What is a close approximation of the age of Peninsular Gneiss?
 A) 1 by B) 2 by C) 3 by D) 4 by
28. Which of the following forms the Lower Vindhyan?
 A) Kaimur B) Semri
 C) Bhandar D) Rewa
29. Which unit in the Cuddapah basin is equivalent to Vindhyan?
 A) Kistna B) Papaghni
 C) Kurnool D) Cheyair
30. What is the age of Haimanta System?
 A) Silurian B) Devonian
 C) Cambrian D) Ordovician
31. Which is the youngest series of Jurassic of Cutch?
 A) Patcham B) Chari
 C) Katrol D) Umia
32. What is the age of Murree Series?
 A) Miocene B) Eocene
 C) Oligocene D) Paleocene
33. What is the equivalent of Warkallis along the east coast?
 A) Kudamkulam Limestone B) Cuddalore sandstone
 C) Manavalakurichi beds D) Quilon Limestone
34. With which rocks the Neyveli lignite deposits are associated with?
 A) Gondwana B) Mesozoic
 C) Tertiary D) Quaternary
35. To which phylum trilobites belong to?
 A) Protozoa B) Anthozoa
 C) Arthropoda D) Mollusca
36. Which of the following exhibits dimorphism?
 A) Nautilus B) Nummulites
 C) Nodosaria D) Nerinea
37. Which of the following is most important in the ammonoid systematics?
 A) Coiling B) Suture lines
 C) Siphuncle D) Septal necks

38. To which geologic age graptolites belong to?
 A) Lower Paleozoic B) Lower Mesozoic
 C) Upper Paleozoic D) Upper Mesozoic
39. Which of the following is regular echinoid?
 A) Holaster B) Clypeaster
 C) Hemiaster D) Cidaris
40. To which phylum the class Articulata belongs to?
 A) Coelentera B) Mollusca
 C) Brachiopoda D) Arthropoda
41. Which of the following is not a Gondwana flora?
 A) Glossopteris B) Gangamopteris
 C) Ptilophyllum D) Tetragraptus
42. What is the term used to refer to the study of pollens and spores as fossils?
 A) Paleobiology B) Paleobotany
 C) Palynology D) Micropaleontology
43. What is the age of Ediacaran fossils?
 A) Paleozoic B) Mesozoic
 C) Cenozoic D) Precambrian
44. To which crystal system, the class with least symmetry belongs to?
 A) Isometric B) Tetragonal
 C) Monoclinic D) Triclinic
45. How many enantiomorphic crystal classes are there in the cubic system?
 A) 0 B) 1 C) 2 D) 3
46. Where will be the plot of the face 100 on a tetragonal crystal stereogram?
 A) At the centre
 B) On the primitive circle
 C) On the E-W line
 D) Between the centre and primitive circle
47. What is the interfacial angle between two adjacent hexagonal prismatic faces?
 A) 60 degrees B) 120 degrees
 C) 180 degrees D) 240 degrees
48. In which crystal system olivines crystallize?
 A) Tetragonal B) Orthorhombic
 C) Monoclinic D) Triclinic
49. What does a Berek compensator measure?
 A) Optic sign B) Refractive index
 C) Optic angle D) Retardation

50. Which of the following statements is true with respect to the optic sign of minerals?
- A) A mineral has to be either positive or negative
 B) All triclinic minerals are negative
 C) A few minerals range from positive to negative
 D) All isotropic minerals are positive
51. Which of the following does not affect the interference colour?
- A) Relief
 B) Thickness
 C) Birefringence
 D) Orientation
52. Which of the following has more control over the refractive indices of hornblende?
- A) Substitution of Mg by Fe
 B) Amount of Al in tetrahedral coordination
 C) Ca to Na ratio
 D) Temperature of crystallization
53. Which of the following is not correct?
- A) Calcite : uniaxial negative
 B) Quartz : uniaxial positive
 C) Sphene : biaxial positive
 D) Staurolite : biaxial negative
54. Which of the following exhibits pleochroic haloes?
- A) Andalusite
 B) Cordierite
 C) Clinzoisite
 D) Tremolite
55. Which of the following minerals has the highest specific gravity?
- A) Magnetite
 B) Uraninite
 C) Chromite
 D) Native gold
56. What is the silicon : oxygen ratio in cyclosilicates?
- A) 1 : 2
 B) 1 : 3
 C) 1 : 4
 D) 2 : 7
57. How would you call a pyroxene with En, Fs and Wo components of 70, 30 and 20 respectively?
- A) Augite
 B) Ferroaugite
 C) Subcalcic augite
 D) Pigeonite
58. Which of the following is a di-octahedral mica?
- A) Muscovite
 B) Biotite
 C) Phlogopite
 D) Lepidolite
59. What name is to be used to name a plagioclase with equal amounts of An and Ab molecules?
- A) Andesine
 B) Bytownite
 C) Labradorite
 D) Oligoclase
60. Which of the following crystallizes in the isometric system?
- A) Haematite
 B) Ilmenite
 C) Rutile
 D) Magnetite

73. How to name an igneous rock with mean grain diameter of 3mm?
 A) Fine grained B) Very fine grained
 C) Medium grained D) Coarse grained
74. Which of the following textures indicate fractional crystallization?
 A) Spinifex B) Seriate
 C) Cumulate D) Rapikivi
75. Name a plutonic rock with 30 % quartz, 20% orthoclase, 45% plagioclase and 5% mica?
 A) Granite B) Granodiorite
 C) Diorite D) Tonalite
76. Name the volcanic rock with SiO₂ of 60 wt.% and (Na₂O + K₂O) of 3 wt%.
 A) Rhyolite B) Basalt
 C) Andesite D) Dacite
77. Which is the correct expression of Phase Rule?
 A) $P + F = C + 2$ B) $P + F = C - 2$
 C) $P - F = C + 2$ D) $P + F = C + 1$
78. Which ternary system is regarded as basalt analogue?
 A) Ab-Or-An B) Ab-Di-An
 C) En-Di-An D) Fo-Fa-Di
79. Which chemical variation diagram discriminates theleitic from calc-alkaline?
 A) ACF B) AKF C) AFM D) QAP
80. Which of the following is an ultramafic volcanic rock?
 A) Kimberlite B) Komatiite
 C) Keratophyre D) Carbonatite
81. Which sedimentary environment is noted for evaporite deposits?
 A) Pelagic B) Littoral
 C) Playa D) Lagoonal
82. What is the term used to denote microcrystalline carbonate grains in limestones?
 A) Sparite B) Microsparite
 C) Macrosparite D) Micrite
83. Which of the following heavy mineral indicates a metamorphic provenance?
 A) Monazite B) Ilmenite
 C) Sillimanite D) Cassiterite
84. Which of the following metamorphic facies is of highest temperature?
 A) Zeolite B) Hornblende-hornfels
 C) Pyroxene-hornfels D) Sanidinite

98. Which metal is mined at Jaduguda mines?
 A) U B) Th C) Co D) Ta
99. With which rock types the magnesite deposits of Salem are associated?
 A) Felsic B) Mafic
 C) Ultramafic D) Sedimentary
100. Ores of which metal is associated with koduritic rocks?
 A) Fe B) Cu C) Mn D) Mg
101. With which rock the mica deposits of Bihar are associated?
 A) Granite B) Pegmatite
 C) Amphibolite D) Charnockite
102. Under what trade name the gem mineral chrysoberyl is marketed in India?
 A) Gomed B) Pushparaga
 C) Vydoorya D) Indraneela
103. With which of the following the term vitrain is associated?
 A) Mineral property B) Coal petrography
 C) Ore beneficiation D) Gemstone grading
104. Which of the following is more applicable in oil exploration?
 A) Gravity B) Magnetic
 C) Seismic D) Resistivity
105. Which of the following is more applicable in groundwater exploration?
 A) Gravity B) Magnetic
 C) Seismic D) Resistivity
106. Which of the following is associated with radioactive survey?
 A) XRD B) GM counter
 C) Mass Spectrometer D) XRF
107. Which is a commonly used path-finder element for geochemical exploration of gold?
 A) Al B) As C) Cu D) Bi
108. Which of the following is not a stratigraphic trap?
 A) Unconformity B) Buried coral reef
 C) Overlap D) Antiform
109. Which of the following is correct?
 A) All porous rocks are permeable
 B) All permeable rocks are porous
 C) High porosity will lead to low permeability
 D) Permeability and porosity are unrelated

110. What is the term used to refer to the water in the zone of aeration?
 A) Perched water B) Connate water
 C) Juvenile water D) Vadose water
111. In which of the following aquifers an artesian well can occur?
 A) Confined aquifer B) Unconfined aquifer
 C) Aquitard D) Aquiclude
112. What is the chemical composition of stalactites?
 A) Amorphous silica B) Quartz
 C) Calcium carbonate D) Calc-silicate
113. Which of the following pertains to the flow of fluids in porous medium?
 A) Ohm's law B) Stoke's law
 C) Fike's law D) Darcy's law
114. Which is associated with Koyna dam?
 A) Arch type dam B) Reservoir induced seismicity
 C) Dam along a fault D) Nuclear exploration
115. Which one denotes a coal mine inclusive of surface, plant and underground working?
 A) Colliery B) Coal field
 C) Coal unit D) Coal seam
116. What term is used in coal mining for the removal of overburden down to the coal bed?
 A) Exposing B) Stripping
 C) Drafting D) Stopping
117. In analysing which of the following, the Coloumb-Mohr criterion is used?
 A) Coastal erosion B) Land slide
 C) Flooding D) Seismic wave propagation
118. Which of the following contaminants in drinking water damages teeth and bone?
 A) Chloride B) Carbonate
 C) Boron D) Fluoride
119. What is the purpose of beach nourishment?
 A) Make the aquatic life nourished
 B) To augment coastal erosion
 C) To prevent coastal erosion
 D) Ecotourism
120. Which of the following is noted for recent volcanism?
 A) Kavaratti island B) Barren island
 C) Coral island D) Salsette island
