

**14211**

**120 MINUTES**

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1. The core forms about -----% of the Earth by volume.  
A) 16      B) 32  
C) 64      D) 22
2. Which formula is used for calculating drainage density?  
A) Total length of first order streams/Area  
B) Total length and breadth of streams/Area  
C) Total no. of streams/Area  
D) Total length of streams/Area
3. Playas are associated with-----  
A) Glaciers      B) Coral reefs  
C) River basins      D) Arid landforms
4. Maximum erosion takes place along the ----- part of meandering streams  
A) Concave      B) Middle  
C) Convex      D) Edge
5. Which is NOT true about aerial photographs?  
A) Time freezing ability      B) Low spectral resolution  
C) High spatial resolution      D) Three dimensional perspective
6. The ground distance equal to 2 cm on the Survey of India Topographic Map 56 A  
A) 2 km      B) 0.5 km  
C) 5 km      D) 4 km
7. Irrelevant data entered during digitizing, scanning or data transfer in GIS is called  
A) Noise      B) Overshoot  
C) Loops      D) Spike
8. Which is the correct sequence in data stream?  
A) Generalization →Rubbersheeting →Editing →Reprojection →Layering  
B) Data capture →Editing →Reprojection →Generalization →Rubber sheeting→Layering  
C) Reprojection→ Editing→Datacapture→Generalization→ Rubbersheeting→Layering  
D) Layering→Reprojection→Generalization→Data capture→Editing →Edge matching

9. In a strike fault the strike of the fault is parallel to the-----of the structure  
 A) Strike B) Dip  
 C) Slip D) Throw
10. Which one is NOT a primary structure?  
 A) Fold B) Bedding  
 C) Ripple mark D) Load cast
11. Rods, Mullions, Slickensides and axes of boudins define  
 A) Foliations B) Folds  
 C) Lineations D) Joints
12. An erosional unconformity above massive plutonic rocks is called-----  
 A) Paraconformity B) Diastem  
 C) Disconformity D) Nonconformity
13. Cataclasites are associated with  
 A) Unconformities B) Shear zones  
 C) Joints D) Foliations
14. In Ramsay's classification, class-3 folds are characterized by ----- isogons  
 A) Convergent B) Parallel  
 C) Divergent D) Strongly convergent
15. A fold with sharp hinge line  
 A) Similar fold B) Reclined fold  
 C) Chevron fold D) Parallel fold
16. Mid ocean ridge basalts are produced by 10-20% partial melting of-----  
 A) Upper crust B) Upper mantle  
 C) Lower crust D) Lower mantle
17. Ophiolites are successions of mafic and ultramafic rocks that are considered to represent fragments of-----  
 A) Continental crust  
 B) Lower mantle  
 C) Upper mantle or back- arc basin crust  
 D) Oceanic or back-arc basin crust
18. Mid oceanic ridges are located at  
 A) Convergent boundaries B) Conservative boundaries  
 C) Divergent boundaries D) Within plate settings
19. The ancient sea which surrounded Pangaea  
 A) Panthalassa B) Tethys  
 C) Pacific D) Rodinia
20. In which tectonic settings Kimberlites with diamonds are found?  
 A) Cratons B) Orogens  
 C) Continental rifts D) Subduction zones

21. The Himalayas is an example of -----  
 A) Old Collisional mountain range  
 B) Young collisional mountain range  
 C) Relict mountain range  
 D) None of the above
22. Which one is NOT correct?  
 A) In cross-cutting veins the most continuous one is the youngest  
 B) Intrusions are younger than the rocks in which they have intruded  
 C) Faults are older than the rocks that have been affected by faulting  
 D) The rocks above an unconformity are younger than the unconformity
23. Which Period in the Palaeozoic Era encompasses the largest duration of time?  
 A) Cambrian B) Mississippian  
 C) Silurian D) Permian
24. Find the mismatch  
 A) Eon - Eonothem B) Era - Erathem  
 C) Period - System D) Epoch - Chron
25. Among the following which one represents the shortest break?  
 A) Unconformity B) Nonsequence  
 C) Hiatus D) Diastem
26. Who stated the Principle of Original horizontality?  
 A) James Hutton B) William Smith  
 C) Nicolaus Steno D) Charles Lyell
27. Which one of the following is NOT a criterion for selecting an index fossil?  
 A) Widespread geographic distribution  
 B) Easy identification  
 C) Long duration of existence  
 D) Large number
28. Bababudan Group forms part of-----Supergroup  
 A) Dharwar B) Cuddapah  
 C) Vindhyan D) Aravalli
29. The environment of formation of the Cretaceous rocks of Tiruchirapally  
 A) Marine B) Lacustrine  
 C) Fluvial D) Aeolian
30. Among the following which is the most widespread and abundant intrusive rock in Kerala?  
 A) Gabbro B) Granite  
 C) Syenite D) Dunite
31. Which among the following is the oldest?  
 A) Tipam Formation B) Uttatur Formation  
 C) Barakar Formation D) Cuddalore Formation

32. In which country the largest number of type areas is located?  
 A) France B) Great Britain  
 C) Germany D) USA
33. The Cuddapah Super group of rocks is located in  
 A) Andhra Pradesh B) Karnataka  
 C) Madhya Pradesh D) Tamilnadu
34. Which among the following is NOT richly fossiliferous?  
 A) Trichnopoly formation B) Neobulus beds  
 C) Siwalik Group D) Panchet formation
35. The age of Muth Quartzite is  
 A) Cambrian B) Triassic  
 C) Palaeocene D) Devonian
36. Alectryonia is a  
 A) Brachiopod B) Cephalopod  
 C) Pelecypod D) Gastropod
37. Trilobites became extinct at the end of  
 A) Permian B) Triassic  
 C) Cretaceous D) Tertiary
38. -----Period is called the “Age of fishes”  
 A) Devonian B) Jurassic  
 C) Silurian D) Permian
39. Which among the following contains large number of plant fossils?  
 A) Bagh beds B) Tillite beds  
 C) Barakar formation D) Quilon formation
40. The small cone-like structure from which the colony of graptolites develop is called -----  
 A) Rhabdosome B) Sicala  
 C) Nema D) Theca
41. The oldest vertebrates date from ----- period  
 A) Triassic B) Cambrian  
 C) Tertiary D) Carboniferous
42. The meaning of the word ‘Dinosaur’  
 A) Giant lizard B) Extinct lizard  
 C) Large reptile D) Terrible lizard
43. Blastoidea, Crinoidea and Asteroidea belong to the Phylum-----  
 A) Echinodermata B) Coelenterata  
 C) Mollusca D) Brachiopoda

44. Olenus, Olenellus, Paradoxide and Agnostus are -----  
 A) Graptolites                      B) Trilobites  
 C) Pelecypods                        D) Coelenterates
45. The number of faces in a Diploid?  
 A) 12                                      B) 24                                      C) 6                                      D) 4
46. Among the following crystal classes, which one has the least number of elements of symmetry?  
 A) Hexagonal normal                      B) Orthorhombic normal  
 C) Tetragonal normal                      D) Monoclinic normal
47. The system of crystallization of Quartz?  
 A) Tetragonal                                      B) Hexagonal  
 C) Isometric                                      D) Monoclinic
48. Pinacoids are found in ----- system/s  
 A) Hexagonal                                      B) Orthorhombic  
 C) Monoclinic                                      D) All the three
49. All crystal forms belonging to-----systems are closed forms  
 A) Tetragonal                                      B) Triclinic  
 C) Monoclinic                                      D) Isometric
50. Among the following which one has very high birefringence?  
 A) Garnet                                      B) Zircon  
 C) Muscovite                                      D) Microcline
51. Which one of the following sections will be optically isotropic?  
 A) Basal section of apatite  
 B) Prismatic section of Enstatite  
 C) Random section of Orthoclase  
 D) None of the above
52. Which of the following is NOT a uniaxial mineral?  
 A) Zircon                                      B) Sillimanite  
 C) Tourmaline                                      D) Apatite
53. Which one of the following is a pleochroic mineral?  
 A) Anthophyllite                                      B) Augite  
 C) Epidote                                      D) Andalusite
54. Find the mismatch:  
 A) Plagioclase - Low relief  
 B) Staurolite- Pleochroic  
 C) Hornblende - Two sets of cleavage for basal section  
 D) Calcite -First order interference colour

55. Which one of the following is NOT a fundamental property of a mineral?  
 A) Specific gravity                      B) Parting  
 C) Hardness                                D) Cleavage
56. Troilite belongs to-----family  
 A) Feldspar                                B) Amphibole  
 C) Olivine                                 D) Pyroxene
57. Siderite, rhodocrocite, cerussite and witherite are-----minerals  
 A) Oxide                                    B) Carbonate  
 C) Silicate                                 D) Sulphate
58. Celsian is a -----feldspar  
 A) Sodium                                 B) Barium  
 C) Potassium                             D) Calcium
59. Which one of the following minerals commonly shows pleochroic haloes?  
 A) Orthoclase                             B) Diopside  
 C) Hypersthene                         D) Biotite
60. In which silicate group all the 4 Oxygen atoms in the (SiO<sub>4</sub>) Tetrahedron are shared with neighbouring tetrahedra?  
 A) Inosilicates                            B) Sorosilicates  
 C) Cyclosilicates                        D) Tectosilicates
61. Which one is NOT a sulphide mineral?  
 A) Chalcocite                             B) Chalcopyrite  
 C) Malachite                              D) Bornite
62. Choose the mineral with maximum number of sets of cleavages?  
 A) Muscovite                              B) Enstatite  
 C) Fluorite                                D) Galena
63. Which one does not belong to the feldspathoid family?  
 A) Adularia                                B) Nepheline  
 C) Cancrinite                             D) Leucite
64. The most abundant metal in the crust of the earth  
 A) Iron                                        B) Aluminium  
 C) Titanium                                D) Silicon
65. Which one of the following is NOT a stable isotope of carbon?  
 A) C-12                                      B) C-14                                      C) C-13                                      D) C-15
66. In the Goldschmidt's classification Ag, Hg, Pb and Mo belong to the-----  
 Group of elements  
 A) Siderophile                            B) Lithophile  
 C) Atmophile                              D) Chalcophile

67. The mantle is mainly made up of-----  
 A) Granite B) Peridotite  
 C) Diorite D) Basalt
68. Normally the pH of rainwater is-----  
 A) < 7 B) >7  
 C) 7 D) None of the three
69. Which one of the following is NOT an important constituent of sea water?  
 A) Magnesium B) Iron  
 C) Bromine D) Strontium
70. Ophitic texture is characteristic of many-----  
 A) Granites B) Diorites  
 C) Aplites D) Dolerites
71. ----- is a bun-shaped igneous intrusion  
 A) Phacolith B) Lopolith  
 C) Batholith D) Laccolith
72. Which one of the following is NOT a volcanic rock?  
 A) Picrite B) Phonolite  
 C) Lamprophyre D) Komatite
73. A monominerallic rock essentially made up of labradorite  
 A) Anorthosite B) Luxullianite  
 C) Andesite D) Dacite
74. Which one forms a reaction pair?  
 A) Olivine-Amphibole B) Enstatite-Muscovite  
 C) Amphibole-Biotite D) Olivine-Biotite
75. Which one of the following binary systems shows complete solid solution?  
 A) Diopside-Anorthite B) Anorthite-Silica  
 C) Albite-Anorthite D) Nepheline-Albite
76. Which one of the following is NOT an ultramafic rock?  
 A) Ophiolite B) Granophyre  
 C) Dunite D) Peridotite
77. In Harker Variation diagram  
 A) Major oxides are plotted against SiO<sub>2</sub>  
 B) Fe<sup>++</sup>, Mg<sup>++</sup>, Ca<sup>++</sup> are plotted against Fe<sup>+++</sup> Mg<sup>++</sup>  
 C) Major oxides are plotted against 1/3 SiO<sub>2</sub> - ( CaO+Na<sub>2</sub>O+K<sub>2</sub>O )  
 D) SiO<sub>2</sub> is plotted against (Al<sub>2</sub>O<sub>3</sub>+ CaO+ K<sub>2</sub>O)
78. Among the following, which mineral is found mostly as anhedral crystals in igneous rocks?  
 A) Orthoclase B) Biotite  
 C) Microcline D) Quartz





91. 'Satin spar' is a variety of -----  
 A) Barite B) Pyrite  
 C) Calcite D) Gypsum
92. Which one of the following is a radioactive mineral?  
 A) Monazite B) Ilmenite  
 C) Zircon D) Rutile
93. Chromite deposits are associated with -----  
 A) Granites B) Diorites  
 C) Syenites D) Anorthosites
94. Which one of the following states in India is very rich in mineral deposits?  
 A) Jharkhand B) Punjab  
 C) Uttar Pradesh D) Maharashtra
95. Which one is an example of early magmatic deposit?  
 A) Pyrite B) Corundum  
 C) Chalcopyrite D) Beryl
96. The rocks of which period has the largest number of petroleum deposits?  
 A) Jurassic B) Carboniferous  
 C) Tertiary D) Cambrian
97. Which among the following is the odd one?  
 A) Magnetite-Chromite B) Galena-Sphalerite  
 C) Pyrrhotite-pyrite D) Galena-Gypsum
98. Which one is NOT a refractory mineral?  
 A) Kyanite B) Magnesite  
 C) Chromite D) Orthoclase
99. The process of formation of bauxite  
 A) Magmatic B) Hydrothermal  
 C) Residual Concentration D) Metamorphic
100. The major ore of Copper in India  
 A) Chalcopyrite B) Chalcocite  
 C) Cuprite D) Covellite
101. Which one is NOT a polymorph of  $TiO_2$ ?  
 A) Rutile B) Ilmenite  
 C) Anatase D) Brookite
102. Comb structures are associated with ----- deposits  
 A) Hydrothermal B) Magmatic  
 C) Sedimentary D) Evaporation

103. Find the mismatch?  
 A) Apatite-Ceramic                      B) Garnet-Abrasive  
 C) Dolomite-Fertilizer                  D) Gypsum-Cement
104. Which method is more suitable for exploration of sulphide deposits?  
 A) Self-potential                          B) Resistivity  
 C) Radiometric                            D) Gravity
105. Which one is used in seismic surveys?  
 A) Potentiometer                         B) Scintillometer  
 C) Gravimeter                             D) Geophone
106. Which drilling method is suitable for deep bore holes in sedimentary terrains?  
 A) DTH                                        B) Rotary  
 C) Calyx                                      D) None of the three
107. Proximate and Ultimate analysis are used in the study of -----  
 A) Petroleum                                B) Coal  
 C) Clay                                        D) Bauxite
108. During geochemical surveys which type/s of sample/s is/are collected?  
 A) Water                                      B) Sediment  
 C) Soil                                         D) All the three
109. ----- contamination in ground water is very much prevalent in many parts of West Bengal  
 A) Arsenic                                    B) Mercury  
 C) Manganese                              D) Cadmium
110. Which one of the statements is NOT correct?  
 A) Aquifers are both porous and permeable  
 B) Aquicludes are porous only  
 C) Aquifuges are neither permeable nor porous  
 D) Aquifers are permeable but not porous
111. Karst topography is formed due to the action of -----  
 A) Stream water                            B) Wind  
 C) Ground water                          D) Glacier
112. Ghyben-Herzberg equation is related to -----  
 A) Fresh water-saline water interface  
 B) Movement of glacier  
 C) Movement of sand in deserts  
 D) Capacity of streams
113. The difference in the elevation of the water table between two points divided by the distance between the two points is called -----  
 A) Hydraulic conductivity              B) Hydraulic gradient  
 C) Specific capacity                        D) Cone of depression

114. Which method helps in the investigation of structural conditions affecting civil engineering works?  
A) Geochemical    B) Geochronological  
C) Geobotanical    D) Geophysical
115. In mining, vertical opening made in the ground for removal of materials and movement of men and machinery is called -----  
A) Drift    B) Adit  
C) Trench    D) Shaft
116. Methane and CO are commonly encountered during the mining of -----  
A) Coal    B) Ground Water  
C) Clay    D) Mica
117. Eutrophication is related to pollution of -----  
A) Air    B) Soil  
C) Water    D) Rock
118. Which one of the following is the fastest mass wasting process?  
A) Rock fall    B) Creep  
C) Avalanche    D) Earthflow
119. Which is true about Richter scale?  
A) It has an upper limit of 9.5  
B) It measures the magnitude of earthquakes  
C) It measures the intensity of earthquakes  
D) It is not useful for measuring low intensity earthquakes
120. Which district in Kerala is NOT prone to landslides?  
A) Wayanad    B) Kollam  
C) Alappuzha    D) Idukki

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