

CAT – 2019 GEOLOGY

1. The fragmental volcanic products ejected through the vent are termed as
 - (A) Scoriae
 - (B) Bomb
 - (C) Tephra
 - (D) Lapelli

2. The deepest oceanic trench is
 - (A) Atacama trench
 - (B) Mariana trench
 - (C) Guatemala trench
 - (D) Aleutian trench

3. Flat-topped hills or small mountains formed by stream action are called
 - (A) Plateau
 - (B) Stream terraces
 - (C) Mesas
 - (D) Cuestas

4. The Pangea existed up to the
 - (A) Silurian period
 - (B) Late Permian period
 - (C) End of Carboniferous period
 - (D) Devonian period

5. The plain formed due to coalescence of series of alluvial fans in the piedmont zone is known as
 - (A) Pediplain
 - (B) Pediment
 - (C) Bajada
 - (D) Hamada

6. In the solar system which planet has the lowest density?
- (A) Saturn
 - (B) Mars
 - (C) Jupiter
 - (D) Mercury
7. The concept of sea-floor spreading was originally conceived by
- (A) Carey
 - (B) Wegener
 - (C) Deitz
 - (D) Hess
8. The most dominant factor causing plate motion is
- (A) Asthenospheric convection
 - (B) Slab-pull
 - (C) Underplating
 - (D) Ridge-push
9. The mean density of earth's mantle is
- (A) 2.7 g/cm^3
 - (B) 3.0 g/cm^3
 - (C) 4.5 g/cm^3
 - (D) 5.4 g/cm^3
10. Conservative plate boundary is represented by
- (A) Transform fault
 - (B) Normal fault
 - (C) Reverse fault
 - (D) Growth fault
11. Elements which readily form ions with an outermost 8-electron shell are mostly:
- (A) Chalcophile
 - (B) Atmophile
 - (C) Siderophile
 - (D) Lithophile

12. The term "hurricane" is given to tropical cyclones in
- (A) Australia
 - (B) The Bay of Bengal
 - (C) The North Pacific Ocean
 - (D) The North Atlantic Ocean
13. The evidence of devitrification is
- (A) Spherulitic
 - (B) Corona structure
 - (C) Percussion figure
 - (D) Orbicular structure
14. The pH of a solution is the
- (A) Negative Log of the H ions concentration
 - (B) Negative Log of the reciprocal of its H ions concentration
 - (C) Log of its H ions concentration
 - (D) H ions concentration of the solution
15. Sulphurous hot springs (solfataras) are associated with
- (A) Bijawer group
 - (B) Kohan group
 - (C) Gwalior group
 - (D) Kaladgi group
16. A region where evapotranspiration exceeds rainfall is probably
- (A) a desert
 - (B) a rain forest
 - (C) a swamp
 - (L) heavily forested
17. The 'hodograph' of a reflected wave is
- (A) rectilinear
 - (B) hyperbolic
 - (C) curvilinear
 - (D) parabolic

18. Shear fractures are developed under
- (A) Compression
 - (B) Couples
 - (C) Tension
 - (D) All of the above
19. A drainage pattern that develops upon a rock of uniform resistance and is not structurally controlled is called
- (A) Dendritic pattern
 - (B) Trellis pattern
 - (C) Rectangular pattern
 - (D) Barbed drainage pattern
20. "Electrum" is a natural alloy of
- (A) Zinc and Silver
 - (B) Zinc and Gold
 - (C) Gold and Silver
 - (D) Silver and Copper
21. Very small ridges and depressions on the surface of joints are described as
- (A) Feather joints
 - (B) Plumose markings
 - (C) Slickensides
 - (D) Striations
22. The structure consisting of a series of parallel columns in deformed rocks is called
- (A) Foliation
 - (B) Lineation
 - (C) Mullions
 - (D) Boudins

23. The fold which has two hinges is
- (A) Chevron fold
 - (B) Box fold
 - (C) Fan fold
 - (D) Isoclinal fold
24. The amount of dip is maximum in a direction at _____ angles to the strike of the bedding planes
- (A) 0°
 - (B) 45°
 - (C) 90°
 - (D) 180°
25. The Caledonian folds formed around
- (A) 320 million years ago
 - (B) 240 million years ago
 - (C) 130 million years ago
 - (D) 70 million years ago
26. _____ is a narrow coastal sandy formation which connects main land and an offshore island.
- (A) Spit
 - (B) Hook
 - (C) Sand bar
 - (D) Tombolo
27. Ophitic texture is commonly seen in
- (A) Trachyte
 - (B) Lamprophyres
 - (C) Andesite
 - (D) Dolerite
28. Myrmekite structure is produced by the intergrowth of
- (A) Quartz and plagioclase
 - (B) Quartz and orthoclase
 - (C) Plagioclase and orthoclase
 - (D) Orthoclase and albite

29. A rock behaves as an elastic solid
- (A) Below its ultimate strength
 - (B) Below its yield strength
 - (C) Above its ultimate strength
 - (D) Above its yield strength
30. The line joining points of equal height in a map is known as
- (A) Contour
 - (B) Isobar
 - (C) Isotherm
 - (D) Isochrones
31. The species *Homo Sapiens* appeared around
- (A) 300 thousand years ago
 - (B) 500 thousand years ago
 - (C) 4 million years ago
 - (D) 6 million years ago
32. When mouth and anus are centrally placed at the opposite poles of the test, the forms are known as
- (A) Regular echinoids
 - (B) Irregular echinoids
 - (C) Crinoids
 - (D) Both (A) and (B)
33. _____ is NOT a living fossil
- (A) Nauplia
 - (B) Nautilus
 - (C) Nummulites
 - (D) Lingula

34. The skeleton of an entire coral colony is described as
- (A) Collumella
 - (B) Rhabdosome
 - (C) Corallite
 - (D) Corallum
35. Ceratitic suture is prevalent in the forms found in
- (A) Permian to Triassic
 - (B) Cretaceous
 - (C) Permian
 - (D) Triassic
36. Which of these Trilobites was blind?
- (A) Olenellus
 - (B) Olenus
 - (C) Agnostus
 - (D) Asaphus
37. The successive whorls in the shell of gastropod lie on mutual contact along a line called
- (A) Spire
 - (B) Suture
 - (C) Umbilicus
 - (D) Septa
38. The first flowering plant originated during
- (A) Cretaceous period
 - (B) Cambrian period
 - (C) Silurian period
 - (D) Devonian period
39. Ordovician period is known for the origin of
- (A) first land plant fossil
 - (B) first mammal
 - (C) first amphibian
 - (D) first fish

40. Stromatolites are due to
- (A) Green bacteria
 - (B) Blue-green algae
 - (C) Fungi
 - (D) Blue-green ostracods
41. Which was the warmest epoch of the Cenozoic?
- (A) Eocene
 - (B) Miocene
 - (C) Paleocene
 - (D) Oligocene
42. The Lower and Upper Gondwana are characterized respectively by
- (A) Ptilophyllum and Nilgoria
 - (B) Ptilophyllum and Glossopteris
 - (C) Glossopteris and Ptilophyllum
 - (D) Glossopteris and Galtramopteris
43. "Old red sandstone" facies is of
- (A) Muddy deep water facies
 - (B) Shallow marine facies
 - (C) Fluvial and Lacustrine deposits
 - (D) None of the above
44. Daonella shale and Daonella limestone are included in _____ stage.
- (A) Bunter
 - (B) Neritic
 - (C) Muschelkalk
 - (L) Ladinic
45. The rock of Permian age in the Salt Range is represented by
- (A) Productus limestone series
 - (B) Fenestella shale series
 - (C) Zewan beds
 - (D) None of the above

46. The famous Panna diamond field of India is associated with
- (A) Rewa group
 - (B) Semri group
 - (C) Bhandar group
 - (D) Kaimur group
47. Which of the following coal field is responsible for about 40% of the total Indian production?
- (A) Jharia coal field
 - (B) Ranigand coal field
 - (C) Singrauli coal field
 - (D) Mohpani coal field
48. The facies of the Triassic system of rocks in India is
- (A) Estuarine
 - (B) Lacustrine
 - (C) Terrestrial
 - (D) Marine
49. The Neogene period includes
- (A) Paleocene, Eocene and Oligocene
 - (B) Oligocene, Miocene and Pliocene
 - (C) Miocene and Pliocene
 - (D) Paleocene and Eocene
50. The Cryptozoic Era is designated as
- (A) The age of hidden life
 - (B) The age of no life
 - (C) The age of modern life
 - (D) The age of well displayed life
51. The upper limit of troposphere is called
- (A) Mesopause
 - (B) Tropopause
 - (C) Stratosphere
 - (D) Stratopause

52. Thunderstorms originate from
- (A) Cirro-cumulus clouds
 - (B) Cirro-stratus clouds
 - (C) Cumulonimbus cloud
 - (D) Alto-cumulus cloud
53. Ocean currents are generated due to
- (A) Salinity difference
 - (B) Temperature difference
 - (C) Density difference
 - (D) All of the above
54. Which of the following has the highest compressive strength?
- (A) Granite
 - (B) Sandstone
 - (C) Marble
 - (D) Quartzite
55. “Hodographs” are _____ in the seismic studies of the subsurface geology
- (A) Velocity – density curves
 - (B) Time – density curves
 - (C) Time – distance curves
 - (D) Velocity – distance curves
56. Which of the following varieties of mica is lithium mica?
- (A) Lepidolite
 - (B) Biotite
 - (C) Muscovite
 - (L) Phlogopite
57. Realgar has the composition of
- (A) CuS
 - (B) NiS
 - (C) AsS
 - (D) HgS

58. In cyclosilicates, the ratio of Si:O is
- (A) 1:3
 - (B) 2:5
 - (C) 1:2
 - (D) 2:3
59. Which of the following is a mineraloid?
- (A) Chalcedony
 - (B) Opal
 - (C) Chert
 - (D) Quartz
60. Which of the following mineral has the highest Refractive Index?
- (A) Rutile
 - (B) Hematite
 - (C) Zircon
 - (D) Cassiterite
61. The reflective index (R_i) of Canada balsam is
- (A) 1.45
 - (B) 1.62
 - (C) 1.54
 - (D) 1.59
62. Loess is an eolian deposit of
- (A) Silt and clay
 - (B) Sand and gravel
 - (C) Gravel and silt
 - (L) Sand and clay
63. The primary gold lodes are reported from _____ region.
- (A) Wayanad
 - (B) Pathanamthitta
 - (C) Idukki
 - (D) Thiruvananthapuram

64. Hardness in water is typically caused by the presence of
- (A) Suspended matter
 - (B) Total dissolved solids
 - (C) Carbonate and bicarbonate
 - (D) Calcium and magnesium ions
65. The glacier will retreat when
- (A) Accumulation is greater than ablation
 - (B) Ablation is greater than accumulation
 - (C) Accumulation is equal to ablation
 - (D) None of the above
66. The rocks of Wayanad schist belt are equivalent to _____ group of Karnataka
- (A) Sargur
 - (B) Chitradurga
 - (C) Bababudan
 - (D) Kolar
67. The general strike of Bavali lineament is
- (A) WNW-ESE
 - (B) EN7-WSW
 - (C) NE-SW
 - (D) NW-SE
68. Carbonatite is
- (A) Sedimentary rock
 - (B) Metamorphic rock
 - (C) Extrusive igneous rock
 - (L) Intrusive igneous rock
69. The sedimentary layer having thickness < 1 cm is called
- (A) Lamina
 - (B) Stratum
 - (C) Bed
 - (D) Both (A) and (C)

70. A paleosol is
- (A) A red tropical soil
 - (B) A black nutrient rich soil
 - (C) An ancient soil which is now buried
 - (D) A transported soil
71. Clay minerals are
- (A) Phyllosilicates
 - (B) Tectosilicates
 - (C) Cyclosilicates
 - (D) Neosilicates
72. Sediments having the size range of 64-256 μ m are called
- (A) Cobbles
 - (B) Pebbles
 - (C) Boulders
 - (D) Granules
73. The granulite facies is characterized by
- (A) Low pressure-high temperature
 - (B) High pressure-low temperature
 - (C) Low pressure-low temperature
 - (D) High pressure-high temperature
74. Which is the most dominant metamorphic rock found at mid-oceanic ridges?
- (A) Greenstone
 - (B) Hornfels
 - (C) Eclogite
 - (L) Blueschist
75. Water gives almost nil reflectance in
- (A) Visible regions
 - (B) Ultra violet regions
 - (C) Infrared regions
 - (D) Both (A) and (B)

76. Geostationary satellites are located at an altitude of about
- (A) 36,000 km
 - (B) 10,000 km
 - (C) 20,000 km
 - (D) 45,000 km
77. A carbonate reservoir rock having 10-15% porosity, is said to have
- (A) Very good porosity
 - (B) Poor porosity
 - (C) Good porosity
 - (D) Fair porosity
78. The “anticlinal” traps are classified as _____ type of petroleum reservoir.
- (A) Concave traps
 - (B) Convex traps
 - (C) Non-concave traps
 - (D) Non-convex traps
79. A crystal form consisting of only one face is
- (A) Pedion
 - (B) Sphenoid
 - (C) Dome
 - (D) Basal pinacoid
80. Variation in the habit of a mineral refers to changes in the
- (A) Symmetry elements
 - (B) Crystal class
 - (C) Crystal form
 - (L) Crystal system
81. Which of the following combinations is incorrect?
- (A) Optical twins ----- Quartz
 - (B) Cyclic twins ----- Aragonite
 - (C) Glide twins ----- Calcite
 - (D) Tartan twins ----- Pyrite

82. Digboi oil field is associated with
- (A) Surma series
 - (B) Tipam series
 - (C) Barail series
 - (D) Jainta series
83. Leucite shows
- (A) Star-like inclusions
 - (B) Curved inclusions
 - (C) Radial inclusions
 - (D) Straight inclusions
84. The magnifying power of a microscope
- (A) Increases with the tube length
 - (B) Decreases with the tube length
 - (C) Increases with the focal length
 - (D) None of the above
85. Lines joining points of equal limb dip in successive layers through the fold profile are known as
- (A) Ageonic lines
 - (B) Isohyetes
 - (C) Dip isogons
 - (D) Contour lines
86. Which of the following can be classified as an 'alkaline rock'?
- (A) Hornblende-granite
 - (B) Biebeckite-granite
 - (C) Hornblende-syenite
 - (D) Biotite-granite
87. Which of the following minerals does NOT exhibit needle-like crystals?
- (A) Wavellite
 - (B) Sillimanite
 - (C) Tourmaline
 - (D) Rutile

88. The plagioclase feldspar that is commonly seen in Archean anorthosites is
- (A) Albite
 - (B) Bytownite
 - (C) Oligoclase
 - (D) Labradorite
89. Graywackes typically exhibit
- (A) Graded bedding
 - (B) Torrential bedding
 - (C) Flaser bedding
 - (D) Herringbone cross-bedding
90. Arkose is derived from the disintegration of
- (A) Gabbro
 - (B) Granite
 - (C) Ultrabasic rocks
 - (D) Marble
91. Bog iron ore is of
- (A) Organic origin
 - (B) Bio-chemical origin
 - (C) Chemical origin
 - (D) Biological origin
92. Which of the following rocks are complete unfoliated?
- (A) Hornfelses
 - (B) Slatcs
 - (C) Phyllites
 - (L) Schists
93. When the strike of the fault is parallel to the strike of the rock beds, the fault is called
- (A) Strike fault
 - (B) Strike slip fault
 - (C) Dip slip fault
 - (D) Diagonal fault

94. Tourmalinization is the combined effect of
- (A) Water and fluorine
 - (B) Water, carbondioxide and chlorine
 - (C) Water, boron and fluorine
 - (D) Water, carbondioxide and hydrogen
95. The Karewa Formation in the Kashmir valley is renowned for its _____ deposits.
- (A) Gypsum
 - (B) Barytes
 - (C) Ochre
 - (D) Lignite
96. The disseminated or “porphyry” copper deposits are of
- (A) Epithermal origin
 - (B) Mesothermal origin
 - (C) Hypothermal origin
 - (D) Telethermal origin
97. The giant oil field of ‘Ankaleshwar’ was discovered in the year
- (A) 1960
 - (B) 1956
 - (C) 1958
 - (D) 1963
98. An influent stream is one which
- (A) flows into a parent stream
 - (B) receives discharges from the groundwater
 - (C) recharges the groundwater
 - (L) flows parallel to consequent stream
99. The symbol of Macro dome is
- (A) Okl
 - (B) h0l
 - (C) hkl
 - (D) hk0

100. _____ is the mineral that is NOT crystallized in the Orthorhombic system

- (A) Sulphur
- (B) Staurolite
- (C) Augite
- (D) Andalusite

101. The cleavages in twinned crystals are

- (A) In same directions
- (B) In different directions
- (C) In oblique direction of the twin plane
- (D) Parallel to the twin plane

102. Transparent and red colour gem variety of zircon is known as

- (A) Hyacinth
- (B) Monazite
- (C) Jargoon
- (D) Zirconite

103. The cleavage angles in amphiboles are

- (A) 70° and 110°
- (B) 54° and 126°
- (C) 67° and 113°
- (D) 56° and 124°

104. Rutile is specifically characterized by

- (A) its geniculate twinning
- (B) its brown-red colour
- (C) its hardness
- (D) its acicular form

105. _____ systems are optically uniaxial

- (A) Hexagonal and Monoclinic
- (B) Monoclinic and Tetragonal
- (C) Hexagonal and Tetragonal
- (D) Cubic and Orthorhombic

106. The Bertrand lens is used to
- (A) determine the interference colour
 - (B) determine the optic sign
 - (C) analyse the plane of vibration of light
 - (D) magnify the interference figures
107. Nepheline is distinguished from quartz by its
- (A) Positive sign only
 - (B) Negative sign and lower birefringence
 - (C) Negative sign and higher birefringence
 - (D) Higher birefringence only
108. In a binary eutectic system, the solubility line shows
- (A) the concentration of components in the liquid
 - (B) the temperature in the liquid
 - (C) the pressure in the liquid
 - (D) Both (A) and (B)
109. Which of the following volcanic rocks contains the lowest percentage of silica?
- (A) Basalt
 - (B) Andesite
 - (C) Trachyte
 - (D) Rhyolite
110. The formation of pillow lava indicates a
- (A) continental eruption
 - (B) free eruption
 - (C) sub-marine eruption
 - (D) None of the above
111. Radiolarian and Diatomaceous oozes are
- (A) Phosphatic deposits
 - (B) Siliceous deposits
 - (C) Calcareous deposits
 - (D) Carbonaceous deposits

112. Guano deposits are formed by accumulation of the
- (A) excreta of birds
 - (B) aragonite shells
 - (C) calcareous shells
 - (D) bones of sea – birds
113. Retrograde metamorphism is also known as
- (A) Diapthoresis
 - (B) Additive metamorphism
 - (C) Injective metamorphism
 - (D) None of the above
114. The Chitradurga schist belt is an example of the
- (A) Epidote amphibolites facies
 - (B) Green schist facies
 - (C) Amphibolite schist
 - (D) Granulite facies
115. An assemblage of high temperature ore and gangue minerals in contact metasomatism is called as
- (A) Goldite
 - (B) Bar deposits
 - (C) Skarn
 - (D) Gossan
116. Most of the tourmaline deposits of central and western India have been formed from
- (A) Granite
 - (B) Syenite
 - (C) Nepheline syenite
 - (D) Basalt
117. Placer deposits at the foot of a slope are known as
- (A) Alluvial placers
 - (B) Colluvial placers
 - (C) Eluvial placers
 - (D) Eolian placers

118. Exploration of chromite is generally done by
- (A) Seismic method
 - (B) Resistivity method
 - (C) Gravity method
 - (D) Magnetic method
119. Which type of clay is used as a drilling mud?
- (A) Chica clay
 - (B) Fuller's earth
 - (C) Bentonite clay
 - (D) Fire clay
120. Wolframite is an ore of
- (A) Vanadium
 - (B) Cobalt
 - (C) Antimony
 - (D) Tungsten
121. Which type of unconformity is more effective as stratigraphic oil-traps?
- (A) Non-conformity
 - (B) Disconformity
 - (C) Angular unconformity
 - (D) None of the above
122. The position of Graphite in India is
- (A) Essential
 - (B) Critical
 - (C) Strategic
 - (D) None of the above
123. Which planet is an exceptional case of Bode's law?
- (A) Neptune
 - (B) Mars
 - (C) Uranus
 - (D) Saturn

124. The upper mantle is _____ in composition

- (A) Felsic
- (B) Ultramafic
- (C) Granitic
- (D) Basic

125. The water loving colloids are called as

- (A) Hydrophobic
- (B) Hydrophilic
- (C) Dispersion
- (D) Emulsions

126. Which method is used for dating relatively recent geological event?

- (A) K-Ar method
- (B) U-Pb method
- (C) Carbon-14 method
- (D) Rb-Sr method

127. Humidity is usually measured by

- (A) Psychrometer
- (B) Rain gauge
- (C) Radiometer
- (D) Pyranometer

128. Clay is an example of

- (A) Aquifer
- (B) Aquitard
- (C) Aquiclude
- (D) Aquifuse

129. Groundwater flow map is also known as

- (A) Isopach map
- (B) Isocontour map
- (C) Potentiometric map
- (D) Hydraulic map

130. The building stones can be dressed very easily

- (A) just after quarrying
- (B) after seasoning
- (C) after some months of quarrying
- (D) any time

131. Slickensides are a type of

- (A) Foliation
- (B) Bedding
- (C) Lamination
- (D) Fault plane

132. The famous sun temple at Konark is made of

- (A) Granites
- (B) Gneisses
- (C) Sandstones
- (D) Khondalites

133. Generally aerial photographs are taken

- (A) horizontally
- (B) vertically
- (C) at an angle of 45°
- (D) at an angle of 60°

134. Which one has the shortest wavelength?

- (A) X-rays
- (B) Ultraviolet rays
- (C) Visible radiations
- (D) Gamma rays

135. Drift mining is generally employed

- (A) for the underground mining
- (B) for coal mining
- (C) in the exploitation of placers
- (D) in the exploitation of copper ore

136. Water trapped in the sediments at the time of their deposition is known as
- (A) Connate water
 - (B) Juvenile water
 - (C) Mine water
 - (D) Meteoric water
137. The prolongation of the posterior marginal area of the Pygidium in Trilobites is called
- (A) Glabella
 - (B) Facial suture
 - (C) Caudal spine
 - (D) Deublere
138. Which of the following has richest fossils among the Siwaliks?
- (A) Nagri
 - (B) Dhokpathan
 - (C) Kamlial
 - (D) Chinji
139. _____ rocks are most suitable for the formation of replacement deposits
- (A) Limestones
 - (B) Sandstones
 - (C) Quartzites
 - (D) Granites
140. The valves of the bivalves are _____ in shape
- (A) Biconvex
 - (B) Biconcave
 - (C) Conical
 - (L) Circular
141. In the Gondwanaland, India was NOT adjacent to
- (A) Africa
 - (B) Australia
 - (C) Antarctica
 - (D) South America

142. The space between the dunes is known as
- (A) Oasis
 - (B) Gassis
 - (C) Col
 - (D) Wadies
143. The organ by which most Brachiopods attach themselves to the substratum is known as
- (A) Pedicle
 - (B) Brachidia
 - (C) Lophophore
 - (D) Pallium
144. Sandstones consisting of 60% quartz and 30-34% feldspar are called
- (A) Arkose
 - (B) Graywacke
 - (C) Grit
 - (D) Free stone
145. Young's modulus is obtained by
- (A) Stress
 - (B) Ratio of stress to strain
 - (C) Strain
 - (D) Ratio of transverse strain to longitudinal strain
146. Daonella limestones and Daonella shales belong to
- (A) Lower Triassic
 - (B) Middle Triassic
 - (C) Upper Triassic
 - (D) None of the above
147. Eohippus is also known as
- (A) Pliocene horse
 - (B) Cretaceous horse
 - (C) Eocene horse
 - (D) Miocene horse

148. Trace fossils are known as

- (A) Organic fossils
- (B) Ichnofossils
- (C) Ripple fossils
- (D) None of the above

149. The path finder element of gold is

- (A) As
- (B) Se
- (C) Mo
- (D) Se_4

150. How many faces does the Ditetragonal pyramidal form have?

- (A) 8
- (B) 16
- (C) 24
- (D) 32