1. Number of planets in solar system is

   (A) 6 (B) 7
   (C) 8 (D) 9

2. Mohorovicic discontinuity is between

   (A) upper crust and lower crust (B) upper crust and lower mantle
   (C) upper mantle and lower mantle (D) upper mantle and core

3. The average density of the earth is in g/cm^3

   (A) 3.53 (B) 7.5
   (C) 5.51 (D) 6.54

4. Most destructive and highly explosive volcano is called

   (A) Hawain type (B) Strombolian type
   (C) Vulcanian type (D) Plinian type

5. The point on the earth surface just above the point of origin of earthquake is called

   (A) Focus (B) Epicenter
   (C) Benioff zone (D) None of these

6. Which one is not a river pattern?

   (A) Antecedent (B) Consequent
   (C) Insequent (D) Trellis

7. Fiords are formed by action of

   (A) wind (B) river
   (C) glacier (D) lake

8. Which one of the following is not a glacio-fluvial depositional feature?

   (A) Horn (B) Drumlin
   (C) Kame (D) Esker

9. The land form formed by wave erosion is

(A) Cave (B) Spit
(C) Barrier island (D) Beach

10. Which one of the following is not the result of underground water action?

(A) Sink holes (B) Stalactites
(C) Fiords (D) Stalagmites

11. What is an alluvial fan?

(A) A fan-shaped deposit of sediment (B) A mountain with a flat top
(C) A layer of wind-blown sand (D) A type of rock formed from magma

12. A V-shaped valley is typically formed by which process?

(A) Erosion due to wind (B) Erosion due to river activity
(C) Volcanic activity (D) Glacial activity

13. What is karst topography?

(A) A landscape formed from the dissolution of soluble rocks
(B) A topography characterized by steep mountain peaks
(C) A type of desert landscape
(D) A topography formed from volcanic activity

14. What is the difference between physical and chemical weathering?

(A) There is no difference between the two
(B) Physical is the breaking down of rocks by physical forces; chemical is the decomposition of rocks through chemical reactions
(C) Physical weathering happens in dry areas; chemical weathering happens in wet areas
(D) Physical weathering is caused by animals; chemical weathering is caused by plants

15. Which is the most common mineral that crystallizes in tetragonal system?

(A) feldspar (B) zircon
(C) gypsum (D) beryl

16. The maximum no. possible axes of symmetry in any crystal is

(A) 6 (B) 9
(C) 12 (D) 13

17. The crystal system having three axes equal and interchangeable is called

(A) tetragonal (B) isometric
(C) hexagonal (D) triclinic

18. The minerals crystallizing in hexagonal system are

(A) Biaxial (B) Uniaxial
(C) Isotropic (D) None of these

19. The angle between the two optical axes is ———————— angle.

(A) 2V (B) Extinction
(C) Facial (D) None of above

20. Match the following correctly

I		II	
(a)	Dodecahedron	(i)	Trapezium face
(b)	Trapezohedron	(ii)	Sclene triangle
(c)	Trisoctahedron	(iii)	Rhombic face
(d)	Hexaoctahedron	(iv)	Isoscales

(A) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv) (B) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(C) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i) (D) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

21. Mark the correct statement regarding three horizontal axes of Hexagonal system

(A) Equal in length
(B) Interchangeable
(C) Intersecting each other at angles of 60
(D) All of the above

22. The faces, edges and solid angles have a definite relationship with each other. This relationship is expressed by

(A) Prowen's formula (B) Nicholas's formula
(C) Euler's formula (D) None of these

23. What is the maximum number of planes of symmetry found in known crystal systems?

(A) 5 (B) 6
(C) 9 (D) 11

24. Which among the crystal systems is having maximum number of classes?

(A) Cubic system (B) Monoclinic system
(C) Hexagonal system (D) Orthorhombic system

25. Gyroidal class belongs to

(A) Isometric system (B) Tetragonal system
(C) Hexagonal system (D) Orthorhombic system

26. A mineral's critical angle is the angle at which?

(A) Light exiting the mineral is internally reflected
(B) Light exiting the mineral is refracted parallel to the surface of the mineral
(C) Light exiting the mineral is refracted away from the normal
(D) None of the above

27. Optically anisotropic minerals differ from isotropic minerals by

(A) having low critical angles (B) being able to polarize light
(C) having high critical angles (D) being fluorescent in ultraviolet light

28. An optic axis is defined as a unique direction in a mineral along which light traveling?

(A) will be split into two rays
(B) will be polarized into two directions
(C) will pass through without being split or polarized
(D) will be most strongly absorbed

29. Internal reflection within a gemstone occurs when light strikes a facet at

(A) Greater than the critical angle less than the critical angle
(B) The critical angle
(C) An angle parallel to the normal
(D) None of the above

30. Why is color generally not a good diagnostic property for identifying minerals?

(A) A mineral can come in a variety of colors
(B) Some people are color blind
(C) Minerals are colorless
(D) Weathering can affect the coloring of minerals

31. What is the primary source of energy in remote sensing?

(A) Electricity
(B) The Sun
(C) Nuclear energy
(D) Wind energy

32. What is a key difference between passive and active remote sensing?

(A) Passive sensing requires human operators, while active sensing is automatic
(B) Passive sensing can only observe natural phenomena, while active sensing can observe man-made objects
(C) Passive sensing relies on natural energy sources, while active sensing generates its own energy source
(D) Passive sensing only works at night, while active sensing only works during the day

33. In the context of remote sensing, what does 'spatial resolution' refer to?

(A) The speed at which data is collected
(B) The sound quality of the data
(C) The sharpness or detail of the image
(D) The range or distance that can be covered

34. The term 'oxbow lake' is used to describe which of the following features of a river system?

(A) A straight, narrow river channel
(B) The starting point of a river in the highlands
(C) The mouth of a river, where it empties into a larger body of water
(D) A crescent-shaped lake formed when a meander is cut off from the main river channel

35. River terraces are formed due to

(A) Glacial activity
(B) Landslides and rockfalls
(C) Changes in sea level
(D) Changes in river level and downcutting

36. What is the term for the process of erosion that occurs on the outer bend of a river?

(A) Attrition
(B) Hydraulic action
(C) Lateral erosion
(D) Abrasion

37. What is the dominant process in shaping coastal topography?

(A) Wind erosion
(B) Wave erosion
(C) Glacial erosion
(D) Biological erosion

38. An underwater mountain range in the ocean, usually formed by tectonic activity, is known as

(A) Ocean trench
(B) Mid-ocean ridge
(C) Abyssal plain
(D) Ocean basin

39. Wind erosion that removes fine particles and leaves behind larger ones results in a desert pavement. This process is known as

(A) Deflation
(B) Abrasion
(C) Saltation
(D) Suspension

40. Which of the following coastal landforms is created by the deposition of sediment at the mouth of a river?

(A) Sea arch
(B) Sea stack
(C) Delta
(D) Wave-cut platform

41. The accumulation of sand and gravel on the inside of a meander bend in a river is called a

(A) Levee
(B) Oxbow lake
(C) Point bar
(D) Braided channel

42. The theory of isostasy relates to

(A) The movement of continents over geologic time
(B) The balance of the Earth's crust resting on the mantle
(C) The formation of mountains and valleys
(D) The chemical composition of rocks

43. Geosynclines are

(A) Narrow and elongated basins that fill with sediment
(B) Large, flat areas of land located at high altitudes
(C) Underwater valleys formed by erosion
(D) Landforms formed by the accumulation of wind-blown sand

44. The theory of continental drift was proposed by

(A) Isaac Newton (B) Albert Einstein
(C) Charles Darwin (D) Alfred Wegener

45. The Ring of Fire is associated with

(A) Volcanic and seismic activity around the Pacific Ocean
(B) The formation of the Grand Canyon
(C) The earth's magnetic field
(D) The location of major desert regions

46. Evidence supporting the theory of continental drift includes

(A) The fit of South America and Africa
(B) Similar fossils found on different continents
(C) Matching geological formations on different continents
(D) All of the above

47. According to the theory of continental drift, continents move because

(A) They are pushed by ocean waves
(B) They float on the liquid outer core of the Earth
(C) They are carried on the plates of the lithosphere
(D) They are pushed by the rotation of the Earth

48. What term refers to the process of mountain building?

(A) Denudation (B) Orogeny
(C) Sedimentation (D) Erosion

49. The Himalayas, the world's highest mountain range, were formed as a result of which kind of plate boundary interaction?

(A) Divergent boundary (B) Convergent boundary
(C) Transform boundary (D) None of the above

50. The uplifted blocks between two normal faults create which type of mountains?

(A) Fold mountains (B) Volcanic mountains
(C) Block mountains (D) Dome mountain

51. Which type of volcano has gentle slopes and is built from layers of lava flows and other volcanic materials?

(A) Shield volcano (B) Composite volcano
(C) Cinder cone volcano (D) Stratovolcano

52. Which of the following gases is commonly released during a volcanic eruption and poses a threat to human health?

(A) Oxygen (B) Carbon dioxide
(C) Nitrogen (D) Hydrogen

53. What is the term for a large, basin-shaped volcanic depression?

(A) Rift (B) Caldera
(C) Crater (D) Mantle

54. Which of the following landforms is NOT typically associated with the cycle of erosion?

(A) Canyons (B) Deltas
(C) Volcanoes (D) cave

55. The birefringence of a uniaxial mineral having refractive indices of 1.658 and 1.486 is

(A) 0.750 (B) 0.172
(C) 1.758 (D) 0.840

56. A radioactive isotope has 1024 atoms. How many atoms will remain after 4 half-lives?

(A) 256 (B) 64
(C) 512 (D) 32

57. Which of the following is not used commonly in as accessory plates in polarizing microscope?

(A) quartz (B) mica
(C) gypsum (D) feldspar

58. In Moh's scale of hardness topaz represents hardness

(A) 6 (B) 7
(C) 8 (D) 9

59. Which of the following mineral is polymorph of calcite?

(A) Hematite (B) Pyrite
(C) Aragonite (D) Bronzite

60. Which of the following mineral exhibits undulose extinction?

(A) Augite (B) Quartz
(C) Chlorite (D) Microcline

61. Monoclinic pyroxenes have two sets of cleavages at ———————— and ———————— degrees.

(A) 56, 124 (B) 87, 93
(C) 80, 120 (D) None of above

62. Mica group of minerals are having ———————— structure.

(A) Nesosilicate (B) Tectosilicate
(C) Phyllosilicate (D) Inosilicate

63. Which of the following mineral has no cleavage?

(A) Orthoclase (B) Muscovite
(C) Quartz (D) Calcite

64. Which of the following mineral show lamellar twining under microscope?

(A) Orthoclase (B) Plagioclase
(C) Microcline (D) Quartz

65. Aragonite and calcite have same chemical composition. These represent

(A) Polytypism (B) Polymorphism
(C) Pseudomorphism (D) None of the above

66. Tectosilicates represent sharing of Cations for joining with the adjacent units

(A) One oxygen ion for joining with adjacent units
(B) All oxygen ions for joining with adjacent units
(C) Three oxygen ions for joining with adjacent units
(D) None of the above

67. The crystal structure in which the Si:O ratio as 2:7 is called as

(A) Sorosilicates (B) Nesosilicates
(C) Inosilicates (D) Phyllosilicates

68. The property of some minerals by which they show different colours under ultraviolate light is known as

(A) tenacity (B) phosphorescence
(C) fluorescence (D) isotropism

69. Which of the following is an amorphous variety of quartz?

(A) chert (B) jasper
(C) opal (D) flint

70. $MgSiO_3$-variety of pyroxene group of minerals is known as

(A) enstatite (B) hypersthene
(C) diopside (D) augite

71. The mineral of Garnet group which contains Ca is

(A) pyrope (B) almandite
(C) spessartite (D) grossularite

72. Point of maximum elevation in fold is termed as

(A) Hinge point (B) Tip point
(C) Crest (D) Tough

73. Which one is not a deformational structure?

(A) Fold (B) Fault
(C) Joint (D) Disconformity

74. A topographic contour is defined as

(A) Line joining the point of equal stratigraphic horizons
(B) Line joining the point of equal elevation
(C) Line joining the point of equal thickness
(D) Line joining the point of same age rocks

75. What is the dip amount of a horizontal bed?

(A) 0 degree (B) 45 degree
(C) 90 degree (D) None of the above

76. If on a geological map, contour lines run parallel to contact lines, the beds are

(A) Horizontal (B) Vertical
(C) Inclined (D) Any of the above

77. The angle between any line and its horizontal projection measured in a vertical plane is the of the line.

(A) Plunge (B) Dip
(C) Pitch (D) Strike

78. Transform fault is a

(A) Strike-slip fault (B) Normal fault
(C) Reverse fault (D) Thrust fault

79. If the strike of the incline bed is N 15°W, the dip direction can be

(A) S 75°W (B) N 75°E
(C) S 75°E (D) S 15°W

80. Identify the primary structure.

(A) Bedding plane (B) Cleavage plane
(C) Fault plane (D) Joint plane

81. Which fold has two hinges?

(A) Fan fold (B) Chevron fold
(C) Isoclinal fold (D) Box fold

82. If hanging wall is moved down, then the fault is

(A) Normal (B) Reverse
(C) Strike-slip (D) Indeterminate

83. The R.F. of geological map prepared on a scale of 2cm = 1km is

(A) 1:50000 (B) 1:5000
(C) 1:500 (D) 1:100000

84. Two sets of joints nearly at right angle to one another, produced by the same system, are called

(A) Joint system (B) Joint set
(C) Conjugate system (D) Master joint

85. Kaolinite is a ———————— group of mineral.

(A) clay (B) mica
(C) chlorite (D) olivine

86. Which of the following is not an Iron group of minerals?

(A) Magnetite (B) Goethite
(C) Pyrite (D) Corundum

87. The luster exhibited by broken glass such as quartz is known as

(A) resinous (B) greasy
(C) earthy (D) vitreous

88. Which of the following mineral shows 'bladed' habit?

(A) feldspar (B) natrolite
(C) muscovite (D) kyanite

89. Which among the following has highest specific gravity?

(A) pyrite (B) quartz
(C) bauxite (D) feldspar

90. The angle between two sets of cleavages in Amphibole group of minerals is

(A) 0° (B) 45°
(C) 68° (D) 124°

91. The metal content in an ore is called as

(A) Grade (B) Tenor
(C) Crank (D) Gangue

92. Goethite is a/an

(A) Sulphide (B) Silicate
(C) Carbonate (D) Oxide

93. Chromium deposits occur in

(A) Granite (B) Limestone
(C) Acidic rocks (D) Ultrabasic rock

94. Ruby is a gem variety of

(A) Plagioclase (B) Olivine
(C) Quartz (D) Corundum

95. Which of the following economic mineral is used in the refractory industry?

(A) Orthoclase (B) Aragonite
(C) Tourmaline (D) Chromite

96. Chromite deposits of Sukinda is formed by

(A) Magmatic concentration (B) Contact metasomatism
(C) Hydrothermal process (D) Metamorphism

97. In which of the classification of ore deposits does segregation deposits like chromite in ultrabasic rocks belong to?

(A) Evaporation ore deposits (B) Metamorphic ore deposits
(C) Early magmatic deposits (D) Late magmatic deposits

98. Ore deposits in the openings of rock beds at the crests of anticlines while folding are called as

(A) stock works (B) saddle reefs
(C) pegmatite deposits (D) sublimation deposits

99. Odisha's talchir valley is known for

(A) gold deposits (B) chromite deposits
(C) coal (D) petroleum

100. Which one of the following is not an oil field of the state of Gujarat?

(A) Ankleshwar oil field (B) Cambay gas field
(C) Digboi oil field (D) Kalol oil field

101. Malanjkhand in Madhya Pradesh is known for which ore mineral deposits?

(A) Iron ore (B) Lead and zinc
(C) Gold (D) Copper ore

102. The ferrugionous and porous looking residue which forms a superficial cover over an oxidized sulfide deposits is known as

(A) Zone of oxidation (B) Gossan
(C) Ladder veins (D) Vugs

103. The non-combustible mineral matter left after burning of coal is known as

(A) Fixed carbon (B) Ash content
(C) Sulfur content (D) Fusain

104. Which of the following is famous for hydrothermal lead and zinc deposits?

(A) Singhbhum belt of Bihar (B) Zawar belt of Rajasthan
(C) Bombay high (D) Kolar field of Karnataka

105. Cavity filling deposits is a subgroup of which of the following classification of ore deposits?

(A) Magmatic ore deposits (B) Metamorphic ore deposits
(C) Sedimentation ore deposits (D) Hydrothermal ore deposits

106. In the category of "metallogenic province", which one of the following is known as Coal provinces in India?

(A) Bihar-West Bengal Area (B) Kolar field area of Karnataka
(C) MP-Maharasthra Area (D) Assam Area

107. The deposits that have formed simultaneously with the enclosing rock are called

(A) Syngenetic (B) Epigenetic
(C) Syncgenetic (D) Sin cogenetic

108. The deposits occurring close to the roofs of magmatic masses is known as

(A) Magmatic deposits (B) Pegmatite deposit
(C) Hydrothermal deposits (D) Metasomatic

109. When gravity is the main agent of placing of deposit, the deposit is called

(A) Aeolian deposit (B) Alluvial deposit
(C) Beach placers deposit (D) None of the above

110. What is the chemical formula of the iron ore Magnetite?

(A) Fe_2O_3 (B) Fe_3O_4
(C) $FeCO_3$ (D) FeO

111. Rocks which are made up of only one mineral are called as

(A) monomineralic (B) polymineralic
(C) Both (D) None of these

112. According to Bowen's reaction series, which of the following pairs of phases are likely to be incompatible?

(A) Quartz and alkali feldspar
(B) Ca-Plagioclase and olivine
(C) Quartz and olivine
(D) Na-plagioclase and amphibole

113. The coarse grained equivalent of a basalt is a

(A) Rhyolite
(B) Gabbro
(C) Andesite
(D) Diorite

114. The oceanic crust is most like

(A) Granite
(B) Rhyolite
(C) Basalt
(D) Gabbro

115. Which of the following is a concordant intrusive rock?

(A) Dike
(B) Sill
(C) Stock
(D) Batholith

116. Which of the following best describes a granite?

(A) a light-colored, fine-grained igneous rock rich in silica
(B) a light-colored, fine-grained igneous rock poor in silica
(C) a light-colored, coarse-grained igneous rock rich in silica
(D) a light-colored, coarse-grained igneous rock poor in silica

117. Which one of the following is not a metamorphic rock?

(A) Hornfels
(B) Ortho-quarzite
(C) Gneiss
(D) Greywacke

118. ———————— is the high temperature and high pressure metamorphic facies.

(A) Blueschist
(B) greenschist
(C) Eclogite
(D) Amphibolites

119. The greenschist facies include the

(A) Chlorite zone
(B) Chlorite and biotite zone
(C) Biotite and Garnet zone
(D) Garnet and Kyanite zone

120. What Mineral is represented by C in ACF diagram?

(A) Al_2O_3 (B) K_2O

(C) CaO (D) None of these

121. The predominant agents in contact metamorphism is

(A) Temperature (B) Pressure

(C) Chemical fluids (D) All the above

122. Marble is a metamorphic rock that forms from a ———————— parent.

(A) Granite (B) Limestone

(C) Sandstone (D) Shale

123. Which type of pressure will result in the alignment of metamorphic minerals?

(A) Contact pressure (B) Directed pressure

(C) Confining pressure (D) Chemical pressure

124. What type of metamorphism is caused by high temperature and high pressure imposed over a large volume of crust?

(A) Burial (B) Contact

(C) Regional (D) Cataclastic

125. Graywacke is a ———————— type of rock.

(A) Volcanic rock (B) Sedimentary rock

(C) Metamorphic rock (D) None of the above

126. Cross beds are

(A) Lower surface (B) Upper surface

(C) Internal structure (D) None of the above

127. Graded beds form in marine environments by

(A) Traction (B) Turbidity currents

(C) Suspension fall out (D) Debris flow

128. Ripple marks occur on the

(A) Lower surface (B) Upper surface
(C) Internal structure (D) None

129. Coarse-grained sediments are transported by

(A) Traction process (B) Saltation process
(C) Suspension process (D) None of the above

130. Which one of the following is a biochemical sedimentary rock?

(A) Sandstone (B) Coal
(C) Shale (D) Conglomerate

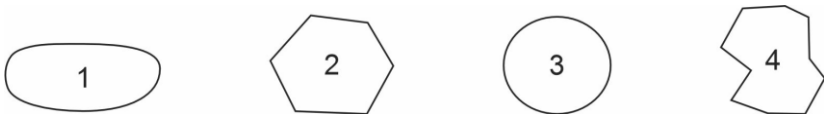
131. What is the difference between a breccia and a conglomerate?

(A) Breccias are coarse grained and conglomerates are fine grained
(B) Conglomerates are coarse grained and breccias are fine grained
(C) Breccias have rounded fragments and conglomerates have angular fragments
(D) Breccias have angular fragments and conglomerates have rounded fragments

132. A sandstone with abundant rock fragments and clay minerals is a(n)

(A) Arkose (B) Lithic arenite
(C) Quartz arenite (D) Shale

133.



Which of the sand grains above has been transported the furthest?

(A) 1 (B) 2
(C) 3 (D) 4

134. Which of the following rock is a rudaceous rock?

(A) Sandstone (B) Mudstone
(C) Grit (D) Conglomerate

135. Which of the following is not a non-clastic sedimentary rock?

(A) Limestone (B) Dolomite
(C) Chert (D) Breccia

136. What is the other name used for the term “current bedding”?

(A) Cross bedding
(B) Lamination
(C) Graded bedding
(D) None of the above

137. Ferruginous shale has considerable amount of

(A) Iron oxide
(B) Sulphur dioxide
(C) Carbonte
(D) Organic matter

138. A coarse grained sandstone containing notable amounts of feldspar is called

(A) Grit
(B) Graywacke
(C) Arkose
(D) Glauconite

139. The process in which soft and loose sediments are converted into hard and firm rocks is called

(A) Lithification
(B) Weathering
(C) Sedimentation
(D) Recrystallization

140. Which of the following statements about mafic rocks is true?

(A) Mafic rocks are richer in silica than felsic rocks
(B) Mafic rocks crystallize at higher temperatures than felsic rocks
(C) Mafic rocks are more viscous than felsic rocks
(D) Mafic rocks tend to be lighter in color than felsic rocks

141. Which of the following igneous rocks crystallizes near the Earth’s surface?

(A) Basalt
(B) Gabbro
(C) Diorite
(D) Granite

142. Felsic **=>** Intermediate **=>** =>Mafic

Which of the following properties increases in the direction of the arrows in the sentence above?

(A) Melting temperature
(B) Potassium content
(C) Silica content
(D) Viscosity

143. Which of the following minerals crystallizes first from a basaltic magma?

(A) Quartz (B) Biotite
(C) Pyroxene (D) Olivine

144. Which mineral is not part of the discontinuous reaction series?

(A) Plagioclase (B) Olivine
(C) Pyroxene (D) Amphibole

145. Vesicles in an igneous rock form from :

(A) Escaping gases
(B) Phenocrysts settle to the bottom of the magma chamber
(C) Falling ash
(D) All of the above

146. The lens shaped intrusive igneous body in the form a dome with flat base is called

(A) Lopolith (B) Laccolith
(C) Phacolith (D) None of the above

147. The sheet like igneous body which runs parallel to the bedding planes is known as

(A) Dyke (B) Batholith
(C) Stock (D) Sill

148. The rocks contain more 65% of Silica are classified as

(A) Ultrabasic (B) Basic
(C) Intermediate (D) Acidic

149. When an igneous rock is composed entirely of glassy material, its texture is called

(A) Merocystaline (B) Holocrystalline
(C) Holohyaline (D) None of the above

150. The large crystal found in porphyritic texture of igneous rock is called

(A) Ground mass (B) Matrix
(C) Phenocrysts (D) None of the above

151. Which of the following is a volcanic equivalent of granite?

(A) Rhyolite (B) Dolerite
(C) Pegmatite (D) Trachyte

152. A variety of altered peridotite in which diamonds are found is called

(A) Dunite (B) Kimberlite
(C) Obsidian (D) Andesite

153. What is the degree of freedom in a two components system with two no. of phases according to Gibbs phase rule?

(A) 0 (B) 1
(C) 2 (D) 3

154. The porous fine grained and friable variety of limestone composed mainly of foraminiferal shells is known as

(A) Marl (B) Oolitc limestone
(C) Chalk (D) Dolomite

155. Laterites rich in aluminium hydroxides are called

(A) Chert (B) Bauxite
(C) Grit (D) Mudstone

156. Which is not a type of non-clastic siliceous deposit under classification scheme of sedimentary rocks?

(A) Flint (B) Jasper
(C) Agate (D) Evaporites

157. Which mineral is responsible for the strong foliation in a schist?

(A) Quartz (B) Calcite
(C) Mica (D) Foliate

158. Which of the following metamorphic rocks cannot form from a shale?

(A) Schist (B) Marble
(C) Hornfels (D) Slate

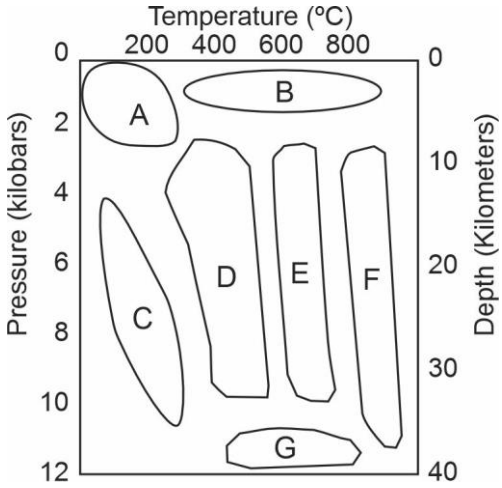
159. ———— is the process where rocks previously metamorphosed under high-grade conditions are later metamorphosed under low-grade conditions.

(A) Metasomatism (B) Cataclasis
(C) Foliation (D) Retrograde metamorphism

160. Which of the following rocks represents the highest metamorphic grade?

(A) Slate (B) Schist
(C) Phyllite (D) Gneiss

161.



In the above diagram the eclogitic facies occurs in which pressure-temperature regime?

(A) Area A (B) Area C
(C) Area E (D) Area G

162. The bottom most zone in metamorphism is called

(A) Katazone (B) Metazone
(C) mesozone (D) epizone

163. The characteristic structure found in marble and quartzites where the minerals are more or less equidimensional is known as

(A) Hornsfelsic structure (B) Granulose structure
(C) Gneissose structure (D) None of the above

164. The remnant texture of the parent rock found preserved in the metamorphic rock, is called

(A) Porphyroblastic texture (B) Granoblastic texture
(C) Crystalloblastic texture (D) Palimpsest texture

165. Which of the facies represent the Iowest grade of metamorphism?

(A) Zeolite (B) Greenschist
(C) Amphibolite (D) Granulite

166. Of the three major stratigraphic regions in India, which one contains metamorphic rocks that date back billions of years?

(A) The peninsular (B) The Indo-Gangetic plain
(C) Extra-Peninsular region (D) Deccan Traps

167. Which of the following chronostratigraphic unit(s) is/are correctly matched with the corresponding geochronologic unit(s)?

(A) System-period (B) Stage-era
(C) Series-eon (D) Chronozone-age

168. The duration of the Proterozoic Eon in Ma is

(A) 2000 (B) 2500
(C) 630 (D) 230

169. The age of Muth quartzite is

(A) Silurian (B) Ordovician
(C) Devonian (D) Archean

170. The principal of original horizontality states that

(A) Most rocks in the Earth's crust are layered horizontally
(B) Igneous rocks form essentially horizontal layers
(C) Metamorphic gradients are essentially horizontal before deformation
(D) Sediments are deposited as essentially horizontal layers

171. The Jurassic period belong to which Era in stratigraphy?

(A) Cenozoic (B) Mesozoic
(C) Paleozoic (D) Precambrian

172. The periods, in principles of stratigraphy, are further divided into

(A) Stage (B) Zone
(C) Epochs (D) Eons

173. Cuddapah supergroup belongs to which Era in Indian stratigraphy

(A) Precambrian (B) Mesozoic
(C) Both (A) and (B) (D) None of the above

174. Archean rocks of Odisha belongs to which of the following physiographic division of India?

(A) Peninsular India (B) Extra-peninsular India
(C) Indo-gangetic plane (D) Deserts

175. Himalayas rocks belongs to which of the following physiographic division of India?

(A) Extra-Peninsular India (B) Peninsular India
(C) Indo-gangetic plane (D) Deserts

176. The archean rocks of South India, best developed in Karnataka and the adjoining states, are famously known as

(A) Eastern ghats (B) Dharwar Supergroup
(C) Cuddapah supergroup (D) Gondwana super group

177. In which unconformities, the beds on the opposite sides are not parallel?

(A) Disconformity (B) Angular unconformity
(C) Nonconformity (D) None of the above

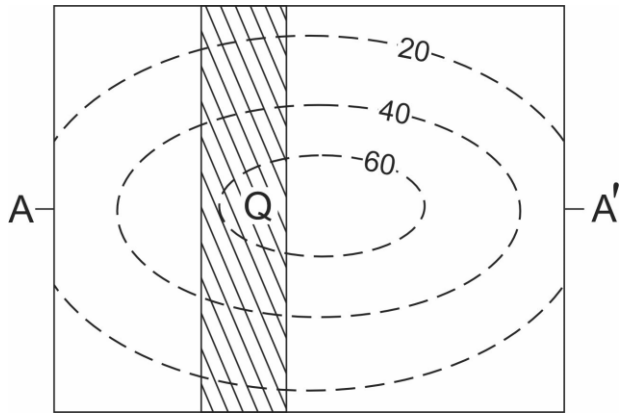
178. The joints developed commonly in granites which shows three set of joints mutually at right angle are known as

(A) Mural joints (B) Sheet joints
(C) Columnar joints (D) None of the above

179. In which of the following stages of rock deformation, the strain occurred due to stress is reversible?

(A) Fracture (B) Ductile deformation
(C) Elastic deformation (D) None of the above

180.



The bed described on the topographic map is

(A) Vertical (B) Horizontal

(C) Inclined (D) Both (A) and (C)

181. What is the difference between a Schmidt net and a Wulff net used in stereographic projection?

(A) Related to preservation of angle (B) Related to preservation of area

(C) Both (A) and (B) (D) None of the above

182. Which of the following instrument is used to measure slope of a plane in geological field work?

(A) Spectrometer (B) Clinometer compass

(C) Pocket handlense (D) Goniometer

183. Repetitive layering in a metamorphic rock can be called as

(A) Lineation (B) Foliation

(C) L-tectonics (D) boudin

184. Which of the following is the oldest group of rocks in Singhbhum area of succession

(A) Singhbhum group (B) Older-metamorphic group

(C) Kolhan group (D) Iron-ore group

185. Nallamalai and Papaghani Group of rocks belong to

(A) Cuddapah Supergroup (B) Vindhyan supergroup

(C) Dharwar Supergroup (D) Delhi supergroup

186. Bhandargroup of sandstone rocks commonly found in which of the supergroup?

(A) Cuddapah Supergroup
(B) Vindhyan supergroup
(C) Dharwar Supergroup
(D) Delhi supergroup

187. Barakar coal seams are found in ————————— group of Gondwana supergroup.

(A) Rajmahal
(B) Damuda
(C) Talchir
(D) Panchet

188. Murre group of rocks belongs to which period in Indian stratigraphy?

(A) Quaternary
(B) Tertiary
(C) Silurian
(D) Ordovician

189. The famous closepet Granites of Dhawar supergroups commonly found in which state?

(A) Odisha
(B) Madhya Pradesh
(C) Gujarat
(D) Karnataka

190. Which branch of stratigraphy that studies the ages of rock strata in relation to time?

(A) Chronostraigraphy
(B) Lithostraigraphy
(C) Biostratigraphy
(D) None of the above

191. The Deccan Trap, a large igneous province, are predominantly formed of which type of rock?

(A) Diorite
(B) Granite
(C) Basalt
(D) Rhyolite

192. In cephalopods the chambered part is known as

(A) Body whorl
(B) Phragmocone
(C) Siphuncle
(D) Aperture

193. Select a bi-valve genus from the following having taxodont type of dentition

(A) Venus
(B) Mytilus
(C) Pholadomya
(D) Arca

194. Which of the following conditions is NOT generally necessary for fossilization to occur?

(A) Quick burial
(B) Exposure to air for a long period
(C) Lack of oxygen
(D) Presence of hard parts in the organism

195. Which type of fossil is formed when an organism decomposes after it is buried, leaving a cavity that fills with sediment or mineral matter?

(A) Mold fossil
(B) Trace fossil
(C) Cast fossil
(D) Carbonized fossil

196. What is the characteristic shape of Foraminifera?

(A) Spiral
(B) Radial
(C) Bilateral
(D) Both (A) and (B)

197. Which of the following is a characteristic of brachiopods?

(A) They are bilaterally symmetrical
(B) They are radially symmetrical
(C) They have shells with equal halves
(D) They have no shells

198. Which of the following mammal groups is NOT typically found in the Siwalik fossil record?

(A) Carnivores
(B) Primates
(C) Rodents
(D) Dinosaurs

199. Echinoids first appeared in the fossil record during which geological period?

(A) Ordovician Period
(B) Cambrian Period
(C) Devonian Period
(D) Silurian Period

200. Trilobites are characterized by their body divided into how many lobes?

(A) Two
(B) Three
(C) Four
(D) Five

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ROUGH WORK

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