

1. The hypothesis proposed by Kant and LaPlace on the origin of solar system
 - A) Tidal hypothesis
 - B) Nebular hypothesis
 - C) Planetesimal hypothesis
 - D) Cloud hypothesis
2. Karst topography is characteristic of ----- terrain
 - A) Granitic
 - B) Basaltic
 - C) Limestone
 - D) Granulitic
3. The topographic feature typical of formerly glaciated regions
 - A) Hanging valley
 - B) V-shaped valley
 - C) Yaardang
 - D) Cuesta
4. A river shows meandering course in its ----- stage
 - A) Youthful
 - B) Old
 - C) Mountainous
 - D) Mature
5. The range of wave length of the visible region of the electromagnetic spectrum.
 - A) 0.7 – 3.0 μ m
 - B) 0.7 – 1.0 μ m
 - C) 0.4 – 0.7 μ m
 - D) 3 - 5 μ m
6. The basic spatial entities in GIS are
 - A) Scale, Projection and Generalization
 - B) Points, Lines and Areas
 - C) Projections, Legends and Georeference
 - D) Latitude, Longitude and Coordinates
7. “Rubber sheeting” in GIS is related to
 - A) Data editing
 - B) Data transfer
 - C) Data input
 - D) Map projection
8. Which is *not* true of GPS?
 - A) Useful in photogrammetry
 - B) Developed by United States
 - C) The orbital height of satellites is > 20000 Kms
 - D) It has 42 satellites
9. Which is *not* true of lineation?
 - A) It is a directional property
 - B) When lineation is present foliation is also always present
 - C) It may be primary or secondary
 - D) Is useful in understanding the structural history of the rocks

10. An unconformity in which younger sedimentary rocks overlie igneous rocks
 A) Angular unconformity B) Disconformity
 C) Non-sequence D) Non-conformity
11. A chevron fold is one in which
 A) The axis and crest do not coincide
 B) The crest is rounded
 C) The crest is pointed
 D) The hinge line is always plunging
12. Sedimentary structures are not useful in
 A) Interpreting palaeocurrent directions
 B) Establishing stratigraphic sequence
 C) Understanding the environment of deposition of rocks
 D) Determining the age of formation
13. The outcrop of a bed will be a straight line on a map, irrespective of the topography, if the bed is
 A) Vertical B) Dipping
 C) Horizontal D) Affected by folding
14. The angle which a fault plane makes with the vertical plane
 A) Dip B) Rake C) Hade D) Pitch
15. There is a 4cm long line in a map of 1: 100000 scale. What will be the length of that line in a map of the same area of 1: 25000 scale?
 A) 16 cm B) 12 cm C) 8cm D) 2cm
16. Which is true of a craton?
 A) Mainly covered by sedimentary rocks
 B) Is a very small structural unit of the earth's crust
 C) Largely unaffected by later orogenies
 D) Consists mainly of Cambrian rocks
17. Which one of the following was *not* suggested by Alfred Wegener as evidence of Continental Drift Hypothesis?
 A) Fit of continents
 B) Distribution of glacial sediments in different continents
 C) Similarity in geological structures
 D) Sea-floor spreading
18. The period in which the Alpine-Himalayan orogeny took place
 A) Tertiary B) Cambrian
 C) Ordovician D) Cretaceous

19. Which one of the following is true?
 A) The Indian plate has both continental and oceanic components
 B) The Antarctic plate has oceanic component only
 C) The Arabian plate is a major plate
 D) The Eurasian plate has continental component only
20. Mid-ocean ridges are associated with
 A) Convergent boundary B) Divergent boundary
 C) Subduction zone D) Conservative boundary
21. Among the following, which period has the shortest duration?
 A) Tertiary B) Quaternary
 C) Cambrian D) Triassic
22. Match the following and choose the correct answer
- | <u>Unit</u> | <u>Part of classification/Scale</u> |
|--------------|-------------------------------------|
| 1. System | a. Lithostratigraphic |
| 2. Zone | b. Chronostratigraphic |
| 3. Formation | c. Geologic Time Scale |
| 4. Era | d. Biostratigraphic |
- A) 1-d, 2-c, 3-b, 4-a B) 1-c, 2-b, 3-d, 4-a,
 C) 1-b, 2-d, 3-a, 4-c D) 1-d, 2-c, 3-b, 4-d
23. The duration of time represented by an unconformity
 A) Hiatus B) Diastem
 C) Nonsequence D) Series
24. Which is true of an index fossil?
 A) Limited geographical distribution
 B) Narrow stratigraphic range
 C) Large in size
 D) Small in numbers
25. Which is the largest unit in the Geological Time Scale?
 A) Eon B) Epoch
 C) Period D) Era
26. Manganese deposits in Central India are associated with
 A) Khondalite B) Charnockite
 C) Greywacke D) Gondite

27. Match the following and choose the correct answer
- | <u>Formation</u> | <u>Age</u> |
|------------------------|---------------|
| 1. Cuddalore sandstone | a. Devonian |
| 2. Muth quartzite | b. Tertiary |
| 3. Chari formation | c. Cretaceous |
| 4. Uttatur formation | d. Jurassic |
- A) 1-b,2-a,3-d,4-c B) 1-c,2-d,3-a,4-b
 C) 1-d,2-c,3-a,4-b D) 1-a,2-c,3-b,4-d
28. A prominent anorthosite body in Kerala is located at
- A) Perinthatta B) Ambalavayal
 C) Chengannur D) Angadimogar
29. The rock in which graphite is mainly found in Kerala
- A) Charnockite B) Granite
 C) Khondalite D) Limestone
30. The rocks in which Glossopteris is found
- A) Upper Gondwana B) Lower Gondwana
 C) Upper Siwalik D) Karewas
31. The stratigraphic equivalent of Cuddapah Supergroup in North India
- A) Rajmahal Traps B) Vindhyan Supergroup
 C) Delhi Supergroup D) Aravalli Supergroup
32. The very old algal structure-bearing rocks of Rajasthan are called
- A) Stromatolites B) Stalactites
 C) Steatite D) Stalagmite
33. The diamond-bearing rocks of central India belongs to
- A) Aravalli Supergroup B) Bhima Supergroup
 C) Vindhyan Supergroup D) Sargur Supergroup
34. Match the following and choose the correct answer
- | <u>Formation</u> | <u>Environment of deposition</u> |
|--------------------------|----------------------------------|
| 1. Talchir tillite | a. Marine |
| 2. Barakar formation | b. Glacial |
| 3. Trichnopoly formation | c. Fluvial |
| 4. Karewa formation | d. Arid |
| | e. Lacustrine |
- A) 1-a,2-b,3-e,4-c B) 1-c,2-a,3-d,4-e
 C) 1-d,2-b,3-e,4-c D) 1-b,2-c,3-a,4-e

45. The crystal form with least number of faces
 A) Pinacoid B) Dome C) Pedion D) Pyramid
46. Which one is the type mineral of a hemimorphic class?
 A) Barite B) Tourmaline C) Beryl D) Gypsum
47. The crystal system characterized by three mutually perpendicular crystallographic axes of unequal length
 A) Tetragonal B) Triclinic
 C) Hexagonal D) Orthorhombic
48. Contact goniometer is used for measuring
 A) The number of crystal faces
 B) The interfacial angles of crystals
 C) The absolute hardness of crystals
 D) Refractive Index of crystals
49. A mineral commonly exhibiting penetration twin
 A) Fluorite B) Spinel
 C) Cassiterite D) Zircon
50. The crystal class exhibiting maximum number of elements of symmetry
 A) Hexoctahedral B) Ditetragonal dipyramidal
 C) Orthorhombic normal D) Dihexagonal dipyramidal
51. Which is an open crystal form?
 A) Scalenohedron B) Trapezohedron
 C) Dihexagonal dipyramid D) Brachydome
52. Mineral which generally shows zero birefringence?
 A) Hypersthene B) Beryl
 C) Garnet D) Staurolite
53. The minerals crystallizing under which system may exhibit dichroism?
 A) Isometric B) Tetragonal
 C) Monoclinic D) Orthorhombic
54. When the refractive index of the mineral is much higher than the mounting medium, the relief is
 A) High negative B) High positive
 C) Low negative D) Low positive
55. Identify the mineral which commonly causes pleochroic haloes in biotite
 A) Quartz B) Apatite
 C) Zircon D) Magnetite

56. Match the following and choose the correct answer
- | <u>Mineral</u> | <u>Main cation</u> |
|-----------------|--------------------|
| 1. Almandine | a. Fe-Al |
| 2. Spessartite | b. Mg-Al |
| 3. Grossularite | c. Ca-Fe |
| 4. Pyrope | d. Mn-Al |
| | e. Ca-Al |
- A) 1-b,2-a,3-c,4-e B) 1-c,2-a,3-d,4-e
 C) 1-a,2-d,3-e,4-b D) 1-e,2-c,3-a,4-d
57. Which is an orthorhombic carbonate mineral?
 A) Dolomite B) Siderite
 C) Rhodocrocite D) Aragonite
58. Which one of the following statements is correct?
 A) Gypsum is softer than calcite but harder than apatite
 B) Quartz is harder than apatite but softer than topaz
 C) Corundum is softer than topaz but harder than orthoclase
 D) Fluorite is softer than calcite but harder than Talc
59. Under which silicate family comes zoisite?
 A) Pyroxene B) Epidote
 C) Feldspathoid D) Olivine
60. Which one of the following has the highest specific gravity?
 A) Cinnabar B) Orthoclase
 C) Haematite D) Chalcopyrite
61. Which one is a phosphate mineral?
 A) Ilmenite B) Rutile
 C) Monazite D) None of the three
62. Which one is *not* a polymorph of SiO₂?
 A) Quartz B) Opal
 C) Tridymite D) Stishovite
63. Among the following which is the hardest sulphide mineral?
 A) Chalcopyrite B) Molybdenite
 C) Pyrite D) Stibnite
64. Identify the halide mineral
 A) Sphene B) Celestite
 C) Selenite D) Sylvite

76. Which amphibole is common in igneous rocks?
 A) Hornblende B) Actinolite
 C) Anthophyllite D) Tremolite
77. S .Volcanic glasses older than carboniferous age are not known
 R. Glasses were not formed during pre-Carboniferous times

 A) Both S and R are true B) S is true and R is false
 C) Both S and R are false D) R is true and S is false
78. The general sequence in the crystallization of minerals in igneous rocks is
 A) Ferromagnesian minerals, Quartz, Feldspar, Accessories
 B) Feldspar, Accessories, Ferromagnesian minerals, Quartz
 C) Accessories, Ferromagnesian minerals, Feldspar, Quartz,
 D) Ferromagnesian minerals, Accessories, Feldspar, Quartz
79. Fine grain size of igneous rocks indicate
 A) Slow cooling B) High mobility of ions
 C) Larger concentration of ions D) None of these
80. The term conglomerate indicates
 A) Grain size only B) Mineral composition only
 C) Mode of occurrence only D) Both grain size and composition
81. In Wentworth Udden Scale particles ranging in size between 1/16mm and 1/256mm are named
 A) Pebble B) Clay C) Sand D) Silt
82. In sandy shale
 A) Sand content is more than clay
 B) Sand and clay content are equal
 C) Clay content is more than sand
 D) Quartz pebbles are found with clay
83. Match the following and choose the correct answer
- | <u>Rock</u> | <u>Class</u> |
|-----------------|-----------------|
| 1. Sandstone | a. Rudaceous |
| 2. Conglomerate | b. Argillaceous |
| 3. Shale | c. Calcareous |
| 4. Limestone | d. Arenaceous |
- A) 1-b,2-c,3-d,4-a B) 1-c,2-d,3-a,4-b
 C) 1-d,2-a,3-b,4-c D) 1-a,2-c,3-d,4-b

84. Which one is a typical evaporite?
A) Clay B) Gypsum
C) Bauxite D) Sulphur
85. The most conspicuous mineral in greensand is
A) Apatite B) Microcline
C) Glaucofanane D) Glauconite
86. Laumontite, Lawsonite and glaucofanane are typically found in
A) Sedimentary rocks B) Metamorphic rocks
C) Volcanic rocks D) Intrusive rocks
87. Serpentinites are formed by the metamorphism of
A) Pelitic rocks B) Marls
C) Ultramafic rocks D) Greywackes
88. The grass green clinopyroxene found in eclogite
A) Augite B) Aegerine
C) Diopside D) Omphacite
89. Which one is *not* true of contact metamorphism?
A) Have regional extent
B) Borders large igneous intrusions
C) Effect of heat is predominant
D) Contact aureoles are common
90. Which one has the maximum number of sets of cleavages?
A) Sphalerite B) Halite
C) Cummingtonite D) Diamond
91. Find the correct pair
A) Stibnite – Antimony B) Magnesite – Manganese
C) Galena – Zinc D) Cassiterite – Cobalt
92. Native sulphur is formed by
A) Hydrothermal process
B) Evaporation
C) Supergene sulphide enrichment
D) Sublimation
93. Find the correct pair
A) Granite – Gypsum B) Anorthosite – Chromite
C) Kimberlite – Chrysoberyl D) Gabbro - Cassiterite

94. The Si:O ratio in tectosilicates is
 A) 1:4 B) 1:3 C) 2:7 D) 1:2
95. Match the following and choose the correct answer
- | <u>Deposit</u> | <u>Locality</u> |
|-----------------|-----------------|
| 1. Galena | a. Panna |
| 2. Chalcopyrite | b. Sukinda |
| 3. Chromite | c. Khetri |
| 4. Diamond | d. Zawar |
| | e. Kodarma |
- A) 1-b,2-d,3-a,4-e B) 1-d,2-c,3-b,4-a
 C) 1-c,2-e,3-a,4-b D) 1-e,2-a,3-d,4-c
96. Fissure veins, Saddle reefs and Stockworks are
 A) Contact metasomatic deposits
 B) Magmatic deposits
 C) Hydrothermal cavity filling deposits
 D) Hydrothermal replacement deposits
97. Which one of the following is *not* a product of residual process?
 A) Bauxite B) Clay C) Iron D) Gold
98. Emerald is a bright green gem variety of
 A) Chrysoberyl B) Beryl
 C) Chrysocolla D) Microcline
99. The common supergene sulphide of copper
 A) Bornite B) Chalcopyrite
 C) Bornonite D) Chalcocite
100. In Kerala glass sand deposits are located in
 A) Cherthala B) Chavara
 C) Payyangadi D) Neendakara
101. Which is a stratigraphic trap for petroleum?
 A) Monocline B) Unconformity
 C) Terrace D) Fissure
102. Which one of the following is true?
 A) Bituminous coal has high heating value
 B) Lignite is also called cambrian coal
 C) Peat is a variety of coal
 D) Anthracite has low heating value

103. Oxidation of sulphide minerals on the surface gives rise to
 A) Comb structure B) Gossan
 C) Pay streak D) Bonanza
104. Which is the most suitable method for the exploration of sulphide ore bodies?
 A) Self-potential B) Resistivity
 C) Seismic D) Magnetic
105. In which type of geophysical survey Geophones are used?
 A) Resistivity B) Magnetic
 C) Seismic D) Gravity
106. The East Coast Bauxite deposits of India had formed from
 A) Khondalite B) Kodurite C) Charnockite D) Basalt
107. Temporary or very short-lived streams are called
 A) Effluent B) Ephemeral C) Influent D) Obsequent
108. The mineral which gives the binding property for cement
 A) Calcite B) Bauxite C) Clay D) Gypsum
109. In selecting a building stone which one of the following is *not* considered?
 A) Availability B) Age C) Durability D) Strength
110. Vertical or inclined openings in underground mines which serve as a means of entry
 A) Shaft B) Cross-cut C) Stope D) Drift
111. The deepest underground mine in India is located at
 A) Kolar B) Zawar
 C) Malanjkhand D) Agnigundala
112. Bouguer anomaly is associated with ----- survey
 A) Geological B) Magnetic
 C) Gravity D) Seismic
113. The main heavy metal pollutant which caused the Itaitai disease in Japan
 A) Zinc B) Lead
 C) Mercury D) Cadmium
114. Natural levees are formed by ----- processes
 A) Glacial B) Volcanic
 C) Aeolian D) Fluvial

115. Richter Scale measures ----- of earthquakes
A) Intensity B) Depth to focus
C) Magnitude D) Intensity and Magnitude
116. For almost all groundwater motion, the Reynold's Number is
A) Between 1 and 5 B) >10
C) Between 5 and 10 D) <1
117. Which of these is a major cation in ground water?
A) Silicon B) Potassium
C) Aluminium D) Iron
118. The Ghyben – Herzberg equation is related to
A) Safe yield B) Quality of ground water
C) Recharge of wells D) Fresh and saline water interface
119. Among the following which is not considered as an atmospheric pollutant?
A) SO₂ B) NO₂
C) Dust D) O₃
120. Which one is correct with regard to confined aquifers?
A) Permeable layer is sandwiched between impermeable layers
B) Impermeable layer is found between permeable layers
C) Porous layer overlies impermeable layer only
D) Porous layer underlies impermeable layer only

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