

COMPUTER BASED TEST

PAPER – I

GEOLOGY
(P.G.DEGREE STANDARD)

1. The Ariyalur Group has yielded a Foraminiferal assemblages of _____ age
(A) Permian (B) Palaeocene
 (C) Maastrichtian (D) Danian
(E) Answer not known

2. Cardita beaumonti has been recognised as a index fossil of the _____ on the Indian subcontinent.
(A) Neogene (B) Palaeocene
 (C) Maastrichtian (D) Danian
(E) Answer not known

3. In India, the 'Passage beds' are exposed in
(A) The Tiruchirappalli area/region
(B) Assam area/region
 (C) (A) and (B) are correct
(D) None of the above
(E) Answer not known

4. The limestone-sandstone succession of the sylhet limestone of Jaintia group indicates
(A) Alternating phases of peneplanation
(B) Uplift of the shillong plateau
 (C) Both (A) and (B) correct
(D) None of the above
(E) Answer not known

5. The lower Siwaliks, which heavy minerals dominated?
(A) Kyanite (B) Hornblende
 (C) Staurolite (D) Sillimanite
(E) Answer not known

6. The age of the Bagh beds is
- (A) Cretaceous (B) Tertiary
(C) Cambrian (D) Jurassic
(E) Answer not known
7. The Bastar depressions are formed in
- (A) Northern India
 (B) Central India
(C) Western India
(D) Southern India
(E) Answer not known
8. The age of Multiquartzite is
- (A) Silurian (B) Ordovician
 (C) Devonian (D) Archaean
(E) Answer not known
9. Papaghni sub basins are the part of _____ Craton.
- (A) Dharwar (B) Bundelkand
(C) Bastar (D) Himalaya
(E) Answer not known

10. The Alwar group and the Ajabgarh group is separated by
(A) Vempalle limestone (B) Kushalgarh limestone
(C) Fawn limestone (D) Nimbahara limestone
(E) Answer not known
11. The Jodhpur sandstone is unconformably underlain by acidic volcanic known as
(A) Malani Volcanics (B) Malani igneous suite
(C) Acrothele (D) Glauconitic member
(E) Answer not known
12. The rocky country which rises gradually from the south of the Gangetic plains culminates in the highlands of central India, is known as
(A) The Eastern Ghats
(B) The Western Ghats
(C) Vindhya Mountains - Satpura range
(D) Aravalli mountains
(E) Answer not known
13. The Delhi supergroup estimated to be about 7 Km thick comprises a quartzite slate succession. The lowest part of the succession is consists of predominantly arenaceous facies is known as
(A) Ajabgarh Group (B) Kushalgarh limestone
(C) Alwar group (D) Erinpura granite
(E) Answer not known
14. Digboi oil field occur along the crest of a sharply folded anticline to the south of the
(A) Naga thrust (B) Birbajah thrust
(C) Nappe (D) Klippe
(E) Answer not known

15. In the Dharwar supergroup, Which group is well exposed in arc shaped mountains in the north of Chikmaglur?
- (A) Bababudan Group (B) Chitradurga Group
(C) Rannibennur Group (D) Sargur schist
(E) Answer not known
16. In the geological formation, the upper formation are successively younger than these below formation is defined as
- (A) Biostratigraphy (B) Order of super position
(C) Bedding plane (D) Graded bedding
(E) Answer not known
17. _____ established on the basis of organic remains of wide geographical distribution.
- (A) Group (B) Zone
(C) Series (D) Stage
(E) Answer not known
18. The smallest unit on the time unit is
- (A) Age (B) Period
(C) Stage (D) Group
(E) Answer not known
19. Which one of the following dinosaurs the tail was surrounded by bony rings, which had hither to been thought to be solitary animals?
- (A) Anato sauros (B) Triceratops
 (C) Ankylosaur (D) Hadrosaur
(E) Answer not known

20. In Dinosaurs, the pelvis is said to be triradiate - the ilium is more or less elongated. Parallel with the backbone, and the stout ischium is directed downward and backward.
- (A) Ornithichian ~~(B) Saurischia~~
(C) Torosaurus (D) Tyrannosaurus
(E) Answer not known
21. According to the evolution of the skull, feet and molars in the horse family the 4th stage is named as
- (A) Epihippus ~~(B) Mesohippus~~
(C) Miohippus (D) Parahippus
(E) Answer not known
22. The drifting or feebly swimming aquatic organisms in contrast to swimming or bottom-dwelling life is called as
- (A) Pinnate ~~(B) Planktonic~~
(C) Benthanic (D) Plantigrade
(E) Answer not known
23. Find the odd one out :
- (I) Test composed of gelatinous or chitinous matter
(II) Test entirely of calcium carbonate
(III) Test of foreign particles cemented with chambers
(IV) Organism with stiffened but flexible outer surface
~~(A) Only (III)~~
(B) (II) and (I)
(C) (I) and (IV)
(D) Only (IV)
(E) Answer not known

24. Based on the morphological characteristics of ostracode used for ecological factor studies are
- (I) The current index
 - (II) Carapace and valve ratio
 - (III) Mean proloculus diameter and abundance
 - (IV) Angular symmetrical and Rounded symmetrical
- (A) (IV) and (III)
 (B) (I) and (II)
(C) (III) only
(D) (IV) only
(E) Answer not known
25. The duration of the proterozoic Eon in Ma is
- (A) 2000
 - (B) 630
 - (C) 2500
 - (D) 230
 - (E) Answer not known
26. In graptolites, the exoskeletons is composed of cups which is known as
- (A) Theca
 - (B) Stipe
 - (C) Polypary
 - (D) Sricula
 - (E) Answer not known

27. The phylum Arthropoda is classified into _____ subphyla
- (A) 6
 - (B) 3
 - (C) 4
 - (D) 5
 - (E) Answer not known
28. Arthropoda is the largest phylum having _____ species forming 80% of the animal kingdom.
- (A) 5,00,000
 - (B) 8,00,000
 - (C) 7,00,000
 - (D) 9,00,000
 - (E) Answer not known
29. This type of dentition has been derived from the Taxodont dentition. Numerous small and homodont teeth are placed on the hingeline and they seen to radiate from the umbo
- (A) Anomalodont
 - (B) Dysodont
 - (C) Pachyodont
 - (D) Schizodont
 - (E) Answer not known

30. Which of the following statements are correct regarding
The class Graptozoa constitutes
- (I) Completely extinct, marine, colonial and of bottom dwelling organisms
 - (II) It was mostly palaeozoic forms
 - (III) Graptolites are preserved mostly in carbonaceous matter in the form of writing
 - (IV) Graptolites found in black shales
- (A) (I) is correct
 - (B) (II) is correct
 - (C) (II) and (IV) correct
 - (D) (I), (II), (III) and (IV) correct
 - (E) Answer not known
31. Functions of adductor muscles in an articulate brachiopod is
- (A) Close the shell by contraction
 - (B) Open the shell by contraction
 - (C) Adjust the shell up and down on the pedicle
 - (D) Joins the pedicle to the pedicle valve
 - (E) Answer not known
32. The test commonly referred to as agglutinated, usually found among the earlier and more primitive groups of foraminifera, composed of quartz, mica and other mineral grains
- (A) Chitinous test
 - (B) Arenaceous test
 - (C) Siliceous test
 - (D) Calcareous test
 - (E) Answer not known

33. The only genus which extends beyond the limit of the Paleozoic period is
- (A) Crytoceras (B) Ataria
 (C) Orthoceras (D) Trocheceras
(E) Answer not known
34. In this brachiopods there is no pedicle opening; the opening is being shared by both the valves
- (A) Atremata (B) Neotremata
(C) Paleotremata (D) Protoremata
(E) Answer not known
35. The greatest principal stress axis is vertical in
- (A) Reverse faults (B) Strike-slip faults
 (C) Normal faults (D) Thrust faults
(E) Answer not known
36. The body of trilobites is divided into
- (A) Three parts
(B) Two parts
 (C) Three parts by means of two furrows
(D) Two parts by means of a furrows
(E) Answer not known
37. Toothed birds and flying reptiles belonging to which period
- (A) Devonian (B) Carboniferous
(C) Permian (D) Jurassic
(E) Answer not known

38. Which of the following fossil termed as index fossil?
- (A) Trilobite (B) Arla
 (C) Murex (D) Nautilus
 (E) Answer not known
39. Minerals with refractive indices between 2.6 and 3, generally have
- (A) Metallic luster (B) Nonmetallic luster
 (C) Submetallic luster (D) Semi metallic luster
 (E) Answer not known
40. The alumino silicate mineral common in aluminous metasedimentary and meta-igneous rocks that experienced medium pressure and medium temperature orogenic metamorphism is
- (A) Kyanite (B) Andalusite
 (C) Sillimanite (D) Staurolite
 (E) Answer not known
41. The polarising microscope analyser transmits light vibrating in the direction is
- (A) E – W (B) N – S
 (C) N (D) S
 (E) Answer not known
42. Isometric system is composed of 24 triangular faces intersects two crystallographs axis at unity and third at multiple in the form
- (A) Hexaohedron (B) Trisoctahedron
 (C) Trapizohedron (D) Dodecahedron
 (E) Answer not known

43. Diamond is an
 (A) Isotropic Mineral (B) Uniaxial +ve Mineral
(C) Uniaxial -ve Mineral (D) Opaque Mineral
(E) Answer not known
44. When a beam of light passes through a birefringent mineral in certain direction, it is split into two beams that follow different paths is called as
(A) Double direction (B) Double refraction
(C) Double reflection (D) Double vibration
(E) Answer not known
45. The Wulff net is simply the stereographic projection of a sphere marked off at _____ Intervals of both latitude and longitude.
 (A) 2° (B) 1°
(C) 5° (D) 3°
(E) Answer not known
46. The number of Space Lattices observed in Isometric system is
 (A) 3 (B) 4
(C) 2 (D) 1
(E) Answer not known
47. A simple instrument used for the measurement of interfacial angles is known as
(A) Angle calculator (B) Angle meter
 (C) Goniometer (D) Clinometer
(E) Answer not known

48. In Amethyst, clear purple or bluish violet color presence is due to
- (A) Iron (B) Magnesium
(C) Calcium ~~(D) Manganese~~
(E) Answer not known
49. Rajmahal trap is an example of
- (A) Ridge fault
~~(B) Step fault~~
(C) Trough fault
(D) Hinge fault
(E) Answer not known
50. An amorphous variety of SiO_2 that contains some H_2O occurs in
- (A) Flint (B) Jasper
~~(C) Opal~~ (D) Agate
(E) Answer not known
51. Li-rich pyroxene Group of mineral is
- (A) Augite (B) Omphacite
~~(C) Spodumene~~ (D) Aegirine
(E) Answer not known

52. Grossular garnet is found in sedimentary rock is
- (A) Sandstone (B) Shale
(C) Shell limestone ~~(D) Marble~~
(E) Answer not known
53. The mineral Augite has
- ~~(A)~~ a single chain silicate structure
(B) a double chain silicate structure
(C) a sheet silicate structure
(D) a 3-D network structure
(E) Answer not known
54. The piezoelectric properties of tourmaline mineral are used for manufacturing of
- (A) Wire (B) Sheet
~~(C)~~ Pressure gauge (D) Cylinder maleness
(E) Answer not known
55. Peridotite falls under which group of following mineral group
- (A) Mica group (B) Pyroxene group
(C) Feldspar group ~~(D) Olivine group~~
(E) Answer not known
56. Iceland spar is a very pure transparent form of
- ~~(A)~~ Calcite (B) Quartz
(C) Feldspar (D) Zircon
(E) Answer not known

57. Horse – radish odor is strongly perceived when the ores of _____ are heated.
- (A) Arsenopyrite ~~(B)~~ Selenium
(C) Pyrite (D) Bitumen
(E) Answer not known
58. A change in the direction of propagation of light is known as
- ~~(A)~~ Refraction (B) Reflection
(C) Radiation (D) Dispersion
(E) Answer not known
59. River sand give a poorer sorting than beach sand due to
- (A) High energy condition ~~(B)~~ Low energy condition
(C) Width of River (D) Depth of River
(E) Answer not known
60. According to the classification of Geo synclines; it is less active tectonically with volcanics absent are called as
- (A) Eugeosynclines ~~(B)~~ Miogeosynclines
(C) Exogeosynclines (D) Antogeosynclines
(E) Answer not known
61. When a stream loses its capacity to carry its sediment load, it may shift its course to a newer channel, which is more suitable for sediment transportation are called
- (A) Oxbow lake ~~(B)~~ Avulsion
(C) Chute cut-off (D) Natural levees
(E) Answer not known

62. Correlation of Allostratigraphic units is based on
- (A) lithologic criteria and stratigraphic position
 - (B) based on fossil content of the basin
 - (C) time criteria
 - (D) position of units with respect to unconformities
 - (E) Answer not known
63. Marl bed deposition are underlie many freshwater swamp peaks, recorded in earlier _____ stage.
- (A) marine
 - (B) lacustrine
 - (C) river
 - (D) fluvial
 - (E) Answer not known
64. _____ is the process by which organic material becomes a fossil through the replacement of the original materials.
- (A) Borings
 - (B) Tracks and trails
 - (C) Petrification
 - (D) Casts and molds
 - (E) Answer not known
65. A residual product of weathering in hot humid climate with pisolitic structure of sedimentary rock is called
- (A) Limestone
 - (B) Laterite
 - (C) Chert-magnetite
 - (D) Chert-Hematite
 - (E) Answer not known

66. The porosity of a rock is defined as
- (A) Fluid of rock materials
 - (B) Volume of the rock
 - (C) Percentage of pore space in the total volume of a rock
 - (D) Percentage of rock strata
 - (E) Answer not known
67. The diagram which contains paleocurrent data obtained from vector attributes and are graphically represented in the form of circular pattern preferably at 30° class interval is a non linear scale is called as
- (A) Discriminant diagram
 - (B) Phi diagram
 - (C) Variation diagram
 - (D) Rose diagram
 - (E) Answer not known
68. The Rewa sand stones of the Vindhyan supergroup may be cited as an Indian example of
- (A) Graywacke
 - (B) Orthoquartzite
 - (C) Arkose
 - (D) Calcilithites
 - (E) Answer not known
69. It is an undulating bedding formed by wave generated oscillatory flows or combined flows produced by the passage of storms. It form in the area between fair weather wave-base and storm wave-base.
- (A) Hummocky cross-stratification
 - (B) Swaley cross-stratification
 - (C) Tsunamites
 - (D) Aeolian cross-bedding
 - (E) Answer not known

75. Find the odd one out for the significance of heavy mineral studies
- (A) study the sediment dispersal pattern
 - (B) stratigraphic correlation
 - (C) important clue to understand the sedimentation process
 - (D) evaluation of depositional history
 - (E) Answer not known
76. Among the following statement which one is not correct?
- (A) Blue green algae may be involved not only in stabilizing the beach sediments but also in raising the pH by photosynthesis to a level where calcium carbonate is precipitated
 - (B) The chief mineral cements in beach rocks are aragonite and high magnesium calcite
 - (C) At a pH level of 3 or 4, silica is dissolved and calcite and aragonite may be precipitated
 - (D) The rate of cementation of particles into beach rock is very rapid
 - (E) Answer not known
77. Subduction zone migrates towards the sea the forearc sediments are successively of
- (A) Thrust downward
 - (B) Thrust upward
 - (C) Geosyncline
 - (D) Strike-slip
 - (E) Answer not known
78. Intermediate stability of heavy mineral are
- (A) Zircon, Rutile, tourmaline
 - (B) Augite, Apatite
 - (C) Olivine, Garnet
 - (D) Staurolite, kyanite, hornblende
 - (E) Answer not known

79. According to Ghyben-Herzberg principle the interface will occur at a depth h_s is
- (A) below mean sea level
 - (B) above mean sea level
 - (C) ground water table
 - (D) piezometric head
 - (E) Answer not known
80. What is the type of resistivity curve for 3 layer $P_1 > P_2 < P_3$?
- (A) H type
 - (B) A type
 - (C) K type
 - (D) Q type
 - (E) Answer not known
81. The freshwater normally float above a layer of saltwater without mixing due to
- (A) low specific gravity
 - (B) high specific gravity
 - (C) wave activity
 - (D) tidal activity
 - (E) Answer not known
82. Choose the incorrect statement from the following :
- (A) The SI unit of resistance is ohm
 - (B) The resistance of the conducting wire is directly proportional to the length of the wire
 - (C) The resistance of the conducting wire is directly proportional to the cross-sectional area of the wire
 - (D) Resistance is a measure of the opposition to current flow in an electrical circuit
 - (E) Answer not known

83. The maximum permissible limit of iron (as Fe) in mg/l, in drinking water is
- (A) 0.6 (B) 0.9
(C) 1.0 (D) 1.5
(E) Answer not known
84. _____ type of irrigation gives great hopes of possibilities of agriculture under arid conditions with poor sand soils, high evapotranspiration rates and water supply that is both limited and high in salts.
- (A) Sprinkler (B) Drip
(C) Corrugation (D) Basin
(E) Answer not known
85. List out the benefits of Rainwater harvesting
- (i) improve soil moisture
(ii) allows drought proofing
(iii) ingress of seawater in coastal areas
(iv) deterioration of groundwater quality
- (A) only (iv)
(B) only (iii)
 (C) only (i) and (ii)
(D) only (iii) and (iv)
(E) Answer not known
86. Water is added to an aquifer through
- (A) Qantas (B) Pumping well
 (C) Recharging well (D) Discharging well
(E) Answer not known

87. Find out the disadvantages of tube wells
- (A) Fairly sustained yield of water can be obtained over in years of scanty rainfall
 - (B) Installation of costly turbine or submersible pumps is required
 - (C) Can be constructed quickly
 - (D) Generally good quality of water is tapped
 - (E) Answer not known
88. The pumping having smaller flows (40-90 lpm) under low heads (15-45 m) when the water level is beyond 7.6 m from the ground surface.
- (A) Plunger pumps
 - (C) Jet pumps
 - (B) Centrifugal pumps
 - (D) Turbine pumps
 - (E) Answer not known
89. The screen has openings in the form of shutters and used in artificially gravel - packed wells.
- (A) Coir rope screen
 - (C) Louver-type
 - (B) Slotted screen
 - (D) V-shape continuous slot
 - (E) Answer not known
90. The rock which shows great variation in water yielding capacity is
- (A) Granite
 - (C) Marble
 - (E) Answer not known
 - (B) Coal
 - (D) Sandstone
91. The Darcy's law is valid for
- (A) $N_R < 1$
 - (C) $N_R 21 - 30$
 - (E) Answer not known
 - (B) $N_R 10 - 20$
 - (D) $N_R > 30$

92. Match the following items in Set A with Set B :

Set A	Set B
(a) Aquiclude	1. Clay
(b) Aquifer	2. Solid granite
(c) Aquifuge	3. Sandy clay
(d) Aquitard	4. Gravel

- | | (a) | (b) | (c) | (d) |
|----------------|------------------|-----|-----|-----|
| (A) | 1 | 2 | 3 | 4 |
| (B) | 2 | 1 | 3 | 4 |
| (C) | 1 | 4 | 2 | 3 |
| (D) | 2 | 1 | 4 | 3 |
| (E) | Answer not known | | | |

93. A uniformly graded sand has a _____ porosity than a less uniform, fine and coarse mixture.

- (A) less (B) medium
~~(C)~~ higher (D) no
(E) Answer not known

94. The water removed from unit volume of aquifer by pumping or drainage and is expressed by percentage volume of aquifer. It depends on grain size, shape and distribution of pores and compaction of the formation is defined as

- ~~(A)~~ Specific yield (B) Specific retention
(C) Storage coefficient (D) Transmissibility coefficient
(E) Answer not known

95. The clay lenses are interbedded with sand then the formation is called as

- (A) Aquicludes (B) Aquifuges
~~(C)~~ Aquitards (D) Confined Aquifer
(E) Answer not known

96. In an area of 100 ha, the water table dropped by 4.5. If the porosity is 30% and the specific retention is 10% determine the specific yield of the aquifer.
- (A) 40% (B) 3%
~~(C)~~ 20% (D) 4%
(E) Answer not known
97. Atolls is the term used for
- (A) Caves formed by the solvent action of groundwater
(B) Deposit of coral reefs group surrounding a central water body or lagoon
(C) Estuarine region of mixed environment
~~(D)~~ Remnant outstanding obstructions in pediplains that have withstood the erosive work of river
(E) Answer not known
98. _____ is a class of narrow steep-sided valleys that cut into continental slopes and continental rises of the oceans.
- (A) Geosynclines (B) Island arcs
~~(C)~~ Submarine canyons (D) Sea scarp
(E) Answer not known
99. Coalescing of pediments is called as _____ zones.
- ~~(A)~~ Pediplain zones (B) Penepplain zones
(C) Piedmont zones (D) Bazada zones
(E) Answer not known
100. Phenomenon of capturing one river by another river is known as
- ~~(A)~~ Piracy (B) Rejuvenation
(C) Stream widening (D) Valley widening
(E) Answer not known

101. Incised meanders are developed in the region of
- (A) The mountainous region of youthful river
 - (B) The deltaic region of old age rivers
 - (C) The flood plain area of mature river
 - (D) The lowest level of river valleys
 - (E) Answer not known
102. Deep glacial trough which have been eroded below sea-level or submerged to a depth below sea-level are called as
- (A) Glacial scars
 - (B) Fiords
 - (C) Glacial boulder
 - (D) Truncated spur
 - (E) Answer not known
103. Among the followings, which is excellent for obtaining large quantities of groundwater from wells sunk into their permeable materials
- (A) Bajadas
 - (B) Batholith
 - (C) Plateau
 - (D) None of the above
 - (E) Answer not known
104. Glaciers formed due to coalescence of several mountain or valley glaciers at the foot-hill zone are called as
- (A) Sandar Glaciers
 - (B) Piedmont glaciers
 - (C) Nunatak glaciers
 - (D) Hummocks glaciers
 - (E) Answer not known
105. The upthrow side of a ridge forms a conspicuous inverted wedge shaped parallel to the fault plane, generally long compared to its width called
- (A) oblique fault
 - (B) hinge
 - (C) graben
 - (D) horst
 - (E) Answer not known

106. Antarctica is the presence of huge plates of floating glacial ice, known as
- (A) Pediment glacier (B) Nunataks
 (C) Ice-shelves (D) Icebergs
(E) Answer not known
107. Disaggregation of rocks due to growth of salt crystals from solution is called
- (A) Slaking weathering (B) Sterile weathering
 (C) Salt weathering (D) Spalling weathering
(E) Answer not known
108. The line joining the places where the shocks arrives at the same time are called
- (A) Isoseismal line (B) Iso diastrophic line
 (C) Isoline (D) Coseismals line
(E) Answer not known
109. Which one of the following is an example for barren island?
- (A) Composite cone (B) Volcanic cones
 (C) Slumbering volcanoes (D) Cinder cones
(E) Answer not known
110. Intermediate and deep focus earthquakes are concentrated in which place?
- (A) Volcanic region (B) Convergent boundaries
(C) Rift valley (D) Oceanic and ridges
(E) Answer not known

111. The minor earth tremors are recorded by
- (A) Seismograph
 - (B) Seismogram
 - (C) Microseism
 - (D) Planimeter
 - (E) Answer not known
112. Who has proposed Nebular hypothesis?
- (A) Immanuel Kant
 - (B) Forest Ray
 - (C) Clark Maxwell
 - (D) Laplace
 - (E) Answer not known
113. One astronomical unit expresses the distance of
- (A) One star from another star
 - (B) One planet from another planet
 - (C) The planet earth from the sun
 - (D) One planet from another star
 - (E) Answer not known
114. Which is the half life of U-235?
- (A) 713 Million years
 - (B) 4500 Million years
 - (C) 13,900 Million years
 - (D) 11,900 Million years
 - (E) Answer not known
115. The uranium-238 disintegrate to form
- (A) Lead-206
 - (B) Lead-207
 - (C) Lead-208
 - (D) Strontium-87
 - (E) Answer not known

116. A chain of volcanic islands formed during the ocean-ocean convergent boundary process is known as
- (A) Oceanic Trench ~~(B) Island Arc~~
(C) Mid Oceanic Ridge (D) Volcanic Arc
(E) Answer not known
117. A ribbon of materials was stretched out due to tidal attraction between closely passing stars is proposed by
- (A) Kant-Laplace ~~(B) Jeans-Jeffreys~~
(C) Hoyle (D) Birke land
(E) Answer not known
118. _____ is the prominent structural feature is an S-plane, which may be visible foliation or a theoretical plane deduced from a petrofabric diagram.
- (A) B-tectonites ~~(B) S-tectonites~~
(C) F-tectonites (D) V-tectonites
(E) Answer not known
119. Which of the following statements are true of unconformities?
- (1) It is a plane of discontinuity that separates two rocks, which differ notably in age
(2) It is two dimensional, directional features
(3) It is three dimensional, directional features
(4) It is two dimensional, non-directional features
- ~~(A)~~ (1) is correct
(B) (2) and (3) are correct
(C) (2) and (4) are correct
(D) (1), (2) and (3) are correct
(E) Answer not known

120. A sudden disappearance of certain types of fossils remains in the succeeding beds called
- (A) Angular unconformity (B) Non-conformity
(C) Disconformity ~~(D) Para-unconformity~~
(E) Answer not known
121. Which of the following statements are true about Lineation
- (i) Lineation is more commonly expressed by minerals.
(ii) The intersection of bedding and cleavage does not produce lineation
(iii) Slickensides are a type of lineation
- (A) (i) only
~~(B) (i) and (iii) only~~
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known
122. The preferred dimensional orientation of elongate mineral aggregates are called as
- (A) Foliations (B) Fabrics
~~(C) Mineral Lineations~~ (D) Cleavages
(E) Answer not known

123. Match the following and choose the answer

Type of Joints	Genesis
(a) Extension joints	1. Residual stresses
(b) Sheeting	2. Tectonic stresses
(c) Conjugate joints	3. Tensional forces
(d) Columnar joints	4. Shearing

- | | (a) | (b) | (c) | (d) |
|----------------|------------------|-----|-----|-----|
| (A) | 1 | 2 | 3 | 4 |
| (B) | 2 | 1 | 4 | 3 |
| (C) | 2 | 4 | 3 | 1 |
| (D) | 4 | 3 | 2 | 1 |
| (E) | Answer not known | | | |

124. The folded strata, tension joints are produced in the crested region and its parallel to the axial plane are called _____

- ~~(A)~~ release joints (B) extension joints
(C) dip joints (D) conjugate joints
(E) Answer not known

125. The Joint systems found in the basaltic flows in igneous Rocks are called as

- (A) Parallel Joints (B) Basal Joints
(C) Release Joints ~~(D)~~ Columnar Joints
(E) Answer not known

126. The crest of the fold may be intact or cracked radially due to _____

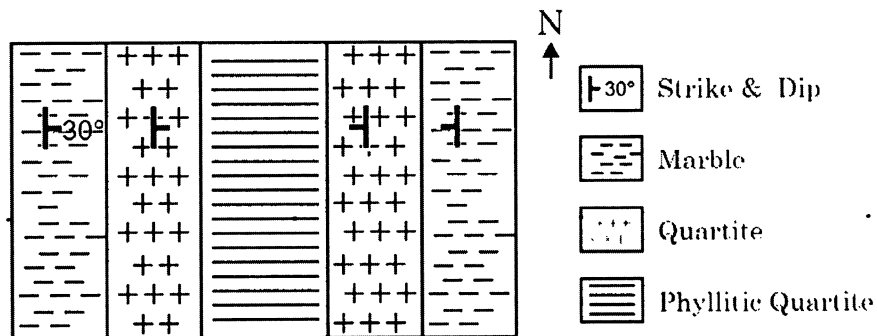
- (A) Compression (B) Couple
~~(C)~~ Tension (D) Shear
(E) Answer not known

127. In the younger bed, inside the bed dips from periphery inwards in all direction towards the trough is called _____
- (A) Centrocline Fold (B) Pericline Fold
 (C) Syncline Fold (D) Anticline Fold
 (E) Answer not known
128. The convergent outcrop with continuous change in strike and dip directions and amount suggest which fold?
- (A) Anticline (B) Syncline
 (C) Plunging fold (D) Basin fold
 (E) Answer not known
129. Which of the following is incorrectly paired?
1. Antiform – Upwardly Convex structure
 2. Synform – Upwardly Concave structure
 3. Anticlinorium – Large syncline with secondary folds of smaller size.
 4. Monocline – Local steepening of a bed
- (A) 4 is incorrect
 (B) 3 is incorrect
 (C) 2 is incorrect
 (D) 1 is incorrect
 (E) Answer not known
130. Faults are classified into parallel faults, enechelon faults Peripheral faults and radial faults based on
- (A) Rake of the net slip (B) Dip amount
 (C) Fault pattern (D) Geometric classification
 (E) Answer not known

131. Relatively short faults that overlap each other is called as

- (A) En echelon Fault
- (B) Parallel Fault
- (C) Peripheral Fault
- (D) Radial Fault
- (E) Answer not known

132. Identify the fold from the given diagram



- (A) Anticline
- (B) Syncline
- (C) Antiform
- (D) Synform
- (E) Answer not known

133. A fault in which net slip is parallel to the strike of the fault.

- (A) Strike fault
- (B) Strike slip fault
- (C) Oblique fault
- (D) Dip slip fault
- (E) Answer not known

134. A _____ fold is one in which the axial surface is essentially vertical and upright is also used

- (A) isoclinal
- (B) symmetrical
- (C) over
- (D) recumbent
- (E) Answer not known

135. Which of the following statements are true about stereographic projection.

- (i) It is a special kind of Azimuthal projection to represent a plane and a line.
- (ii) Plane is projected as a line in the Projection.
- (iii) Line is projected as a circle.
- (A) (i) only
- (B) (i) and (iii) only
- (C) (i) and (ii) only
- (D) (ii) and (iii) only
- (E) Answer not known

136. Apparent thickness of a unit as measured in a vertical direction is called as

- (A) Isopach map
- (B) Contour map
- (C) Isochore map
- (D) Thickness map
- (E) Answer not known

137. The Mohr's stress reveals graphically.

- (A) The relation between stress and rupture in a rock
- (B) The relation between strain and stress
- (C) The relation between strain and friction
- (D) The relation between friction and rupture
- (E) Answer not known

138. 'V' points upstream if the dip is downward and lesser than the stream gradient 'V' becomes
- (A) Shorter (B) Wider
~~(C)~~ Longer (D) No change
(E) Answer not known
139. Eclogite facies rocks are usually composed of
- (A) Granitic composition ~~(B)~~ Basaltic composition
(C) Tholeiitic composition (D) Calc-Alkaline composition
(E) Answer not known
140. Choose the right matches among the following
- | | |
|--------------------------|---|
| 1. Kaolinization | – Hydrothermal metasomatism of felspar |
| 2. Sericitization | – Development of sericite by hydrothermal metasomatism. |
| 3. Fluorine Metasomatism | – Release of Fluorine |
| 4. Scapolitization | – Removal of Scapolite in a metamorphic assemblage |
- (A) 1 and 3 are correct
~~(B)~~ 1 and 2 are correct
(C) 2 and 3 are correct
(D) 3 and 4 are correct
(E) Answer not known

141. Metamorphic differentiate process, the growth of porphyroblasts of such a mineral is
- (A) Pyroxene (B) Mica
 (C) Cordierite ~~(D) Garnet~~
 (E) Answer not known
142. Which of the following metamorphic structure shows predominance of equidimensional minerals.
- (A) Maculose (B) Cataclastic
~~(C) Granulose~~ (D) Gneissose
 (E) Answer not known
143. Metamorphic rocks containing aggregates of grains that have a lenticular or elliptical shape are called as
- ~~(A) Augen structure~~ (B) Helicitic texture
 (C) Xenoblastic texture (D) Porphyroblasts
 (E) Answer not known
144. Destruction of muscovite and quartz to produce
- (A) K–Na silicates ~~(B) K–feldspar and Aluminosilicate~~
 (C) Ca–Na Alumina (D) Quartz and Feldspar
 (E) Answer not known
145. The metamorphic facies, which is found at the extreme upper limit of both pressure and temperature is known as
- (A) Eclogite facies (B) Blue Schist facies
~~(C) The Granulite facies~~ (D) Hornfels facies
 (E) Answer not known

146. The system Albite–Anorthite, the melting point of anorthite is
- (A) 1500°C (B) 1400°C
(C) 1555°C (D) 1451°C
(E) Answer not known
147. Evaluation of magma influenced by reaction with wall rock is known as
- (A) Magma mixing (B) Differentiation
 (C) Assimilation (D) Crystallisation
(E) Answer not known
148. A Leucocratic syenite with perthitic or antiperthitic feldspar is known as
- (A) Pulaskite (B) Saxonite
(C) Shoshonite (D) Sonite
(E) Answer not known
149. The percentage of Silica in Intermediate igneous rocks.
- (A) > 66% (B) 52–66%
(C) 45–52% (D) <45%
(E) Answer not known
150. The majority of alkaligranites are typically carry both of as
- (A) Albite and Anorthite (B) Muscovite and Biotite
(C) Sodalite and Nepheline (D) Olivine and Augite
(E) Answer not known

151. The important minerals forming lamprophyres are
- (A) Calcic plagioclase and Iron oxides
 - (B) Orthoclase, Albite, Diopside, Nepheline
 - (C) Biotite, Augite, Hornblende and Olivine
 - (D) Wholly of Olivine
 - (E) Answer not known
152. The term dyke swarm is used to express
- (A) Only textural aspects
 - (B) Texture and composition
 - (C) The number of dykes occurring in a limited area
 - (D) Only compositional aspects
 - (E) Answer not known
153. Silica has a high solubility in water-rich solutions particularly at
- (A) High temperature alone
 - (B) High pressure alone
 - (C) High temperatures and pressures
 - (D) None of the above
 - (E) Answer not known
154. A plutonic rock are always formed from the cooling of
- (A) The lava under water
 - (B) Magma just below the surface of earth
 - (C) Lava over the surface of earth
 - (D) Magma at great depth below the surface of the earth
 - (E) Answer not known

155. The pegmatite rock is consists of
- (A) Very fine grained rock ~~(B) Very coarse grained rock~~
(C) It is a finner matrix (D) Commonly vesicular
(E) Answer not known
156. Sitampundi complex in Tamil Nadu, they are found in _____ Rock types.
- (A) Basaltic rocks (B) Granites
(C) Lamprophyres ~~(D) Anorthosite~~
(E) Answer not known
157. The escape of the gases at the time of consolidation of magma produces cavities or visicles, the structure are called
- (A) Pillow structure (B) Flow structure
~~(C) Vesicular structure~~ (D) Platy structure
(E) Answer not known
158. In a volcanic rock feldspar laths are found intermixed with glass, the texture is called
- (A) Trachytic texture (B) Intergrowth texture
(C) Ophitic texture ~~(D) Hyalopilitic texture~~
(E) Answer not known
159. For the policy level guidelines for mineral sector, which policy is formed?
- (A) National Resources Policy ~~(B) National Mineral Policy~~
(C) National Regulation Policy (D) National Legislation Policy
(E) Answer not known

160. Coal with higher content of mineral matter but not exceeding 50% are called
- (A) Impure coal (B) Bog coal
(C) Black coal (D) Hard coal
(E) Answer not known
161. A variety of coal which constitutes thin bands of bright – glassy looking, Jet line coal with conchoidal fracture, and the woody structure is not visible megascopically is called as _____
- (A) clarain (B) vitrain
(C) fuscain (D) durain
(E) Answer not known
162. Dark and sticky crude petroleum is known as _____ in olden days.
- (A) Crude oil (B) Pitch
(C) Petrol (D) Gasoline
(E) Answer not known
163. Lower gondwana coals are mainly of
- (A) Bituminous type (B) Anthracite type
(C) Lignite type (D) Peat type
(E) Answer not known
164. _____ is known as the king of metals.
- (A) Silver (B) Iron
 (C) Gold (D) Lead
(E) Answer not known

165. Which of the following is NOT matched correctly

- | | | |
|-----------------------------|---|-----------------|
| 1. Cauvery basin | – | Narimanam |
| 2. Krishna – Godavari basin | – | Kaikalur |
| 3. Bombay High | – | Heera and Panna |
| 4. Cambay Basin | – | Razole |

(A) 2

(B) 4

(C) 1

(D) 3

(E) Answer not known

166. The main ore minerals of karst bauxites in Mediterranean Europe are

- (A) Boehmite and Diaspore
- (B) Alunite and Nepheline
- (C) Gibbsite and Amorphous Alumogel
- (D) Geothite and Kaolinite
- (E) Answer not known

167. The largest of the Iron oxide – Copper Gold deposits are exploited at

- (A) Olympic Dam in South Australia
- (B) North America
- (C) Guizhou, Southern China
- (D) Circum pacific Mountain belts
- (E) Answer not known

168. _____ are the main economic source of titanium.
- (A) Alluvial placer deposits (B) Hydrothermal veins
~~(C)~~ Coastal place deposits (D) Glacier deposit
(E) Answer not known
169. Kalahandi in the Orissa state is famous for its deposits of
- (A) Gypsum ~~(B)~~ Bauxite
(C) Galena (D) Lignite
(E) Answer not known
170. The chief metallogenetic epochs recorded in india are
- (i) Precambrian Epoch
(ii) Late proterozoic Epoch
(iii) Late Mesozoic to Early Tertiary
- ~~(A)~~ (i), (ii) and (iii)
(B) (i) and (ii) only
(C) (iii) only
(D) (ii) and (iii) only
(E) Answer not known

171. Choose the right matches among metallic minerals and ores.

- | | |
|---------------|-----------------|
| (a) Copper | 1. Galena |
| (b) Iron | 2. Pyrolusite |
| (c) Manganese | 3. Hematite |
| (d) Lead | 4. Chalcopyrite |

- | | (a) | (b) | (c) | (d) |
|----------------|------------------|-----|-----|-----|
| (A) | 2 | 1 | 3 | 4 |
| (B) | 2 | 1 | 4 | 3 |
| (C) | 2 | 3 | 4 | 1 |
| (D) | 4 | 1 | 3 | 2 |
| (E) | Answer not known | | | |

172. Write down the chemical composition of Rhodochrosite

- | | |
|----------------------|------------------------------------|
| (A) $MnSiO_3$ | (B) $MnCO_3$ |
| (C) Mn_3O_4 | (D) MnO_2 |
| (E) Answer not known | |

173. Size of the fluid inclusions are

- | | |
|----------------------|---|
| (A) $< 1000\mu m$ | (B) $< 100\mu m$ |
| (C) $> 100\mu m$ | (D) $> 1000\mu m$ |
| (E) Answer not known | |

174. One of the largest iron ore provinces in the world is the Hamersley basin in the Pilbara region of
- (A) North America
 - (B) Western Australia
 - (C) South America
 - (D) Angola
 - (E) Answer not known
175. In general the oxidation process is occur in the
- (A) Upper parts of ore deposit above the Groundwater table.
 - (B) Below the ore deposit along the groundwater
 - (C) Below the groundwater
 - (D) Lower part of ore deposit above the groundwater.
 - (E) Answer not known
176. The world's valuable mineral deposits like gold, nickel, chromite, copper and iron are formed during the _____
- (A) Precambrian
 - (B) Middle paleozoic
 - (C) Late paleozoic
 - (D) Permo Triassic
 - (E) Answer not known

177. Match the following

- | | |
|--------------|-----------------------------------|
| (a) Type I | 1. CO ₂ rich inclusion |
| (b) Type II | 2. Halite bearing inclusion |
| (c) Type III | 3. Gas rich inclusion |
| (d) Type IV | 4. Moderate saline inclusion |

- | | (a) | (b) | (c) | (d) |
|----------------|------------------|-----|-----|-----|
| (A) | 4 | 3 | 2 | 1 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 2 | 3 | 1 | 4 |
| (D) | 4 | 1 | 2 | 3 |
| (E) | Answer not known | | | |

178. The cornish word used to designate the oxidized outcropping cellular mass of 'Limonite' and gangue overlying aggregated sulphide deposit is

- | | |
|-----------------------|---------------|
| (A) Eisemer | (B) Colorados |
| (C) Gossan | (D) Manto |
| (E) Answer not known | |

179. The ore deposits produced by super or subcritical fluids, solutions and gases that are segregated by all magmas which had more dissolved volatilities.

- (A) Ortho magmatic ore deposits
- (B) Pegmatitic ore deposits
- ~~(C)~~ Magmatic-hydrothermal ore deposit
- (D) Contact metasomatic ore deposits
- (E) Answer not known

180. Among the following, which is preferred for topographic applications
- (A) Leaf-on photography ~~(B) Leaf-off photography~~
(C) Leaf-cut photography (D) None of the above
(E) Answer not known
181. The wavelength ranges in which the atmosphere is particularly transmissive of energy are referred to as
- (A) Rayleigh Scatter (B) Mie Scatter
~~(C) Atmospheric Windows~~ (D) Nonselective scatter
(E) Answer not known
182. Which of the following is correctly matched?
- (i) GIS – Geological Information System
(ii) GPS – Global Positioning System
(iii) DGPS – Detailed Global Positioning System
- (A) (i) and (iii) only
(B) (i) and (ii) only
(C) (i) only
~~(D) (ii) only~~
(E) Answer not known
183. Which one method is used for data storage in raster data?
- (A) Spagebetti model (B) Topology model
(C) Point dictionary model ~~(D) Block codes~~
(E) Answer not known

189. Thin bands of coal with bright colour and silky lustre characteristics are seen in
- (A) Vitrian (B) Durian
~~(C)~~ Clarian (D) Fusian
(E) Answer not known
190. The average salinity of sea water is
- (A) 12% (B) 24%
~~(C)~~ 35% (D) 62%
(E) Answer not known
191. Bulk density of sandstone for building stone is
- (A) 2.2 grams/cubic centimeter
~~(B)~~ 2.6 grams/cubic centimeter
(C) 2.9 grams/cubic centimeter
(D) 2.7 grams/cubic centimeter
(E) Answer not known
192. The Jawahar tunnel is a double tube National Highway in India, the lengths is
- (A) 193.70 m (B) 12.6 km
~~(C)~~ 2430 m (D) 6.6. km
(E) Answer not known

193. Type of tunnels which are excavated to divert the traffic load of whatsoever type from surface to subsurface routes
- (A) Traffic tunnels
 - (B) Hydropower tunnels
 - (C) Public utility tunnels
 - (D) Delivery tunnels
 - (E) Answer not known
194. _____ is the amount of a particular element present in the parent rock which is not affected by dispersion on migration.
- (A) Anomaly
 - (B) Background value
 - (C) Natural value
 - (D) Standard value
 - (E) Answer not known
195. The indicator plant for copper deposit is
- (A) Ocimum homble
 - (B) Crotalaria Cobalticola
 - (C) Lobella inflata
 - (D) Salvia pitcheri
 - (E) Answer not known
196. The common chemical element Fe weight percentage in the earth crust.
- (A) 2.09
 - (C) 5.00
 - (B) 3.63
 - (D) 2.83
 - (E) Answer not known

