

# A

24711

120 MINUTES

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- The development of tectonites is common in rocks which have undergone ----- metamorphism.  
A) Cataclastic    B) Contact  
C) Burial    D) Dynamothermal
- Which among the following is **not** true about Phreatic line in a dam section?  
A) It is the top flow line which separates saturated zone from unsaturated zone  
B) Below Phreatic line negative hydrostatic pressure exists  
C) Along the Phreatic line atmospheric pressure exists  
D) The shape of a Phreatic line is approximately a parabola.
- Groundwater can be used as a geochemical guide for locating ----- deposits.  
A) Cu                                  B) Cr                                  C) Sn                                  D) Ti
- The ----- river cuts through the Erramala hills, forming a gorge that is called the “Grand Canyon of India”.  
A) Pennar                                  B) Chambal                                  C) Spiti                                  D) Godavari
- “--- correction” is always added during reduction of the observed gravity data.  
A) Latitude                                  B) Free air                                  C) Terrain                                  D) Bouguer
- Electromagnetic method is the best to explore ----- deposits.  
A) Petroleum                                  B) Coal bearing strata  
C) Massive sulphide                                  D) Disseminated sulphide
- The Bhakra dam is located in:  
A) Punjab                                  B) Haryana                                  C) Rajasthan                                  D) Himachal Pradesh
- The 5 major mass extinctions of organisms on the earth are:  
A) Ordovician-Silurian, Late Devonian, Permian-Triassic, Triassic-Jurassic, Cretaceous-Palaeogene  
B) Late Cambrian, Early Permian, Middle Jurassic, Cretaceous-Tertiary, Holocene  
C) Ordovician-Silurian, Late Carboniferous, Permian-Triassic, Middle Jurassic, Cretaceous-Tertiary  
D) Cambrian-Ordovician, Late Devonian, Early Carboniferous, Permian-Early Triassic, Late Cretaceous-Early Miocene
- Dravite is a variety of:  
A) Zircon                                  B) Topaz                                  C) Beryl                                  D) Tourmaline

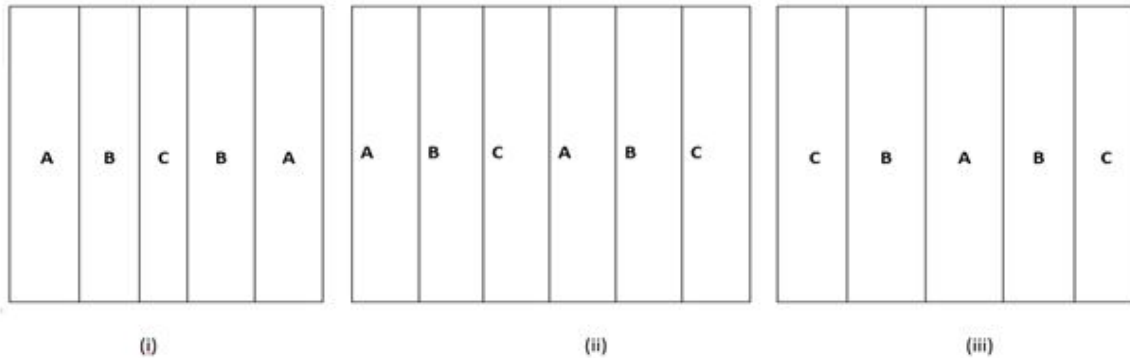
10. The largest reserve of Bauxite in India is found in:  
 A) Jharkhand B) Odisha C) Maharashtra D) Andhra Pradesh
11. The main reason for producing the atmospheric greenhouse effect is Absorption and re-emission of:  
 A) Ultraviolet radiations by the atmosphere  
 B) Infrared radiations by the atmosphere  
 C) Visible light by the atmosphere  
 D) Microwave radiation by the atmosphere
12. Oscillation ripples are formed in ----- sedimentary environments.  
 A) Intertidal B) Fluvial C) Deep sea D) Aeolian
13. Glaucophane, garnet, lawsonite, jadeite and epidote are typical minerals of ---- metamorphic facies.  
 A) Greenschist B) Amphibolite C) Blueschist D) Zeolite
14. The largest salt producing state in India:  
 A) Tamil Nadu B) Rajasthan C) Odisha D) Gujarat
15. Match List I with List II:  

List I	List II
a. Hydraulic conductivity	1. m
b. Permeability	2. Newton/Sec/m <sup>2</sup>
c. Hydraulic Head	3. md
d. Viscosity	4. m/sec

  
 A) a-2, b-3, c-1, d-4      B) a-3, b-2, c-4, d-1  
 C) a-4, b-2, c-3, d-1      D) a-4, b-3, c-1, d-2
16. The radon environmental hazard is associated with the radioactive decay of :  
 A) rubidium-87      B) potassium-40  
 C) carbon-14      D) uranium-238
17. The “Meghalayan Age” began---- years ago and experienced an abrupt mega- drought and cooling around the globe.  
 A) 42000      B) 4200      C) 6400      D) 36000
18. Exceptionally deep saw cut valleys with slightly opened up tops indicating some denudations are called:  
 A) Rifts      B) Canyons      C) Gorges      D) Crevasses
19. Among the following which region is less prone to landslides?  
 A) Western Ghats      B) Eastern Ghats  
 C) The Himalayas      D) Aravalli Range

20. Match List I with List II:
- |        |                |
|--------|----------------|
| List I | List II        |
| a. Cs  | 1. Siderophile |
| b. Au  | 2. Chalcophile |
| c. Cd  | 3. Atmophile   |
| d. Rn  | 4. Lithophile  |
- A) a-2, b-4, c-3, d-1      B) a-4, b-2, c-3, d-1  
C) a-2, b-3, c-4, d-1      D) a-4, b-1, c-2, d-3
21. ---- are areas that are known to be under strain but have not yet experienced any earthquakes.
- A) Seismic Gap      B) Seismic Shadow  
C) Aseismic Region      D) Archean Nuclei
22. 'Twinkling' in calcite is caused by:
- A) twinning planes      B) changes in interference colour  
C) pleochroism      D) rapid changes in relief
23. Match List I with List II:
- |              |              |
|--------------|--------------|
| List I       | List II      |
| a. Nawada    | 1. Bauxite   |
| b. Bolangir  | 2. Lignite   |
| c. Bailadila | 3. Muscovite |
| d. Palna     | 4. Haematite |
- A) a-2, b-4, c-3, d-1      B) a-3, b-1, c-4, d-2  
C) a-4, b-2, c-1, d-3      D) a-2, b-3, c-4, d-1
24. The type of dam in which the forces acting on the dam are transmitted onto the abutment rocks :
- A) Cofferdam      B) Embankment dam  
C) Arch dam      D) Buttress dam
25. The quantity of water that a unit volume of aquifer drains by gravity is called:
- A) Unit yield    B) Safe yield    C) Specific yield    D) Storativity
26. Among the following minerals which has the highest number of sets of cleavages?
- A) Sphalerite    B) Fluorite    C) Galena    D) Calcite
27. A majority of working China clay mines in Kerala are located in ----- district.
- A) Kollam      B) Thiruvananthapuram  
C) Kannur      D) Kasaragod

28. The raw materials required in the largest quantity in the manufacture of steel:  
 A) Chromite    B) Iron ore    C) Coal    D) Limestone
29. Figures (i), (ii) and (iii) are the outcrop patterns of three inclined beds on flat terrain. A is the oldest and C is the youngest among these beds. Choose the correct option which explains the repetition of beds.



- A) (i) anticline, (ii) syncline, (iii) fault  
 B) (i) syncline, (ii) anticline, (iii) fault  
 C) (i) fault, (ii) anticline, (iii) syncline  
 D) (i) syncline, (ii) fault, (iii) anticline
30. At least ----- seismographs are needed in different locations to locate the epicentre of an earthquake.  
 A) 3                      B) 4                      C) 9                      D) 7
31. Match List I with List II:  
 List I                                      List II  
 a. Fusulina                              1. Trilobite  
 b. Syringothyris                        2. Pelecypod  
 c. Mytilus                                3. Foraminifer  
 d. Redlichia                              4. Brachiopod
- A) a-4, b-2, c-1, d-3                      B) a-3, b-4, c-2, d-1  
 C) a-3, b-2, c-1, d-4                      D) a-2, b-4, c-3, d-1
32. The term which is a function of cross-sectional area of stream channel and velocity of flow is:  
 A) Gradient    B) Competence    C) Discharge    D) Capacity
33. Which of the following is in the decreasing order of grain size?  
 A) Sandstone, siltstone, conglomerate  
 B) Sandstone, conglomerate, siltstone  
 C) Conglomerate, sandstone, siltstone  
 D) Siltstone, sandstone, conglomerate

34. Which one of the following is a massive asteroid?  
 A) Deimos      B) Vesta      C) 5D/Brorsen      D) Phobos
35. The horizontal angle between the true meridian and magnetic meridian at a place at the time of observation:  
 A) Magnetic bearing      B) Dip  
 C) Declination      D) Azimuth
36. Glass beads formed by melting of distal ejecta from large impacts on the earth  
 A) Tholi      B) Tesseræ      C) Tektites      D) Vitronite
37. Temporal resolution of satellites projected in geostationary orbit is:  
 A) 24 hours      B) 365 days      C) 7 days      D) Zero
38. Vector overlay in GIS uses ----- to formulate queries.  
 A) SQL      B) RDBMS      C) JAVA      D) HTML
39. In the quadrantal bearing system, a whole circle bearing of  $293^\circ$  will be given as:  
 A)  $N67^\circ W$       B)  $N23^\circ W$       C)  $W23^\circ N$       D)  $N67^\circ E$
40. A description of the spectral density of electromagnetic radiation emitted by a blackbody at a given temperature is given by:  
 A) Wien's displacement Law      B) Kirchhoff's Law  
 C) Stefan Boltzmann's Law      D) Planck' Law
41. Galilean moons are the four largest moons of:  
 A) Jupiter      B) Mars      C) Neptune      D) Saturn
42. Which one of the following statements is correct?  
 A) A drill hole cutting through a sandstone bed on the upthrown side of a reverse fault, will meet the same sandstone bed again at depth  
 B) Heave is the term used to show the vertical displacement suffered by a formation affected by faulting  
 C) Nappes are primary structures  
 D) Rocks have lower compressive strength than tensile strength
43. The scale of a vertical aerial photo is given by the equation  
 A) Camera height/Focal length of the camera  
 B) Focal length of the camera x Camera height  
 C) Focal length of the camera/ Camera height  
 D) None of these
44. Among the following which one is the oldest orogeny?  
 A) Acadian      B) Appalachian      C) Alpine      D) Caledonian

45. Which one of the following statements is **not** correct?  
 A) A fan fold is one in which both the limbs are overturned  
 B) In an anticlinal fan fold the two limbs dip away from each other  
 C) In an overturned fold the axial plane is inclined and both limbs dip in the same direction, usually at different angles  
 D) In an isoclinal fold both the limbs dip at equal angles in the same direction
46. Which one of the following statements about the Sun is true?  
 A) The surface gravity on the Sun is nearly twice that of the Earth  
 B) The dominant chemical constituents in the Sun are Hydrogen, Helium and Oxygen  
 C) The average density of the Sun is about one fifth of the Earth  
 D) Through nuclear fusion, the sun is constantly using up the hydrogen in its core into helium
47. Which one is secondary level of human interpretation of Remote sensing data?  
 A) Shadow      B) Pattern      C) Tone      D) Size
48. Which formations commonly show flow folding?  
 A) Sandstone      B) Limestone      C) Clay      D) Dolomite
49. Most of the volcanic island arcs are closely associated with-----plate boundaries.  
 A) transform      B) ocean-ocean convergent  
 C) divergent      D) ocean-continent convergent
50. The three main elements present in the mantle are Oxygen, Silicon and -----.  
 A) Iron      B) Magnesium      C) Aluminium      D) Calcium
51. Which of the following soil horizons is the first stage in the soil formation process?  
 A) A      B) D      C) C      D) B
52. Match List I with List II  
 List I (Type of rock)      List II (Rock name)  
 a. Harzburgite      1. Carbonatite  
 b. Shonkinite      2. Syenite  
 c. Alvikite      3. Lamprophyre  
 d. Camptonite      4. Peridotite
- A) a-3, b-1, c-2, d-4      B) a-3, b-1, c-4, d-2  
 C) a-2, b-4, c-1, d-3      D) a-4, b-2, c-1, d-3
53. The state in India which has the largest “Brown Diamond” deposits:  
 A) Madhya Pradesh      B) Andhra Pradesh  
 C) Tamil Nadu      D) Gujarat

54. A point of land, usually high and often with a sheer drop, that extends out into a body of water:  
 A) Sea Cliff    B) Headland    C) Bay    D) Sea Arch
55. The type of waves that are characteristic of deeper portions of the oceans are--- waves.  
 A) Translatory    B) Littoral    C) Lateral    D) Oscillatory
56. Which is **not** true about Rayleigh Waves?  
 A) Named after John William Strutt  
 B) Rolls along the ground with a more complex motion than Love waves  
 C) The particle motion in Rayleigh Waves is the same as that of ocean waves  
 D) Most of the shaking felt from an earthquake is due to Rayleigh waves
57. Older beds are found in the dip direction when the:  
 A) Angle of Dip < Angle of Slope  
 B) Angle of Slope  $\geq$  Angle of Dip  
 C) Angle of Dip > Angle of Slope  
 D) Angle of Slope = Angle of Dip
58. When drinking well water has high levels of -----, the risk of “blue baby syndrome,” (methemoglobinemia) is high in young babies (less than 6 months old).  
 A) phosphates and sulphates    B) nitrates or nitrites  
 C) arsenic    D) fluorides and bromides
59. Identify the statement which is **not** true:  
 A) Brachiopods were exclusively marine and very important in the Palaeozoic rocks and are extinct now  
 B) Lamellibranchs inhabit fresh water, ocean waters, ocean floors and dry land and are found even now  
 C) Most Gastropods are marine but many live in fresh water and others on land and are found even now  
 D) All echinoderms are marine, but are found in shallow intertidal areas to abyssal depths and are found even now
60. Among the following which Super Group has the oldest metamorphosed rocks?  
 A) Dharwar    B) Delhi    C) Vindhyan    D) Cuddapah
61. Who among the following is known as the father of GIS?  
 A) R F Tomlinson    B) Richard James  
 C) F Arago    D) P R Pisharoty
62. The small unwanted polygons formed during overlay in GIS:  
 A) Noise    B) Sliver    C) Irrelevant    D) None of these

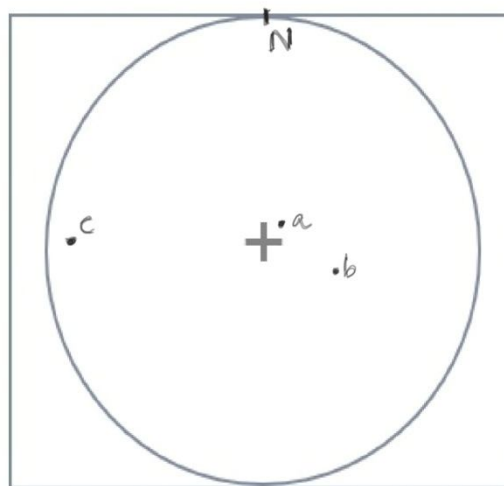
63. What is a black smoker?
- Deep fissure on land formed during severe earthquakes, which emit black gases
  - A deep geyser emitting water and black gaseous material
  - Volcanic vent that emits dark cloud during explosive eruption
  - Deep sea hydrothermal vent that emits a cloud of black material
64. Which of the following is most likely to form by the mechanical weathering of a granite?
- Quartz arenite
  - Shale
  - Lith arenite
  - Arkose
65. A mass of spar (with partial substitution of internal sediment) which has smooth base, digitate roof, occurring in swarms and having reticulate distribution
- Stylolite
  - Stalactite
  - Stromatactis
  - Olistostrome
66. Which statement is correct about Eu anomaly in igneous rocks?
- Rhyolites exhibit no Eu anomaly
  - Anorthosites exhibit Positive Eu anomaly
  - A-type Granites exhibit positive Eu anomaly
  - None of the above
67. Choose the correct flow chart for the separation of heavy minerals from the beach placers:
- Raw beach sand → sieving with +35# → Treatment with Dil. HCl → water washing → sieving with different mesh sizes → Electrostatic separation → Heavy mineral fractions
  - Raw beach sand → sieving with different mesh sizes → Treatment with Dil. HCl → water washing → Magnetic separation < Non-magnetic and Magnetic fractions
  - Raw beach sand → sieving with +35# → Treatment with Dil. HCl → water washing → Magnetic separation < Non-magnetic and Magnetic fractions
  - Raw beach sand → sieving with +35# → water washing → Treatment with Dil. HCl → sieving with different mesh sizes → Magnetic separation < Non-magnetic and Magnetic fractions
68. The Great Boundary Fault separates the:
- Siwaliks from the older rocks in Uttarakhand
  - Proterozoic rocks from the Archaeans in South Peninsular India
  - Vindhyans from the Aravallis in Rajasthan
  - Cretaceous from the Jurassic in the Kutch region of Gujarat
69. A Relational Data Base consists of:
- Numbers
  - Tables
  - Figures
  - None of these



70. The generally accepted limits of temperature for metamorphism are:  
 A) Metamorphism occurs at all temperatures  
 B) There is no temperature or pressure limit  
 C) 200°C to melting of rocks  
 D) 100°C to 1400°C
71. Match List I with List II:  
 List I  
 a. Middle Miocene-Pliocene  
 b. Palaeocene  
 c. Late Miocene  
 d. Middle to Late Jurassic  
 List II  
 1. Dhok Pathan Formation  
 2. Tipam Group  
 3. Jaisalmer Formation  
 4. Niniyur Formation  
 A) a-4, b-2, c-3, d-1  
 B) a-1, b-3, c-2, d-4  
 C) a-3, b-4, c-1, d-2  
 D) a-2, b-4, c-1, d-3
72. Identify the correct statement:  
 A) The Cuddapah basin is free of volcanic activity  
 B) The Panjal Volcanic rocks were formed between Upper Carboniferous and Permian  
 C) The Deccan Traps are dated between Jurassic and Middle Cretaceous  
 D) The Rajmahal Traps were formed during Early Cretaceous
73. The oldest large-scale oceanic crust, located in the West Pacific and North-West Atlantic, are ----- million years old.  
 A) 180-200      B) 60-70      C) 550-600      D) 20-30
74. The region in India called the “store house of minerals”:  
 A) Chota Nagpur Plateau      B) Deccan Plateau  
 C) Malwa Plateau      D) Mysore plateau
75. Layered or banded texture in some extrusive rock bodies often caused by the compaction and flattening of glass shards and pumice fragments around undeformed crystals  
 A) Hyalopilitic texture      B) Eutaxitic texture  
 C) Interstitial texture      D) Variolitic texture
76. Polar orbiting satellites are generally placed at an altitude of --- from the ground level.  
 A) 700-1500 km      B) 7000-15000 km  
 C) 7-15 km      D) 500-1000 km
77. Among the following, unlimited solid solution is noticed between:  
 A)  $\text{MnCO}_3$  and  $\text{ZnCO}_3$       B)  $\text{MnCO}_3$  and  $\text{FeCO}_3$   
 C)  $\text{BaCO}_3$  and  $\text{PbCO}_3$       D)  $\text{CaCO}_3$  and  $\text{SrCO}_3$

78. Assertion (A): Coral reefs are not found in the Sunderbans  
Reason R) : For the habitat of coral reef, they need warm, clear, sunny water
- A) Both A and R are true and R explains A  
B) Both A and R are true but R does not explain A  
C) A is true but R is false  
D) A is false but R is true
79. Minette-type iron deposits are typical of ----- environments.
- A) lacustrine                                 B) swampy  
C) deep marine                                 D) shallow marine
80. The stable isotopic ratio of ----- is used for the estimation of palaeo-temperature of sea water.
- A)  $^{18}\text{O}/^{16}\text{O}$     B)  $^{13}\text{C}/^{14}\text{C}$     C)  $^{87}\text{S}/^{86}\text{S}$     D)  $^{15}\text{N}/^{14}\text{N}$
81. Assertion (A): Aragonite occurs as nacreous layer on sea shells  
Reason (R) : Orthorhombic aragonite tends to invert to Trigonal calcite and hence is less abundant
- A) Both A and R are true and R explains A  
B) Both A and R are true but R does not explain A  
C) A is true but R is false  
D) A is false but R is true
82. Which pair given below is typical of regionally metamorphosed dolomitic limestones?
- A) Vesuvianite-Diopside    B) Cordierite-Actinolite  
C) Tremolite-Forsterite    D) Clinozoisite-Diopside
83. Assertion (A): Dunite is an ultrabasic fine grained igneous rock  
Reason (R) : Dunite is formed at high-pressure conditions from anhydrous magma
- A) Both A and R are true and R explains A  
B) Both A and R are true but R does not explain A  
C) A is true but R is false  
D) A is false but R is true
84. Agate, jasper, black onyx, aventurine carnelian and sard are varieties of:
- A) flint                                 B) chalcedony    C) novaculite    D) quartz
85. Aggregates of faecal pellets of organisms consuming calcium carbonate mud:
- A) Peloid                                 B) Coprolite    C) Pisoid                                 D) Oolite
86. A superimposed river of India:
- A) Krishna                                 B) Son                                 C) Sutlej                                 D) Damodar

87. If two compounds show same or nearly similar crystal form, ions of same size and show solid solution, then the compounds are said to be showing ----.
- A) Isostructuralism                      B) Polymorphism  
C) Isomorphism                          D) Diadochy
88. The maximum force expressed per unit area, which a rock can withstand without rupturing is called ----- strength.
- A) Shear                      B) Tensile                      C) Compressive                      D) Bending
89. Feldspars show varying response to chemical weathering; the most stable among the following feldspars is:
- A) Andesine                      B) Orthoclase                      C) Labradorite                      D) Oligoclase
90. Among the following which rocks have Precambrian stromatolites?
- A) Vanivilas Formation                      B) Hiriyur Formation  
C) Ingladhah Formation                      D) Santaveri Formation
91. Dupuit's equation is used to calculate the discharge through:
- A) a confined aquifer                      B) an aquifer  
C) a perched aquifer                      D) an unconfined aquifer
92. Strata defined by the time range of a species of fossils:
- A) Faunizone                      B) Chronozone                      C) Acrozone                      D) Coenozone
93. In the given stereogram poles of 3 foliation planes are plotted as points 'a', 'b' and 'c'. Find the correct order of increasing dips of foliations:



- A) a-b-c                      B) a-c-b                      C) b-a-c                      D) c-a-b
94. Ore exposed and sampled either on 2 or 3 sides are called ----- ore reserve.
- A) Probable                      B) Proved                      C) Prospective                      D) Positive

95. Land plants first appeared on the earth about ----- million years ago.  
A) 500                      B) 2500                      C) 250                      D) 50
96. Match List I with List II:
- |                      |               |
|----------------------|---------------|
| List I               | List II       |
| a. Brazilian Law     | 1. Microcline |
| b. Swallow-tail twin | 2. Orthoclase |
| c. Manebach          | 3. Quartz     |
| d. Tartan twin       | 4. Gypsum     |
- A) a-1, b-4, c-2, d-3                      B) a-3, b-4, c-2, d-1  
C) a-4, b-1, c-3, d-2                      D) a-2, b-4, c-3, d-1
97. Which of the following does not include the chemical similarity between gallium and aluminium?  
A) trivalent oxidation state                      B) similar atomic radius  
C) triangular coordination                      D) amphoterism
98. Match List I with List II:
- |                      |   |
|----------------------|---|
| List I               | List II   |
| a. Pygidium          | 1. The main opening from a chamber to the exterior of foraminifer         |
| b. Sulcus            | 2. Circle formed by 10 plates surrounding the periproct in echinoid       |
| c. Aperture          | 3. Posterior part of trilobite carapace formed by fusion of body segments |
| d. Oculogenital ring | 4. Trough or groove indenting the outer surface of ostracod shell         |
- A) a-3, b-2, c-1, d-4                      B) a-3, b-4, c-1, d-2  
C) a-4, b-3, c-2, d-1                      D) a-2, b-3, c-4, d-1
99. Tillite, made up of faceted boulders and green shale with dropstones belong to--- Formation.  
A) Panchet                      B) Tadpatri                      C) Lameta                      D) Talchir
100. Bounding surfaces in Sequence Stratigraphy are:  
A) Surfaces that separates older sequences from younger ones, commonly an unconformity  
B) Surfaces that never try to rebound due to isostasy and eustasy  
C) A type of stratigraphic contacts across which there is a change in stratal stacking pattern  
D) Surfaces that are sedimentary sections which are commonly generated by the changes in relative sea level

101. The accumulation of sequences by deposition in which beds are deposited successively landward as sediment supply is limited and cannot fill the available space:  
 A) Transgression                      B) Progradation  
 C) Retrogradation                      D) Regression
102. Which among the following is/are **not** true about the Indian Plate?  
 1. It is moving North-West at 5.0 cm per year  
 2. The countries on it include India, Pakistan, Nepal, Bhutan, Bangladesh, the Maldives and Sri Lanka  
 3. Its major portion is of Continental Plate material  
 4. It broke away from the other fragments of Gondwana 100 million years ago  
 A) 1 only              B) 1 & 3 only      C) 2 & 3 only      D) 1, 2 & 4 only
103. Which of the following does **not** provide evidence of shallow water environment?  
 A) Lamination      B) Rain prints      C) Ripple marks      D) Mud cracks
104. Angular unconformity, Pinch out and Reef are examples of ----- oil trap.  
 A) hybrid              B) structural      C) stratigraphic      D) diapiric
105. Which one of the following is an Orthorhombic mineral?  
 A) Hornblende      B) Actinolite      C) Augite              D) Gedrite
106. ----are equipments that sort materials according to their size, shape and density.  
 A) Screens              B) Classifiers      C) Ball mills              D) Jigs
107. Which one of the following is **not** true about cannel coal?  
 A) A variety of sapropelic coal              B) Rich in algae  
 C) Shows conchoidal fracture              D) Non-banded
108. Match List I with List II:  

List I	List II
a. Cerussite	1. $ZnCO_3$
b. Smithsonite	2. $Na_2H(CO_3)_2 \cdot 2H_2O$
c. Trona	3. $BaCO_3$
d. Witherite	4. $PbCO_3$

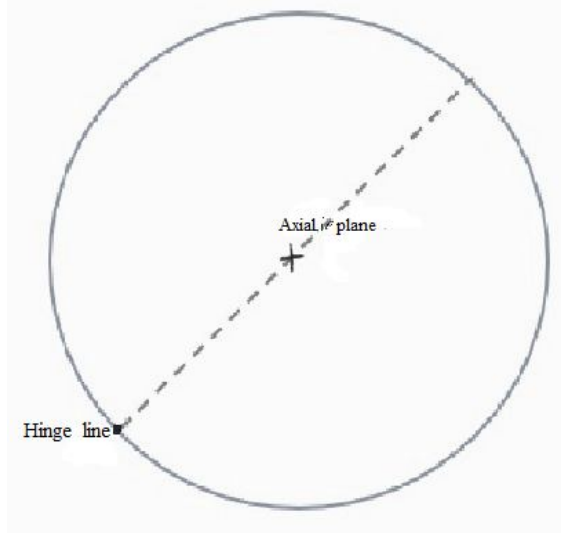
  
 A) a-3, b-4, c-2, d-1                      B) a-2, b-3, c-4, d-1  
 C) a-3, b-2, c-4, d-1                      D) a-4, b-1, c-2, d-3
109. What is the approximate temperature (in degree Celsius) of a sediment that is buried at a depth of 3 km from the surface?  
 A) 100              B) 400              C) 300              D) 60



116. ----- mining is a commonly used mining method in Meghalaya to extract coal.  
A) Underground                      B) High wall  
C) Open pit                             D) Rat hole

117. Assertion (A): During the Tertiary Period the way in which the continents were distributed was favourable for the migration of mammals  
Reason (R) : During the Tertiary Period land bridges interconnected all the continents
- A) Both A and R are true and R explains A  
B) Both A and R are true but R does not explain A  
C) A is true but R is false  
D) A is false but R is true

118. The given stereogram of the axial plane and axis of a fold represents ---- fold.



- A) an upright                             B) an upright non-plunging  
C) a reclined                            D) a recumbent
119. Assertion (A): Cross bedding is noticed in deltas, sand bars in streams and sand reefs  
Reason (R) : Cross bedding is restricted to water sorted sediments
- A) Both A and R are true and R explains A  
B) Both A and R are true but R does not explain A  
C) A is true but R is false  
D) A is false but R is true
120. The state in India which does **not** have hot springs:  
A) Punjab                                B) Himachal Pradesh  
C) Maharashtra                        D) Utarakhand