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ROLL No.

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TEST BOOKLET No.

146

TEST FOR POST GRADUATE PROGRAMMES

GEOLOGY

Time: 2 Hours

Maximum Marks: 450

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INSTRUCTIONS TO CANDIDATES

1. You are provided with a Test Booklet and an Optical Mark Reader (OMR) Answer Sheet to mark your responses. Do not soil the Answer Sheet. Read carefully all the instructions given on the Answer Sheet.
  2. Write your Roll Number in the space provided on the top of this page.
  3. Also write your Roll Number, Test Code, and Test Subject in the columns provided for the same on the Answer Sheet. Darken the appropriate bubbles with a **Ball Point Pen**.
  4. The paper consists of 150 objective type questions. All questions carry equal marks.
  5. Each question has four alternative responses marked **A, B, C** and **D** and you have to **darken** the bubble fully by a **Ball Point Pen** corresponding to the correct response as indicated in the example shown on the Answer Sheet.
  6. Each correct answer carries 3 marks and each wrong answer carries 1 minus mark.
  7. Space for rough work is provided at the end of this Test Booklet.
  8. You should return the Answer Sheet to the Invigilator before you leave the examination hall. However, you can retain the Test Booklet.
  9. Every precaution has been taken to avoid errors in the Test Booklet. In the event of any such unforeseen happenings, the same may be brought to the notice of the Observer/Chief Superintendent in writing. Suitable remedial measures will be taken at the time of evaluation, if necessary.
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## GEOLOGY

1. The mantle of weathered product above the bedrock is termed as
  - (A) Regolith
  - (B) Laterite
  - (C) Dunes
  - (D) Protolith
  
2. Name of the side of the dune with gentle slope
  - (A) Fore ward
  - (B) Leeward
  - (C) Windward
  - (D) None of the above
  
3. Which is the correct sequence of ranking of coal?
  - (A) lignite – peat – bituminous – anthracite
  - (B) lignite – peat – anthracite – bituminous
  - (C) peat – lignite – anthracite – bituminous
  - (D) peat – lignite – bituminous – anthracite
  
4. The shape of the valley created by glaciers
  - (A) extended V shape
  - (B) U shape
  - (C) V shape
  - (D) extended U shape
  
5. How we name the rivers that are divided and reunited?
  - (A) River branching
  - (B) Sedentary rivers
  - (C) Denuded rivers
  - (D) Braided rivers
  
6. What is the specific gravity of native gold?
  - (A) 11
  - (B) 13
  - (C) 16
  - (D) 19
  
7. Cretaceous of Trichinopoly is a good example for
  - (A) Marine regression
  - (B) Marine ingression
  - (C) Marine transgression
  - (D) None of the above



8. Guyots are
- (A) Flat topped sea mounts      (B) Angled sea rises  
(C) Marine deposits                (D) Round topped sea mounts
9. Outliers are
- (A) older rocks surrounded by younger rocks  
(B) upper beds extend down  
(C) younger rocks surrounded by older rocks  
(D) older rocks surrounded by younger rocks
10. The angle between the normal to the faces of a crystal is
- (A) Zone angle                        (B) Edge angle  
(C) Interfacial angle                (D) All of the above
11. The type mineral of the rhombohedral division of hexagonal system is
- (A) Calcite                              (B) Beryl  
(C) Zincite                                (D) Baryte
12. Name the class that has no plane, no axis and no centre of symmetry
- (A) Isometric asymmetric class  
(B) Triclinic asymmetric class  
(C) Monoclinic asymmetric class  
(D) All of the above
13. How do we term the colour of the mineral powder?
- (A) Tarnish                                (B) Opalescence  
(C) Streak                                 (D) None of the above
14. The most common mineral with conchoidal fracture is
- (A) Talc                                    (B) Diamond  
(C) Quartz                                 (D) Calcite



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15. What is the name of the mineral that yields flexible – elastic plates?
- (A) Mica (B) Graphite  
(C) Stibnite (D) Asbestos
16. What is the silicon oxygen ratio for Sorosilicates?
- (A) 2:7 (B) 1:4  
(C) 1:2 (D) 4:11
17. The violet coloured quartz mineral is
- (A) Blood stone (B) Diatomite  
(C) Citrine (D) Amethyst
18. The lithium bearing pyroxene is
- (A) Enstatite (B) Hypersthene  
(C) Spodumene (D) None of the above
19. Match the following minerals with their places of occurrence.
- |                |                  |
|----------------|------------------|
| P – graphite   | 1 – Punalur      |
| Q – phlogopite | 2 – Thodupuzha   |
| R – ilmenite   | 3 – Chavara      |
| S – clay       | 4 – Pazhayangadi |
- (A) P-1, Q-2, R-3, S-4 (B) P-2, Q-1, R-3, S-4  
(C) P-1, Q-2, R-4, S-3 (D) P-2, Q-1, R-4, S-3
20. The angle between the crystallographic direction and vibration direction is
- (A) Extinction angle (B) Isotropic angle  
(C) Interference angle (D) Polarizing angle
21. Twinkling is best seen in
- (A) Topaz (B) Beryl  
(C) Zircon (D) Calcite


22. Nicol prism below the stage is
- (A) Polariser (B) Analyser  
(C) Diaphragm (D) None of the above
23. What is the age of Lilang system of India?
- (A) Jurassic (B) Triassic  
(C) Permian (D) Mio-Pliocene
24. The characteristic fossil of upper Gondwana
- (A) Glossopteris (B) Gangamopteris  
(C) Ptilophyllum (D) None of the above
25. The marine transgression universal of Cretaceous period
- (A) Cenomanian (B) Anamanian  
(C) Cimmerian (D) None of the above
26. The Cretaceous rocks of Trichinopoly have a ..... fold classification
- (A) Bi - fold (B) Tetra - fold  
(C) Tri - fold (D) Penta - fold
27. The geological term for trace fossils is
- (A) Ichno fossils (B) Taphonomic fossils  
(C) Bed fossils (D) None of the above
28. The Phylum in which Pelecypoda are present is
- (A) Phylum Coelentrata (B) Phylum Gasteropoda  
(C) Phylum Mollusca (D) None of the above
29. The type of dentition seen in Arca is
- (A) Dysmodont (B) Eduntulus  
(C) Conodont (D) Taxodont



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30. Rocks with partly crystals and partly glass are
- (A) Holocrystalline (B) Merocrystalline  
(C) Holohyaline (D) Spherocrystalline
31. The vermicular intergrowth between quartz and feldspar forms texture called as
- (A) Corona (B) Perilitic  
(C) Myrmekitic (D) Devitrification
32. The volcanic equivalent of granite is
- (A) Dolerite (B) Rhyolite  
(C) Monzonite (D) Norite
33. The sedimentary rock with nodular forms of  $\text{CaCO}_3$
- (A) Kankar (B) Greywacke  
(C) Chert (D) Grit
34. The Sandstone rich in feldspar
- (A) Flagstone (B) Arkose  
(C) Tillite (D) None of the above
35. The clastic rock composed of angular fragments
- (A) Breccia (B) Conglomerate  
(C) Geode (D) Arkose
36. First to propose facies concept in metamorphism
- (A) Boass (B) Miyashiro  
(C) Eskola (D) Raymond
37. Metamorphic phase rule
- (A)  $F=C+2-P$  (B)  $F=C-2+P$   
(C)  $F=C+2+P$  (D) None of the above

- 
38. What is the common term used to a mineral from which a metal can be extracted?
- (A) Ore (B) Gangue  
(C) Tenor (D) None of the above
39. Epigenetic minerals are formed ..... to the enclosing minerals.
- (A) same time (B) later  
(C) concentrated (D) dissemination
40. Gypsum is the most common deposit of
- (A) Sublimation (B) Filter pressing  
(C) Vein (D) Evaporation
41. The deposits formed in the anticlinal crests of folded regions are
- (A) Galleries (B) Gash veins  
(C) Saddle reef (D) Vugs
42. High temperature deposits near the intrusion are
- (A) Hypothermal (B) Mesothermal  
(C) Epithermal (D) Migmatites
43. The Cappings or indicators present above the zone of enrichment
- (A) Boxworks (B) Gossans  
(C) Placer (D) Metasomatic
44. Fire proof materials are produced from the mineral
- (A) Asbestos (B) Gypsum  
(C) Chromite (D) Amphiboles
45. What is the other term used to denote heavy spar?
- (A) Iron ore (B) Barytes  
(C) Nickel (D) None of the above





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46. Mica is most commonly used as
- (A) Sublimaters (B) Moderators  
(C) Retarders (D) Insulator
47. The age of Assam oil field is
- (A) Tertiary (B) Jurrassic  
(C) Cretaceous (D) None of the above
48. How do we call the upper surface of Zone of saturation under atmospheric pressure?
- (A) Water table (B) Aquifer  
(C) Darcy's line (D) None of the above
49. The law controlling laminar flow of underground water
- (A) Reynolds law (B) Taylor's law  
(C) Darcy's law (D) All of the above
50. The deposits that grow upward from the ground
- (A) Stalagmite (B) Stalactites  
(C) Drip stones (D) None of the above
51. Water received from rainfall
- (A) Juvenile water (B) Meteoric water  
(C) Connate water (D) Spring water
52. The instrument used for radioactive survey
- (A) Geiger Counter (B) Resistive reader  
(C) Reflection meter (D) All of the above

53. A stream that maintains same course after upliftment in an area is called
- (A) Consequent (B) Subsequent  
(C) Resequent (D) Antecedent
54. A plutonic rock of the gabbro clan with hypersthene as the dominant mafic mineral
- (A) Norite (B) Websterite  
(C) Charnockite (D) Enderbite
55. When uniform or hydrostatic compressive pressure is applied on a body, its
- (A) volume decreases with no change in specific gravity  
(B) specific gravity decreases  
(C) volume decreases but specific gravity increases  
(D) volume increases but specific gravity decreases
56. Stratigraphically a non marine formation
- (A) Karewa formation (B) Umaria bed  
(C) Uttathur formation (D) Uttathur stage
57. Match the mineral in Group I with their industrial application in Group II.


Group I	Group II
P - kyanite	1 - gemstone
Q - chrysoberyl	2 - abrasive
R - corundum	3 - cement
S - gypsum	4 - refractory

- (A) P-1, Q-2, R-3, S-4 (B) P-4, Q-2, R-1, S-3  
(C) P-1, Q-2, R-4, S-3 (D) P-4, Q-1, R-2, S-3





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58. The indicatrix of a biaxial crystal is represented by
- (A) a sphere (B) biaxial ellipsoid  
(C) an oblate spheroid (D) triaxial ellipsoid
59. A fold with horizontal axial plane
- (A) Conjugate fold (B) Recumbent fold  
(C) Fan fold (D) Chevron fold
60. Which of the following is not a Femic Group mineral in CIPW classification?
- (A) Corundum (B) Apatite  
(C) Calcite (D) Wollastonite
61. Which of the following has least silica content?
- (A) Limburgite (B) Komatiite  
(C) Trachyte (D) Tholeiite
62. The abundant vertebrates found during Devonian period are
- (A) Dinosaurs (B) Crocodile  
(C) Frogs (D) Fishes
63. The term "inselberg" refers to
- (A) Isolated Pillar-like mass in desert region  
(B) U- Shaped trough formed by wind  
(C) Depression formed by glacial erosion  
(D) Sink-hole produced at Karst regions
64. An impermeable aquifer neither yields nor holds water
- (A) Aquiclude (B) Aquifer  
(C) Aquitard (D) Aquifuge

- 
65. The first Dinosaurs appeared in
- (A) Triassic (B) Cretaceous  
(C) Jurassic (D) Permian
66. Radial drainage patterns are characteristically associated with
- (A) Steep sloped volcanoes  
(B) Intensively folded rocks  
(C) Uniformly dipping rocks with variegated strength  
(D) Homogeneous rock with uniform resistance
67. Which of the following is the fundamental unit of geological time?
- (A) Era (B) Eon  
(C) Epoch (D) Period
68. The mantle rocks do not contribute to the magnetic anomalies because
- (A) mantle does not possess metallic ions  
(B) rocks of mantle contain more silicate minerals  
(C) magnetic field of mantle is constant  
(D) temperature in mantle is above Curie point
69. Pick out the stratigraphic formation with largest and varied plant fossil assemblage
- (A) Damuda formation (B) Barakar formation  
(C) Rajmahal formation (D) Ranigunj formation
70. Age of Muth-Quartzite is
- (A) Ordovician (B) Devonian  
(C) Cambrian (D) Silurian

71. Which of the following is in correct decreasing order of crystallizing temperature?
- (A) Forsterite – Anorthite – Diopside – Albite
  - (B) Diopside – Forsterite – Anorthite – Albite
  - (C) Forsterite – Diopside – Albite – Anorthite
  - (D) Forsterite – Anorthite – Albite – Diopside
72. Which of the following is a measure of the symmetry of distribution of sediment grain size?
- (A) Sphericity
  - (B) Roundness
  - (C) Kurtosis
  - (D) Skewness
73. As compared to sand stones, the shales have
- (A) higher porosity and permeability
  - (B) lower porosity and permeability
  - (C) higher porosity and lower permeability
  - (D) lower porosity and higher permeability
74. Pseudotachylites is an example of
- (A) Protoparian
  - (B) Hypoparian
  - (C) Opisthoparian
  - (D) Proparian
75. The host rock for petroleum in the Bombay Off-shore basin is
- (A) Shale
  - (B) Sandstone
  - (C) Greywacke
  - (D) Limestone
76. Which of the following stratigraphic units is both underlain and overlain by basic flows?
- (A) Lameta Beds
  - (B) Bagh beds
  - (C) Kaladgi beds
  - (D) Cardita beaumonti beds

- 
77. Cross-hatched twinning is characteristic of
- (A) Microcline (B) Orthoclase  
(C) Quartz (D) Staurolite
78. The volcanic equivalent of Nepheline Syenite is
- (A) Tinguite (B) Ijolite  
(C) Phonolite (D) Nephelinite
79. Hydroxyl bearing minerals are typically absent in rocks of
- (A) Hornfels Facies (B) Granulite Facies  
(C) Eclogite Facies (D) Zeolite Facies
80. Plumbago is another name for
- (A) Stibnite (B) Molybdenite  
(C) Cinnabar (D) Graphite
81. A Monomineralic rock of Calc-Plagioclase is called
- (A) Dunite (B) Anorthosite  
(C) Syenite (D) Lamprophyre
82. The Miller's symbol for parameters  $2a:3b:4c$  will be
- (A) (643) (B) (432)  
(C) (234) (D) (341)
83. Among the following, which mineral has highest specific gravity?
- (A) Barite (B) Chromite  
(C) Cinnabar (D) Galena
84. The mineral epidote is formed due to the process of
- (A) Serpentinisation (B) Saussuritisation  
(C) Sericitisation (D) Kaolinisation
- 

92. The intergrowth texture produced between Quartz and Sodic plagioclase is
- (A) Symplectitic (B) Graphic



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85. In pyroxenes the Silicon-Oxygen ratio is
- (A) 1 : 2 (B) 1 : 3  
(C) 1 : 4 (D) 4 : 11
86. The symmetry of a crystal depends upon
- (A) Shape and number of the faces  
(B) Shape and size of the face  
(C) Space lattice and unit cell disposition  
(D) Chemical composition
87. Spinifex texture is common in
- (A) Lherzolite (B) Limburgite  
(C) Komatiite (D) Commendite
88. Mineral with six directional cleavages
- (A) Muscovite (B) Sphalcrite  
(C) Chalcopyrite (D) Fluorite
89. Which one of the following is not a clino-pyroxene?
- (A) Hedenbergite (B) Hypersthene  
(C) Aegerine (D) Actmite
90. Instrument used to measure the attitude of bed is called
- (A) Terrameter (B) Clinometer  
(C) Goniometer (D) Altimeter
91. A mineral used as rat-poison
- (A) Cerussite (B) Anglesite  
(C) Witherite (D) Siderite



92. The intergrowth texture produced between Quartz and Sodic plagioclase is
- (A) Symplectitic (B) Graphic  
(C) Myrmekitic (D) Perthitic
93. Pick out the Iron rich Garnet
- (A) Almandine (B) Andradite  
(C) Grossularite (D) Pyrope
94. The value of Birefringence in Quartz is
- (A) 0.005 (B) 0.003  
(C) 0.054 (D) 0.009
95. In a meandering stream
- (A) erosion is prominent at the inner side of the bend  
(B) erosion is prominent at the outer side of the bend  
(C) stream has uniform water-flowing velocity  
(D) stream has uniform channel thickness
96. Differentiation of magmas by thermal gradient is called
- (A) Fractional crystallisation (B) Soret effect  
(C) Liquid immiscibility (D) Gaseous transfer
97. Gossans indicate a buried
- (A) Hydrothermal vein (B) Placer  
(C) Sulphide enrichment (D) Residual deposit
98. Sukinda in Orissa is famous for high grade
- (A) Platinum ore (B) Chromium ore  
(C) Gold ore (D) Mercury ore





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99. Which of the following sediments has smallest particle diameter?
- (A) Sand (B) Silt  
(C) Gravel (D) Clay
100. The sulphide mineral often occurs within Lignite beds is
- (A) Magnesite (B) Marcasite  
(C) Malachite (D) Margarite
101. The Saline series is associated with volcanic rocks belonging to
- (A) Sylhet Traps (B) Panjal Traps  
(C) Deccan Traps (D) Khewra Traps
102. Lameta beds of Jabalpur represent
- (A) Marine facies (B) Volcanic facies  
(C) Fluvio-lacustrine facies (D) Riverine facies
103. A rock with Omphacite is
- (A) Ophiolite (B) Spilite  
(C) Eclogite (D) Melancho
104. The first glacial advance has been termed as
- (A) Gunz (B) Mindel  
(C) Riss (D) Wurm
105. Peritectic temperature of Olivine – Pyroxene conversion is at
- (A) 1557°C (B) 1553°C  
(C) 1889°C (D) 1118°C

106. Pick out the correct order of Quartzites of Cuddapah System from older to younger age
- (A) Gulcheru – Bairnkonda – Irlakonda – Srisailam
  - (B) Gulcheru – Irlakonda – Bairnkonda – Srisailam
  - (C) Bairnkonda – Gulcheru – Irlakonda – Srisailam
  - (D) Bairnkonda – Irlakonda – Gulcheru – Srisailam
107. The primitive Cephalopod
- (A) Ammonites
  - (B) Belemnites
  - (C) Ceratite
  - (D) Desmocerus
108. Arrange the following fossils according to their age from older to younger (I) Pliopithecus (II) Monograptus (III) Pardoxydes (IV) Ceratites
- (A) I, II, III, IV
  - (B) III, IV, II, I
  - (C) III, II, IV, I
  - (D) I, IV, II, III
109. On a Survey of India toposheet number 58 J/9, a distance of eight centimetres between two points represents an actual ground distance of
- (A) 4 Kilometres
  - (B) 2 Kilometres
  - (C) 8 Kilometres
  - (D) 16 Kilometres
110. Hornfelsic rocks are characteristically formed due to
- (A) Regional metamorphism
  - (B) Contact metamorphism
  - (C) Cataclastic metamorphism
  - (D) Plutonic metamorphism
111. The lower and middle Triassic deposits were dominated by ammonoids of
- (A) Goniatite suture
  - (B) Ceratite suture
  - (C) Nautiloid suture
  - (D) Ammonitic suture



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112. Which of the following rivers is flowing through a rift valley?
- (A) Cauvery (B) Krishna  
(C) Narmada (D) Brahmaputra
113. Breccia and Conglomerate differ mainly in their
- (A) Grain size (B) Grain shape  
(C) Cementing medium (D) Depositional environment
114. Pick out the non-sulphate ore:
- (A) Celestite (B) Gypsum  
(C) Barite (D) Strontianite
115. Calcareous clay is known as
- (A) Bentonite (B) Marl  
(C) Guano (D) Caliche
116. Folds having sharp hinges and smooth sides are termed as
- (A) Concertina folds (B) Concentric folds  
(C) Cuspate folds (D) Chevron folds
117. The deepest trench Marianas is located in
- (A) Pacific Ocean (B) Atlantic Ocean  
(C) Indian Ocean (D) Arctic Ocean
118. Which one of the following fossils is bivalved, equivalved and inequilateral?
- (A) Turritella (B) Turritites  
(C) Terebratula (D) Trigonina
119. The ozone layer is located in the
- (A) Ionosphere (B) Troposphere  
(C) Stratosphere (D) Mesosphere

120. Pick out the twinning law characteristic of Quartz
- (A) Bragg's law (B) Dauphine law  
(C) Carlsbad law (D) Pericline law
121. The device used to measure the interfacial angle in a crystal is called
- (A) Sclerometer (B) Goniometer  
(C) Clinometer (D) Pedometer
122. Nematoblastic texture is characteristic of
- (A) Amphibolite (B) Trachyte  
(C) Carbonotite (D) Dolerite
123. Pick out the copper ore mineral that do not occur as supergene enrichment
- (A) Chalcopyrite (B) Bornite  
(C) Chalcocite (D) Cuprite
124. Loess is a product of deposition formed by
- (A) Oceans (B) Wind  
(C) Glacier (D) River
125. Which of the following is not a mantle rock?
- (A) Lherzolite (B) Peridotite  
(C) Chondrite (D) Eclogite
126. Pick out the wrong match from the following pairs
- (A) Tourmaline - Ring Silicate  
(B) Anthophyllite - Double Chain Silicate  
(C) Diopside - Single Chain Silicate  
(D) Talc - Framework Silicate



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127. Becke test is carried out to find out the
- (A) Relative refractive index of a mineral
  - (B) Pleochroic scheme of a mineral
  - (C) Order of interference colour of a mineral
  - (D) Relative hardness of a mineral
128. The boundary between Mantle and Core of the Earth is located at a depth of
- (A) 900 Km.
  - (B) 1900 Km.
  - (C) 2900 Km.
  - (D) 3900 Km.
129. Which one of the following is not a diagnostic property of Kyanite?
- (A) Inclined Extinction
  - (B) Double Hardness
  - (C) Bladed Nature
  - (D) Isotropism
130. A geomorphic feature produced at divergent plate boundary is
- (A) Guyot
  - (B) Iceland Arc
  - (C) Oceanic Ridge
  - (D) Folded Mountain Belt
131. The horizontal displacement of the fractured ends of a rock stratum is termed:
- (A) Rake
  - (B) Throw
  - (C) Heave
  - (D) Plunge
132. Swallow-tail twinning is characteristic of
- (A) Albite
  - (B) Rutile
  - (C) Gypsum
  - (D) Fluorite
133. Streams which flow in the opposite direction to the original consequent streams are described as
- (A) Subsequent
  - (B) Obsequent
  - (C) Insequent
  - (D) Resquent

134. A broad gently sloping bedrock surface with low relief that is situated at the base of a steeper slope and is usually covered with alluvial gravel and sand
- (A) Pediment (B) Pedosol  
(C) Peniplain (D) Piedmont
135. The Tethys Sea was located between
- (A) North America and South America  
(B) North America and Eurasia  
(C) Eurasia and Africa  
(D) Antarctica and Australia
136. The Ordovician is known as the age of
- (A) Brachiopods (B) Dinosaurs  
(C) Fishes (D) Graptolites
137. Which of the following is not of marine habitat?
- (A) Pelecypods (B) Cephalopods  
(C) Crinoids (D) Brachiopods
138. Which of the following tectonic settings does not contribute to the magma generation?
- (A) Constructive Plate boundary  
(B) Conservative Plate boundary  
(C) Consuming Plate boundary  
(D) Marginal Ocean basins
139. Ophicalcite is a rock made up of
- (A) Serpentine and Calcite (B) Serpentine and Chlorite  
(C) Calcite and Chlorite (D) Calcite and Dolomite



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140. Which one of the following crystal forms has (hhl) symbol?  
(A) Hexoctahedron (B) Trapezohedron  
(C) Tetrahexahedron (D) Trisoctahedron
141. Which of the following is not an open form?  
(A) Prism (B) Tetrahedron  
(C) Pinacoid (D) Pedian
142. Which is the most abundant element in the Earth's crust?  
(A) Si (B) O  
(C) Fe (D) Mg
143. What is the difference between the polar radius and the equatorial radius of the Earth?  
(A) 21.4 Km (B) 31.4 Km  
(C) 41.4 Km (D) 51.4 Km
144. How many faces a rhombohedron possesses?  
(A) 4 (B) 6  
(C) 8 (D) 12
145. A fold with an inter-limb angle of  $20^\circ$  can be classed as  
(A) open (B) close  
(C) tight (D) broad
146. Which is the tabular concordant intrusion?  
(A) Batholiths (B) Sill  
(C) Dyke (D) Stock

147. Match the following

P - Neogene	1 - Devonian
Q - Paleogene	2 - Miocene
R - Mesozoic	3 - Eocene
S - Paleozoic	4 - Triassic

- (A) P-1, Q-2, R-3, S-4      (B) P-2, Q-3, R-4, S-1  
(C) P-3, Q-4, R-2, S-1      (D) P-2, Q-4, R-3, S-1

148. The base of Cambrian is at

- (A) 541 Ma      (B) 551 Ma  
(C) 561 Ma      (D) 571 Ma

149. Which of the following is not an ore of iron?

- (A) Magnetite      (B) Hematite  
(C) Ilmenite      (D) Siderite

150. Which clay mineral is known commercially as "china clay"?

- (A) Kaolinite      (B) Illite  
(C) Smectite      (D) Dickite

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