

Sl. No. :

FAGEO

Register
Number

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2018
GEOLOGY
(Degree Standard)

Time Allowed : 3 Hours]

[Maximum Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains **200** questions. Prior to attempting to answer the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination it will not be replaced.**
3. Answer **all** questions. **All** questions carry equal marks.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Number with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per commission's notification.
7. Each question comprises *four* responses (A), (B), (C) and (D). You are to select **ONLY ONE** correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are **four** circles (A), (B), (C) and (D) against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen **ONLY ONE** circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. *e.g.* If for any item, (B) is the correct answer; you have to mark as follows :

(A) ● (C) (D)
9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
10. The sheet before the last page of the Question Booklet can be used for Rough Work.
11. Do not tick-mark or mark the answers in the Question Booklet.
12. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
13. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

SEAL

1. The Mesozoic era is as old as
 (A) 230 million years (B) 500 million years
(C) 400 million years (D) 300 million years
2. Rock phosphates are abundant in which of the following formations?
 (A) Cretaceous of Trichinopoly (B) Jurassic of Kutch
(C) Triassic of Spiti (D) Vindhyan formation
3. The stabilisation of Dharwar and central Indian provinces was formalized by the emplacement of
(A) Newer dolerites
 (B) Close pet granite
(C) Champion gneiss
(D) Peninsular gneiss
4. The marine cretaceous rocks of Cauvery basin attained a maximum thickness in Trichinopoly and Vridhachalam of about
(A) 1700 m
 (B) 2500 m
(C) 1500 m
(D) 2800 m
5. The Uttatur formation contains fossils ranging in age from
(A) Campanian to Masstrichtian (B) Aptian to Albian
 (C) Albian to Turonian (D) Turonian to lower Senonian
6. Joints are encountered in
(A) sedimentary rocks only (B) igneous rocks only
(C) metamorphic rocks only (D) all of the above

7. The earliest known Echinoid is
- (A) Miocidaris (B) Echinocory
 (C) Bothriocidaris (D) Clypeastrina
8. The size of foraminifera tests are varying from
- (A) 0.05 to 170 mm (B) 0.01 to 190 mm
 (C) 0.02 to 160 mm (D) 0.03 to 150 mm
9. Which of the following statements are correct?
- I. The chambers of foraminifera are in a single series.
 II. They are rectilinear and curvilinear.
 III. Whorl is visible –involute coiling.
 IV. There is only one opening in the test at the distal end is called as 'aperture'.
- (A) Only I is correct (B) Only III is correct
 (C) All are correct (D) III and IV are correct
10. The Alveolinella belongs to which of the following super family?
- (A) Ammodiscidae
 (B) Miliolidae
 (C) Both Ammodiscidae and Alveolinidae
 (D) Alveolinidae
11. The angle between Octahedron and Dodecahedron is
- (A) 35°, 15', 52" (B) 45°, 15', 52"
 (C) 65°, 15', 52" (D) 75°, 15', 52"

12. Cryptocrystalline is used when the individual crystals are
- (A) Too large to be distinguished
 - (B) Too small to be separately distinguished
 - (C) Intermediate to be distinguished
 - (D) Completely absent
13. Heterogeneity of texture is produced by the inclusion of foreign rock fragments within an igneous rock is called as
- (A) Corona structure
 - (B) Xenolithic structure
 - (C) Cognate structure
 - (D) Myrmekite structure
14. When microgranite shows graphic intergrowths between the quartz and felspar it is called as
- (A) Malchite
 - (C) Granophyre
 - (B) Felsite
 - (D) Riebeckite
15. A fold is said to plunge if the axis is not
- (A) vertical
 - (C) horizontal
 - (B) inclined
 - (D) both horizontal and inclined
16. The igneous rocks are those which have solidified from the
- (A) Liquid condition
 - (C) Molten condition
 - (B) Viscous condition
 - (D) Gaseous condition
17. A dyke of arcuate out crop, which, with full development, would have a closed, ring shaped outcrop
- (A) Sills
 - (B) Ring dykes
 - (C) Batholith
 - (D) Laccolith
18. When magmas of different composition avail themselves of the same channel of injection they give rise to
- (A) Single intrusion
 - (C) Composite intrusion
 - (B) Multiple intrusion
 - (D) Lateral intrusion

19. Find out the ODD one

(A) Bauxite

(B) Hematite

(C) Magnetite

(D) Limonite

20. Which one of the following is copper carbonate?

(A) Chalcocite

(B) Azurite

(C) Covellite

(D) Cuprite

21. The chemical composition of Bauxite is

(A) $\text{Al}_2\text{O}_3 \cdot 7\text{H}_2\text{O}$

(B) Al_2O_3

(C) $\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$

(D) $\text{Al}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$

22. Name of the coal which is having carbon content of 75% – 95%

(A) Peat

(B) Anthracite

(C) Lignite

(D) Bituminous

23. Resistivity of crystalline igneous rocks is generally in the range of

(A) 10^2 ohm – meters

(B) <10 ohm – meter

(C) 10^5 ohm – meter

(D) None of the above

24. Which of the following has the highest compressive strength?

(A) Granite

(B) Dacite

(C) Quartzite

(D) Marble

25. Which of the following statements regarding characteristics of plates are correct?
- I. A plate consist of crust, upper mantle and a part of lower mantle.
 - II. Size and shape of the plates are not constant.
 - III. Plates are spherical or curved and are interdependent.
 - IV. Thickness of plates vary. It is 10 km beneath oceans and 200 km beneath continents
- (A) All are correct
 - (B) I, II are correct III, IV are incorrect
 - (C) II, III are correct I, IV are incorrect
 - (D) III, IV are correct I, II are incorrect
26. Which of the following is correctly paired?
- (A) Chamberlin - Planetesimal Hypothesis
 - (B) Jeffrey - Electromagnetic theory
 - (C) Birkeland - Tidal Theory
 - (D) Kant - Dust cloud hypothesis
27. The age of the Gondwana system is
- (A) Tertiary
 - (B) Pre-Cambrian
 - (C) Upper carboniferous to Late Jurassic
 - (D) Silurian
28. The Ganagamopteris beds belongs to
- | | |
|--|--------------|
| (A) Upper Gondwana | (B) Cambrian |
| <input checked="" type="checkbox"/> (C) Lower Gondwana | (D) Jurassic |
29. Suket shales is a strata of
- | | |
|-------------------|---|
| (A) Kaimur group | (B) Rewa group |
| (C) Bhandar group | <input checked="" type="checkbox"/> (D) Semri group |

30. Which of the following statements are correct?
- I. The body of Lamellibranch is enclosed in a calcareous shell.
 - II. One valve is placed on the right side
 - III. One valve on the left side.
 - IV. Two valves are joined together by means of hinge and ligament.
- (A) Only I, II and III correct (B) All are correct
 (C) II, IV and I are correct (D) I, III and IV are correct
31. Megalodon belongs to the class
- (A) Cephalopoda (B) Brachiopoda
 (C) Gastropoda (D) Pelecypoda
32. The gastropods are
- I. Terrestrial
 - II. Fresh water
 - III. Marine
- (A) I, III (B) II only
 (C) III only (D) I, II, III
33. The gastropoda shells are made up of
- (A) Two valve (B) One valve
 (C) Three valve (D) Four valve
34. Which of the following statements are true or false?
- I. The interior of the cephalopoda shell is divided into a number of chambers
 - II. The chambers have a thin transverse partitions termed as 'septa'
 - III. The chambers increase in size from the protoconch towards the aperture of the shell
- (A) I is true (B) I and II are true but III false
 (C) I, II and III are true (D) II and III are true but I is false

35. Which of the following is incorrectly paired?
- (A) Ino-Silicates – Chain structure
 - (B) Cyclosilicates – Ring structure
 - (C) Phyllosilicates – Sheet structure
 - (D) Tectosilicates – Double chain structure
36. Quartz is important in the manufacturing of
- (A) Glass and optical instruments
 - (B) Silk and Varnish
 - (C) Paper industries
 - (D) Abrasive purposes
37. Variation of composition marked in the marginal region of minerals in zones.
- (A) Zoning
 - (B) Crystallization
 - (C) Re-Crystallization
 - (D) Lithification
38. Chemical composition of pyroxenes may be represented by the formula
- (A) R_2SiO_2 R = CO, Na, Al and Si: 0, 1:4
 - (B) $RoSi_2O_3$ R = Cl, Al, and Si = 0 1:2
 - (C) $RSiO_3$ – R = Ca, Na, Al and Li Si:0, 1:3
 - (D) R_1SiO_4 – R = Al, Na, Li and Si:0 1:1
39. Who has first suggested convection is the mechanism for the continents drifting?
- (A) Arthur Holmes
 - (B) Jason Morgan
 - (C) J.T. Wilson
 - (D) Hugo Benioff

40. Charnockite is a
(A) Pyroxene granite (B) Feldspar granite
 (C) Hypersthene granite (D) Mica granite
41. Which metamorphic rocks shows eye structures?
 (A) Augen gneiss (B) Banded gneiss
(C) Charnockite (D) Schist
42. Who is originated the concept of metamorphic facies?
(A) Goldschmidt (B) G.W. Tyrrell
(C) Wilson (D) Eskola
43. The metallic mineral deposits are called as
 (A) Ore (B) Dump
(C) Raw (D) Metals
44. Tenor of Gold is
(A) 0.1 Ounce/Tonne (B) 0.7 Ounce/Tonne
 (C) 0.15 Ounce/Tonne (D) 0.100 Ounce/Tonne
45. Tenor of Zinc is
 (A) 3% (B) 10%
(C) 15% (D) 20%
46. Tenor of Manganese is
(A) 5% (B) 15%
 (C) 35% (D) 25%

47. Which of the following is incorrectly paired?
- (A) Barchans – Crescentric shaped dunes
 (B) Seif – Similar to Barachens
 (C) Longitudinal – Perpendicular to wind direction
 (D) Star – With Spikes
48. Which of the following statements regarding river erosion are correct?
- I. Corrosion is a kind of river erosion
 II. It is a chemical action and happens slowly
 III. The extent of corrosion depends on composition of rocks and not composition of flowing water
 IV. The extent of corrosion depends on composition of flowing water and not compositional of rock
- (A) All are correct
 (B) I, III are correct II, IV are incorrect
 (C) I, II are correct III, IV are incorrect
 (D) I, II, IV are correct III is incorrect
49. Acquisition of water of one drainage basis by a river of another drainage basin is termed as
- (A) River Terraces
 (B) River Piracy
 (C) River Gaps
 (D) River cutting
50. Which of the following statements regarding Delta are correct?
- I. Delta is a triangular shaped feature of stream deposition.
 II. It is a subaqueous in origin.
 III. Velocity of the stream is increased and it is decreased on entering to the sea, it the sea is not rough.
 IV. The increase in velocity settles out the sediments of the stream.
- (A) All are correct
 (B) I, II are correct III, IV are incorrect
 (C) I, II, III are correct IV is incorrect
 (D) I is correct II, III, IV are incorrect

51. The line of maximum curvature in a folded bed is to
- (A) hinge (B) limb
(C) axis (D) both (A) and (B)
52. Joint perpendicular to the axis of folds is called (Common in orogenic belts)
- (A) Release joints (B) Shear joints
 (C) Extension joints (D) Both (A) and (B)
53. A clinometer compass is used to measure
- (A) Strike direction
(B) Strike and dip direction
 (C) Strike direction, dip direction and dip amount
(D) None of the above
54. Low angle normal fault is called
- (A) Reverse fault (B) Thrust fault
 (C) Detachment fault (D) Normal fault
55. Of the two blocks lying on either side of the fault plane
- (A) Fault scarp (B) Footwall only
 (C) Foot wall and hanging wall (D) hanging wall only
56. There are relatively short faults which overlap each other
- (A) Radial faults (B) Arcuate faults
 (C) Enechelon faults (D) Step faults

57. Reflecting Goniometer is devised by
(A) Penfield
(C) Dana
(B) Wollaston
(D) Ford
58. Orthoclase crystallizes in _____ system.
(A) Monoclinic system
(C) Rhombohedral division
(B) Triclinic system
(D) Isometric system
59. Find out the incorrect pair
(A) Calcite – Corundum
(C) Calcite – Tourmaline
(B) Calcite – Fluorite
(D) Calcite – Hematite
60. Choose the correct pair.
(A) Wulfenite – Chalcopyrite
(C) Wulfenite – Calcite
(B) Wulfenite – Fluorite
(D) Wulfenite – Barite
61. Find out the incorrect pair.
(A) Macropinacoid – Base
(C) Brachypinacoid – b-pinacoid
(B) Macropinacoid – a pinacoid
(D) Base – c pinacoid
62. Choose the incorrect pair.
(A) Rhodonite – Rhombohedron
(C) Albite – Triclinic
(B) Rhodnite – Triclinic
(D) Anorthite – Triclinic
63. Find out the incorrect pair.
(A) Barite – Sulphur
(C) Barite – Staurolite
(B) Barite – Beryl
(D) Barite – Topaz

64. The stress-strain diagram the curve D represent
- (A) Brittle substance
 - (B) Common type of plastic deformation
 - (C) An ideal plastic substance
 - (D) Normal type of plastic behaviour
65. A 'maar' is a _____ cut below the pre-eruption surface into older material.
- (A) Caldera like
 - (B) Ejecta
 - (C) Cinder cone
 - (D) Broad volcanic crater
66. Tracks and Trails marking indicates
- (A) Foot prints due to amphibia
 - (B) Mud cracks
 - (C) Rain-prints
 - (D) Drip impressions
67. Guano is a
- (A) Residual deposits
 - (B) Non-Clastic organic deposits
 - (C) Non-Clastic chemically formed
 - (D) Clastic sediments
68. Which sandstone rich in Mica?
- (A) Ganister
 - (B) Free stone
 - (C) Flag stone
 - (D) Arkose
69. Cementing material of Ferruginous sand stone is
- (A) Iron oxide
 - (B) Clay
 - (C) Calcium and Magnesium
 - (D) Silica
70. The concept of formation of a sedimentary rock in a particular type of environment is explained by the term
- (A) Diagenesis
 - (B) Sorting
 - (C) Facies
 - (D) Bedding

71. The following formula which one is used for absorption value

(A) $= \frac{S-W}{W} \times 100$

(B) $= \frac{3WL}{2bd^2}$

(C) $= 20 - \frac{\text{Loss of weight in gram}}{3}$

(D) None of the above

72. Which of the following conditions is not necessary for an Arch dam.

(A) Narrow V-shaped valley

(B) Converging down stream displacement

(C) Very strong abutement

(D) Diverging down stream displacement

73. The excess of quantity of rock broke in and removed from the proposed tunnel is known as

(A) Caving

(B) Excavation

(C) Caving and excavation

(D) Over break

74. During soft ground tunneling what type of tunnel to be design

(A) D shaped

(B) Horse shoe shaped

(C) Circular

(D) None of the above

75. Ground water condition most suitable for tunneling alignment

(A) Run all through entirely imperious formation

(B) Run partly imperious formation

(C) Run through previous formation

(D) Both (B) and(C)

76. The Nagpur Road plan formed in the year of

(A) 1943

(B) 1950

(C) 1941

(D) 1948

77. The movement of consolidated materials which is detached in bed rock is called

(A) Creep

(B) Rapid flows

(C) Rock falls

(D) Rock slider

78. "A" zone referred in
- (A) Litho stratigraphic unit (B) Chronostratigraphic unit
(C) Litho-Chronostratigraphic unit (D) Biostratigraphic unit
79. The broadest unit of Lithostratigraphic classification is called
- (A) System (B) Group
(C) Super group (D) Formation
80. The Gondite series of Madhya Pradesh are enriched with
- (A) Manganese (B) Magnesium
(C) Iron (D) Chromium
81. Marine sediments of Cuddapah basin are
- (A) Unfossiliferous (B) With trilobite fossils
(C) With Brachiopods (D) With Cephalopods
82. Sirbu Shales is belongs to
- (A) Bhandar series (B) Kaimur series
(C) Rewa series (D) Semri series
83. The earth's magnetism at the time of deposition of rocks controls the orientation of ferromagnetic minerals under conditions of settling and the study is known as
- (A) Palaeontology (B) Palaeomagnetism
(C) Palaeobotany (D) Seismic stratigraphy

84. Which of the following statements are correct (or) incorrect?

- I. The class anthozoa has 5 subclasses.
- II. The subclass Alcynozoa is also known as octacorallia.
- III. They are Mesozoic subclass.
- IV. The subclass schizocorallia started their life in Ordovician

- (A) I and II are correct but III and IV are incorrect
- (B) II and III are correct but I and IV are incorrect
- (C) IV and I are correct, but II and III are incorrect
- (D) All are correct

85. Point out the wrong statement in the following.

- I. The umbo of brachiopoda mark the posterior end of the shell.
- II. The umbo of the ventral valve is less prominent than that of the dorsal valve.
- III. The surface of the brachiopoda shell is smooth.
- IV. They are marked by concentric growth lines.

- (A) I and III wrong statement
- (B) Only IV wrong statement
- (C) Only I wrong statement
- (D) II wrong statement

86. The brachiopoda are grouped into _____ classes.

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

87. Which of the following Trilobite is blind?

- (A) Paradoxides
- (B) Calymene
- (C) Agnostos
- (D) Phacops

88. Tourmaline is a complex
- (A) Silicate of calcium and magnesium
 - (B) Silicate of lithium and potassium
 - (C) Silicate of boron and aluminium
 - (D) Silicate of aluminium and sodium
89. Zircon is a
- (A) Simple Silicate of Uranium
 - (B) Simple Silicate of Cesium
 - (C) Simple Silicate of Aluminum
 - (D) Simple Silicate of Zirconium
90. Pillow structure is a peculiar structure occurring mostly in
- (A) Medium lara
 - (B) Basic laras
 - (C) Intermediate lara
 - (D) Upper lara
91. Excess of Silica which is left over in the process of complete crystallizations, crystallizes out as
- (A) Quartz
 - (B) Silica
 - (C) Iron
 - (D) Magnesite
92. The constant proportion in which the two constituents simultaneously crystallize is called as
- (A) Constant point
 - (B) Diagonal point
 - (C) Eutectic point
 - (D) Indicator point
93. Crystallites are
- (A) Micro crystals
 - (B) Embryo crystals
 - (C) Macro crystals
 - (D) Minute crystals

94. The crushing strength of the granite is
- (A) 750 – 2500 KgF/cm²
 - (B) 1000 – 2500 KgF/cm²
 - (C) 1500 – 2750 KgF/cm²
 - (D) 1000 – 3000 KgF/cm²
95. The formula $\frac{P}{l.a}$ kg/cm² is used for determining
- (A) Hardness
 - (B) Crushing
 - (C) Hydrophobic
 - (D) Impact toughness
96. The suitable location for the construction of Arch dam is
- (A) Wide valleys
 - (B) Narrow valleys
 - (C) Both (A) and (B)
 - (D) None of the above
97. The up stream portion of the dam where it conducts the bearing surface is known as
- (A) Toe
 - (B) Crest
 - (C) Heel
 - (D) Abutment
98. Cupola dam is type of
- (A) Gravity dam
 - (B) Arch dam
 - (C) Embankment dam
 - (D) None of the above

99. Consider the following statements.
- I. Acidic lavas are uncommon, highly viscous and erupted with explosive action.
 - II. Basic lavas are common, quite mobile and poured out without much noise.
- (A) Both (I) and (II) are true (B) (I) is true (II) is false
(C) (I) is false (II) is true (D) Both (I) and (II) are false
100. The term _____ is applied to the skeletal remains of a volcano in which broken fragments of original rocks are still found.
- (A) volcanic plugs (B) volcanic neck
(C) volcanic dust (D) volcanic bomb
101. Which of the following country affected by deep earthquakes?
- (A) New Zealand (B) Indonesia
 (C) Japan (D) Fiji
102. The disaster of Gujarat earthquake occurred on
- (A) 25 January 2000 (B) 25 January 2001
(C) 26 January 2000 (D) 26 January 2001
103. Consider the following statements.
- I. No earthquake with a focus deeper than 700 km has been recorded so far.
 - II. Majority of the earthquake of the past had their focii lying within 10 km.
 - III. Only a very few earthquakes had their focii laying between 10–50 km.
- (A) All are correct
(B) I, II are correct, III is incorrect
 (C) I is correct II, III are incorrect
(D) II is correct I, III are incorrect

104. A fold which is convex upwards and having younger beds in its core may be described as

- (A) Antiform (B) Anticline
(C) Anticlinorium (D) Synform

105. The first specimen of preservation of soft parts was found frozen in the

- (A) Beresovka (B) Babicia
 (C) Lena delta (D) California

106. The most favourable environment for the preservation of fossil is

- (A) Terrestrial (B) Marine
(C) Lacustrine (D) Fluvial

107. The study to fix and correlate age of rocks using fossils is called

- (A) Biostratigraphy (B) Index fossil
(C) Chronostratigraphy (D) Palaeogeography

108. Match the following

- | | |
|------------------|-------------------------|
| (a) Monograptus | 1. Four rhabdosomes |
| (b) Diplograptus | 2. Uniserial rhabdosome |
| (c) Tetragraptus | 3. Biserial rhabdosome |
| (d) Cyclograptus | 4. Curved rhabdosome |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| (A) | 1 | 2 | 3 | 4 |
| <input checked="" type="checkbox"/> (B) | 2 | 3 | 1 | 4 |
| (C) | 2 | 3 | 4 | 1 |
| (D) | 1 | 4 | 3 | 2 |

109. Match the following :

- | | |
|----------------------|---|
| (a) Mirror | 1. One side plane end the other side concave to reflected light |
| (b) Diaphragm | 2. Polariser to produce plane polarized light |
| (c) Lower nicolprism | 3. Lenses illumination of field if slightly closed |
| (d) Upper nicol | 4. Used to analyze the plane of vibration of light which pass through the mineral section |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| <input checked="" type="checkbox"/> (A) | 1 | 3 | 2 | 4 |
| (B) | 3 | 4 | 2 | 1 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 4 | 3 | 2 | 1 |

110. The polarized light is

- (A) In which the light vibrates only in one direction in the plane of vibration
- (B) In which the light vibrates only in two direction in the plane of vibration
- (C) In which the light vibrates only in three direction in the plane of vibration
- (D) In which the light vibrates not in any direction in the plane of vibration

111. The greatest degree of pleochroism in two direction

- (A) Dichroic (B) Trichroic
- (C) Monochroic (D) Dispersion

112. Neso-Silicates structure is

- (A) Two tetrahedra sharing one oxygen
- (B) Closed rings of tetrahedra sharing two oxygen
- (C) Independent tetra hedron
- (D) These are three - dimensional framework tetrahedra

113. Example for Neso-Silicates

- (A) Quartz, feldspar, Pyroxene
- (B) Olivine, Zircon, Garnet
- (C) Epidote, Zeolite, Kaolinite
- (D) Mica, Biotite, Hornblende

114. Staurolite is index mineral of _____ metamorphism.
- (A) Medium grade (B) High grade
(C) Low grade (D) Very high grade
115. Which zone is middle metamorphic zone?
- (A) Epi zone (B) Keta zone
 (C) Meso zone (D) Katamorphic zone
116. Mineral assemblage of Granulite metamorphic facies is
- (A) Clinopyroxene + Labradorite + Quartz
 (B) Clinopyroxene + Labradorite + Orthopyroxene + Quartz
(C) Glaucophane + Laawsonite + Quartz
(D) Smeatite + Zeolite
117. Which one of metamorphism is High Pressure and High Temperature Metamorphism?
- (A) Regional metamorphism (B) Thermal metamorphism
(C) Contact metamorphism (D) Dynamic metamorphism
118. Hydroxyl – bearing mineral are common in _____ metamorphic zone.
- (A) Kata (B) High Pressure and High Temperature
 (C) Epi (D) Meso
-
119. Metamorphic facies are defined by
- (A) A Single dominant Minerals type
(B) Peculiar textures and structures of the rock type
 (C) Critical mineral assemblages
(D) A conditions of Pressure and Temperature

120. Earth's interior can be understood through
- (A) Cosmic waves (B) Raleigh waves
(C) Electromagnetic waves (D) Seismic waves
121. Find the correct sequence of earth materials of Earth Interior
- (A) Sial, Sima, Magnesium-Iron silicate, Nickel-Iron, Peridotite
(B) Sial, Sima, Magnesium-Iron Silicate, Peridotite, Nickel-Iron
(C) Sial, Sima, Nickel-Iron, Peridotite, Magnesium-Iron Silicate
 (D) Sial, Sima, Peridotite, Magnesium-Iron silicate, Nickel-Iron
122. Which of the following is a chemical weathering process?
- (A) Exudation (B) Carbonation
(C) Insolation (D) Exfoliation
123. Which of the following statements regarding spheroidal weathering are correct?
- I. Moisture penetrates into the porous rocks to a short distance.
II. The top layer becomes dried up while bottom layers are still wet.
III. At this stage chemical weathering decomposes all the materials.
- (A) All the correct (B) I, II are correct
(C) All are wrong (D) I, III are correct
124. Consider the following statements
- I. Karren is a land form developed due to chemical weathering.
II. The land form develops on limestone terrain.
III. It develops on granite rocks above the ground level
IV. It develops on limestone and granite rocks
- (A) All are correct (B) I is true, II, III, IV are false
(C) I, II, III are true, IV is false (D) I, II are true, III, IV false
125. Find the correct sequence of sediment transport jumps
- (A) Skidding, Sliding, Rolling (B) Rolling, Skidding, Sliding
(C) Rolling, Sliding, Skidding (D) Skidding, Rolling, Sliding

126. In which the joint sets strike parallel to the dip direction of the rocks?
- (A) Diagonal joints (B) Radial joints
(C) Strike joints (D) Dip joints
127. The temporary change in shape or size of the rock is
- (A) elastic deformation (B) deformation
(C) brittle deformation (D) ductile deformation
128. Brunton compass used by geological field work as following
- (A) measuring dip (B) measuring dip angle
(C) measuring strike (D) all of the above
129. Cross joints are
- (A) Columnar joints produced due to the intersection of two or more sets of vertical joints
(B) Cracks formed due to prolonged exposure of clayed sediments to the atmosphere
 (C) Joints formed perpendicular to column axes due to contraction
(D) Joints formed parallel to the fold axes
130. The normal component if it tends to push together the material on opposite sides of the plane is
- (A) tensile stress (B) compressive stress
(C) shearing stress (D) none of the above
131. Intrusive igneous rocks are usually composed of
- (A) quartz (B) feldspar
(C) mic (D) all the above

132. The Inter facial angle between Obtuse and acute forms of a calcite is

- (A) 90° (B) 80°
 (C) 60° (D) 100°

133. Name of the form having bounded by 48 similar faces

- (A) Cube (B) Trapezohedraon
 (C) Hexoctahedron (D) Tris Octahedron

134. The form bounded by 8 faces parallel to vertical axis in tetragonal system

- (A) Ist order prism (B) Ditetragonal prism
 (C) IInd order prism (D) IIIrd order prism

135. Macro pinacoid is also known as _____.

- (A) d-pinacoid (B) c-pinocoid
 (C) b-pinacoid (D) a-pinacoid

136. The forms whose faces are parallel to inched axis a – and intersecting the other two axes

- (A) clinodomes (B) orthodome
 (C) macrodome (D) brachy dome

137. Match the following.

	Normal class			–	Grade of symmetry
(a)	Isometric system			–	(1) –11
(b)	Tetragonal system			–	(2) –23
(c)	Orthrhombic system			–	(3) –1
(d)	Triclinic system			–	(4) –7
	(a)	(b)	(c)	(d)	
(A)	4	3	2	1	
(B)	3	4	1	2	
(C)	1	2	3	4	
<input checked="" type="checkbox"/> (D)	2	1	4	3	

138. These are divisional planes which are found in all kinds of igneous rocks.
- (A) Folds (B) Joints
 (C) Faults (D) Fissures
139. Rocks of different mineral composition arising from similar magma under different conditions of crystallisation is termed as
- (A) Polymorphism (B) Isomorphism
 (C) Homomorphism (D) Hetero morphism
140. The chemical composition of "Forsterite" is
- (A) 2FeOSiO_2 (B) $2\text{TiO}_2\text{M, FeO}$
 (C) 2MgO, SiO_2 (D) $2\text{SrO}_2, \text{FeO}$
141. The minerals of low silication is aa follows :
- (A) Orthoclase and albite (B) Leucite and Nepheline
 (C) Aujite and Aegirine (D) Biotite and Olivine
142. The Minerals of High silicification are
- (A) Monoclinic pyroxenes (B) Orthorhombic Pyroxenes
 (C) Garnet (D) Felspathoids
143. The minerals involved in gravitational differentiation and sinking are as follows
- (A) Garnet (B) Felsphathoids
 (C) Rhyolite and dacite (D) Plagioclase and Iron ores
144. The minerals mostly involved in gravitational sinking are
- (A) Felspans (B) Olivine and Pyroxenes
 (C) Felspathoids (D) Garnets

145. In using remote sensing the measuring techniques of Gamma rays wavelength is
- (A) 0.03 to 3 nm (B) 3.0 to 3.5 nm
 (C) <0.03 nm (D) None of the above
146. Impervious formation (or) stiff clay layer available at shallow depth underlain by a thick alluvial stratum is called
- (A) Boring (B) Driving
 (C) Cavity walls (D) Core drilling
147. The most rapid drilling method for unconsolidated formation is
- (A) Rotary percussion method
 (B) Air Rotary method
 (C) Reverse circulation rotary method
 (D) Cable – tool percussion method
148. Which one of the following is the oldest type of drilling?
- (A) Auger drilling (B) Calyx drilling
 (C) Percussion drilling (D) Rotatory drilling
149. In the diamond drill which of the following tools are used for drilling purpose (in increasing order)
- (A) Diamond bit, reaming shell, connector, core barrel
 (B) Diamond bit, connector, core barrel, Reaming shell
 (C) Diamond bit, reaming shell, core barrel, connector
 (D) Connector, diamond bit, core barrel, Reaming shell
150. In studying an area a geologist proceeds along the route is
- (A) Traverses (B) Mapping
 (C) Both (A) and (B) (D) None of the above

151. Irrawaddy system contains
- (A) Fresh water sandstones (B) Marine sands and sandstones
(C) Conglomerates (D) Green Shales
152. Diamond bearing conglomerates form the Unconformity surfaces to separate the series in which of the following systems?
- (A) Dharwars (B) Vindhya
(C) Cuddapahs (D) Gondwanas
153. Giridih coal field is situated in which of the stages of Gondwana?
- (A) Talchir (B) Raniganj
 (C) Barakar (D) Barren measures
154. Hercynian orogeny marks the termination of
- (A) Carboniferous (B) Silurian
(C) Devonian (D) Ordovician
155. Deccan Traps is a volcanic eruption belongs to
- (A) Central eruption (B) Fissure eruption
(C) Volcanic outburst (D) Lateral eruption
156. The concept of Bio-stratigraphy was introduced by
- (A) W.J. Arkell (B) S.S. Buckman
 (C) L. Dollo (D) William Smith

157. Match the following :

- | | |
|----------------|----------------|
| (a) Cardita | 1. Brachiopoda |
| (b) Rhyconella | 2. Pelecypoda |
| (c) Conularia | 3. Cephalopoda |
| (d) Octoceras | 4. Gastropoda |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| (A) | 1 | 4 | 3 | 2 |
| (B) | 2 | 3 | 4 | 1 |
| <input checked="" type="checkbox"/> (C) | 2 | 1 | 4 | 3 |
| (D) | 4 | 1 | 2 | 3 |

158. The calcareous wall which forms the boundary of the corallum is called

- (A) Epitheca
- (B) Calyx
- (C) Theca
- (D) Polyp

159. The corals has the following structures and which one is correct (or) incorrect.

- I. Laminar
 - II. Encrusting
 - III. Domal
 - IV. Massive
- (A) I is correct and others are incorrect
 - (B) II and III are correct and others are incorrect
 - (C) I, II and III are correct and IV one is incorrect
 - (D) All are correct

160. Hypersthene shows a kind of structure

- (A) Schillerisation (B) Hourglass
(C) Zoinning (D) Intergrowth

161. Which of the following is not a plate boundary?

- (A) Convergent (B) Conservative
 (C) Conservation (D) Constructive

162. For which mineral in the following the streak is deep blue

- (A) Anthophyllite (B) Attinolite
 (C) Glaucochane (D) Tremolite

163. Which of the twinning type is common in amphibole?

- (A) Contact twins are common (B) Simple twins are common
(C) Multiple twins are common (D) Not twins are common

164. _____ is found to be strongly pleochroic

- (A) Lepidolite (B) Paragmite
 (C) Biotite (D) Muscovite

165. Altered biotite is?

- (A) Vermiculites (B) Lepidomelane
(C) Sericite (D) Gilbertite

166. Which Calcite variety is a transparent crystalline variety?

- (A) Aragonite (B) Iceland spar
(C) Satin Spar (D) Chalk

167. Which one of the following is not called as ore?

- (A) Silica (B) Chromium
(C) Tin (D) Silver

168. The melting temperature of stibnite is

- (A) 300°C (B) 446°C
 (C) 546°C (D) 500°C

169. The process of formation of ores by igneous origin is

- (A) Magmatic Concentration (B) Sublimation
(C) Evaporation (D) Metamorphism

170. Magnetic formed through _____ process.

- (A) Late Magmatic (B) Early magmatic
(C) Metamorphic (D) Meta somatic

171. Choose the following which is formed through sedimentation process?

- (A) Diamond (B) Chromite
(C) Magnetite (D) Clay

172. The movement of materials from one place to another is called as

- (A) Evaporation (B) Transportation
(C) Segregation (D) Dissemination

173. Phosphate formed in _____ conditions

- (A) River (B) Lake
(C) Desert (D) Marine

174. Consider the following statements

Assertion [A] : In rectangular drainage pattern both main stream and tributaries show right angled bends.

Reason [B] : It is mainly due to joint and fault systems.

- (A) Both [A] and [B] are true. [B] is the correct reason for [A]
(B) Both [A] and [B] are true. [B] is not the correct reason for [A]
(C) [A] is true but [B] is false
(D) Both [A] and [B] are false

175. Which of the following is involved in Eckman spiral?

- (A) Salinity (B) Temperature
 (C) Wind (D) Gravity

176. Consider the following statements.

Assertion [A] : Corals generally live in 68 – 90° F or 20 – 32°C temperature condition.

Reason [B] : It grows only in relatively warm waters.

- (A) Both [A] and [B] are true. [B] is the correct reason for [A]
(B) Both [A] and [B] are true. [B] is not the correct reason for [A]
(C) [A] is true but [B] is false
(D) [A] is false. [B] is true

177. Match the List I and with List II and select the answer using the codes given below

- | List I | | List II | |
|-------------------|--|-------------------------------|--|
| (a) Helictites | | 1. Hanging from the ceiling | |
| (b) Stalactites | | 2. Grow upward | |
| (c) Drip curtains | | 3. On the cave ceiling | |
| (d) Stalagmites | | 4. Hang down from the ceiling | |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| (A) | 4 | 1 | 2 | 3 |
| (B) | 4 | 1 | 3 | 2 |
| (C) | 3 | 4 | 2 | 1 |
| <input checked="" type="checkbox"/> (D) | 3 | 4 | 1 | 2 |

178. Horst and grabens are often called as

(A) Strike slip faults

(B) Dip Slip faults

(C) Vertical faults

(D) Block faults

179. The wavy undulations are formed of a series of alternate _____ and _____.

(A) limb and axial plane

(B) crests and troughs

(C) axis and limb

(D) hinge and axial plane

180. The 'Devel's Test machine is used to determine

(A) Abrasion test

(B) Attrition test

(C) Toughness

(D) Modulus of elasticity

181. Folds with inclined axial planes in which both the limbs are dipping same direction are called

(A) Asymmetrical fold

(B) Overtuned fold

(C) Symmetrical fold

(D) Isoclinal fold

182. Subsidiary folds attached to the recumbent folds are known as

(A) Isoclinal fold

(B) Digitations

(C) Over turned fold

(D) Asymmetrical fold

183. Which one of the following is not a correct pair?
- (A) Staurolite – Barite (B) Staurolite – Sulphur
 (C) Staurolite – Topaz (D) Staurolite – Gypsum
184. Choose the incorrect pair.
- (A) Magnetite – Spinal (B) Magnetite – Axinite
 (C) Magnetite – Garnet (D) Magnetite – Analcite
185. _____ twins are those in which, two or more complete crystals crossing through each other.
- (A) Poly synthetic (B) Repeated
 (C) Contact (D) Penetration
186. _____ Axis is perpendicular to twin plane.
- (A) Crystal (B) Twin
 (C) Clino (D) Ortho
187. In Rutile law _____ is the Twining plane.
- (A) I order prism (B) II order prism
 (C) I order Pyramid (D) II order pyramid
188. _____ mineral shows Right angled cross twins.
- (A) Gypsum (B) Galena
 (C) Staurolite (D) Fluorite
189. Opaque mineral is termed as
- (A) When almost are light falling on a mineral is transmitted Through it
 (B) When the objects are seen through, but outlines are not clear
 (C) When no light is transmitted through a mineral
 (D) When merely the edges are translucent

190. The minerals those formed later than the rocks that enclose them is called as

- (A) Metamorphic minerals
- (B) Late magmatic minerals
- (C) Epigenetic minerals
- (D) Early magmatic minerals

191. Find out the ODD one from the following

- (A) Erosion
- (B) Transportation
- (C) Saddle reef
- (D) Deposition

192. Gossan is the _____ of the ore deposit.

- (A) Saddle reef
- (B) Laddor vein
- (C) Pitches and flats
- (D) Cap rock

193. The mechanical concentration on hill slope is known as

- (A) Eluvial placer
- (B) Alluvial placer
- (C) Beach placer
- (D) River placer

194. Match the following :

- | | |
|-----------------|-----------------|
| (a) Bauxite | 1. Kanyakumari |
| (b) Silica sand | 2. Salem |
| (c) Lignite | 3. Chengalpattu |
| (d) Monozite | 4. Neyveli |

- | | (a) | (b) | (c) | (d) |
|---|-----|-----|-----|-----|
| (A) | 1 | 3 | 2 | 4 |
| <input checked="" type="checkbox"/> (B) | 2 | 3 | 4 | 1 |
| (C) | 2 | 4 | 3 | 1 |
| (D) | 3 | 1 | 2 | 4 |

195. A single layer bounded by two bedding plane is a
- (A) Stratum (B) Lamination
(C) Rounding of grains (D) Sorting
196. Which one of the Carbonate deposit formed by precipitation from Carbonate rich spring water.
- (A) Argillaceous Limestone (B) Kankar
 (C) Travertine (D) Marl
197. Which rock is mechanically formed carbonaceous rock?
- (A) Chalk (B) Phosphate rocks
 (C) Carbonaceous shale (D) Coal
198. Which clay is hardened boulder clay?
- (A) China clay (B) Pottery clay
(C) Chalk (D) Tillite
199. Dynamothermal metamorphism is the action of
- (A) Crystal disturbance (B) Heat
(C) Pressure (D) Heat and pressure
-
200. Components get removed from the original composition of the rock is called as
- (A) Hydrothermal (B) Pneumatolytic
(C) Additive (D) Expulsive