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COMBINED COMPETITIVE (PRELIMINARY) EXAMINATION, 2010

Serial No.

GEOLOGY

Code No. 10



Time Allowed : Two Hours

Maximum Marks : 300

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC, IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C OR D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE RESPONSE SHEET.
3. You, have to enter your Roll Number on this Your Roll No.
Test Booklet in the Box provided alongside.
Do NOT write anything else on the Test Booklet.
4. This Booklet contains 120 items (questions). Each item comprises *four* responses (answers). You will select *one* response which you want to mark on the Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. In case you find any discrepancy in this test booklet in any question(s) or the Responses, a written representation explaining the details of such alleged discrepancy, be submitted within three days, indicating the Question No(s) and the Test Booklet Series, in which the discrepancy is alleged. Representation not received within time shall not be entertained at all.
6. You have to mark all your responses **ONLY** on the separate Response Sheet provided. *See directions in the Response Sheet.*
7. All items carry equal marks. Attempt **ALL** items. Your total marks will depend only on the number of correct responses marked by you in the Response Sheet.
8. Before you proceed to mark in the Response Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Response Sheet as per instructions sent to you with your Admit Card and Instructions.
9. While writing Centre, Subject and Roll No. on the top of the Response Sheet in appropriate boxes use **“ONLY BALL POINT PEN”**.
10. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Response Sheet. You are permitted to take away with you the Test Booklet.

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ROUGH WORK

1. Physical weathering is not characteristic of :
(A) Polar regions (B) Hot deserts
(C) Cold deserts (D) Semi-arid regions
2. The environment between the high tide and low tide levels of the sea is known as :
(A) Neritic (B) Littoral
(C) Bathyal (D) Abyssal
3. Sinkhole, doline and dripstone are characteristic of :
(A) Aeolian landforms (B) Glacial landforms
(C) Fluvial landforms (D) Karst topography
4. The ozone layer is located in :
(A) The troposphere (B) The stratosphere
(C) The ionosphere (D) The exosphere
5. Incised meanders develop in :
(A) The mountainous region of youthful rivers
(B) The flood plain areas of mature rivers
(C) The deltaic regions of old age rivers
(D) Any stage of rivers
6. Mechanical wear by rivers, wind etc. are called :
(A) Degradation (B) Saltation
(C) Deflation (D) Corrosion
7. Which of the following is formed by glacial erosion ?
(A) Yardang (B) Potholes
(C) Cuesta (D) Arête
8. The Richter's scale is used for measuring the :
(A) Relative humidity of atmosphere
(B) Intensity of earth's tremor
(C) Electric conductivity of water
(D) Speed of wind

9. The mature stage feature of the river is :
- (A) Alluvial fan (B) V-shaped Valley
(C) Meanders (D) Ox-bow lake
10. Which one among the following is a depositional feature produced by underground water ?
- (A) Barchans (B) Loess
(C) Delta (D) Stalagmites
11. Part of the Tidal Flats occurring near the high water line is known as :
- (A) Mixedflat (B) Sandflat
(C) Mudflat (D) Tidal Flat
12. The process in which the glacial wastage takes place by the double process of evaporation and melting is known as :
- (A) Nivation (B) Calvation
(C) Ablation (D) Plucking
13. Soils which show good development of all the layers are :
- (A) Podzols (B) Pedocals
(C) Chernozems (D) Loam
14. Low lying lands where the water table has just reached the land surface are called :
- (A) Oasis (B) Swamps
(C) Marshes (D) Lagoons
15. A desert consisting of extensive sheet of gravel and boulders is known as :
- (A) Erg (B) Hamada
(C) Koum (D) Reg
16. Which one of the following is known as intermount plateau ?
- (A) Dissected by streams (B) Surrounded by highlands
(C) Surrounded by lakes (D) Between the two ridges
17. Which one of the following topographic features can be formed by either erosion or deposition ?
- (A) Hook (B) Stream terrace
(C) Loess (D) Stalactite

18. Which one of the following term refers to the maximum particle size that a stream can move ?
- (A) Competency (B) Capacity
(C) Saltation (D) Abrasion
19. Nearly the whole land surface of the earth was covered by great sheet of ice during :
- (A) Cambrian (B) Jurassic
(C) Precambrian (D) Pleistocene
20. The earth's most stable environment is found in :
- (A) High mountain (B) Deep sea floor
(C) Semi arid region (D) Coastal region
21. A group of faults appear emerging outward from a common central region :
- (A) Parallel faults (B) Radial faults
(C) Enechelon faults (D) Peripheral faults
22. Heterolithic unconformity is also known as :
- (A) Non-conformity (B) Parallel Unconformity
(C) Angular Unconformity (D) Disconformity
23. The angle between any line and its horizontal projection, measured in a vertical plane is :
- (A) Pitch (B) Plunge
(C) Dip (D) Strike
24. Joints perpendicular to the axis of fold more common in orogenic belts are termed as :
- (A) Columnar joints (B) Release joints
(C) Extension joints (D) Cross joints
25. An arrangement of elongated mineral grains along continuous lines are called :
- (A) Lithification (B) Crenulation
(C) Lineation (D) Petrofabrication
26. Slaty cleavage is best developed in the rocks rich in :
- (A) Arenaceous minerals (B) Micaceous minerals
(C) Calcareous minerals (D) Chloritic minerals

27. Faults striking across structures like fold axes, schistosity, lineation etc are known as :
- (A) Transverse faults (B) Longitudinal faults
(C) Diagonal faults (D) Bedding faults
28. When two folds plunging away from each other are joined, then they form :
- (A) Basin (B) Dome
(C) Culmination (D) Depression
29. Omission of beds takes place generally in the case of :
- (A) Reverse fault (B) Normal fault
(C) Wrench fault (D) Strike slip fault
30. Flexure folding is also termed as :
- (A) Buckle folding (B) False folding
(C) Neutral folding (D) True folding
31. Crystal face with Miller indices (111) is known as :
- (A) Parametral face (B) Unit face
(C) Solid face (D) Inclined face
32. The normal class of monoclinic system is of :
- (A) Beryl type (B) Barite type
(C) Gypsum type (D) Galena type
33. Which of the following crystals have least number of faces ?
- (A) Cube (B) Octahedron
(C) Tetrahedron (D) Dodecahedron
34. The highest grade of symmetry in the Isometric system is found in :
- (A) Pyritohedral class (B) Tetrahedral class
(C) Plagiohedral class (D) Normal class
35. "Skew" twin is characteristic of :
- (A) Staurolite (B) Spinel
(C) Calcite (D) Microcline

36. Line perpendicular to a circular section of an indicatrix is :
(A) Twin axis (B) Optic axis
(C) Rotational axis (D) Axis of symmetry
37. Choose the odd one out :
(A) Macroprism (B) Brachy prism
(C) Macro dome (D) Cube
38. Out of the 32 crystal classes, how many classes do not have a centre of symmetry ?
(A) Twenty one (B) Twenty two
(C) Twenty four (D) Twenty
39. A crystal of rhombic sulphur is :
(A) Octahedral (B) Cube
(C) Hexagonal (D) Dodecahedral
40. The space lattice of diamond is :
(A) Body centered cubic (B) Simple cubic
(C) Free centered cubic (D) Hexagonal closed packed
41. Augite shows :
(A) 1st order interference colours (B) 2nd order interference colours
(C) 3rd order interference colours (D) 4th order interference colours
42. Which of the following is the precious variety of beryl ?
(A) Emerald (B) Ruby
(C) Sapphire (D) Citrine
43. Which of the following mineral exhibits the property of magnetism ?
(A) Pyrrhotite (B) Biotite
(C) Orthoclase (D) Albite
44. Muscovite exhibits luster.
(A) Silky (B) Vitreous
(C) Pearly (D) Dull
45. Plagioclase group of minerals exhibit :
(A) Isomorphism (B) Polymorphism
(C) Polytypism (D) Heteromorphism

46. Which one is non-pleochroic mineral ?
(A) Biotite (B) Olivine
(C) Garnet (D) Tourmaline
47. Irregular or asymmetrical dispersion is found in :
(A) Monoclinic System (B) Orthoclinic System
(C) Triclinic System (D) Tetragonal System
48. Epigenetic minerals are generally formed by :
(A) Mountain building process (B) Crustal movement
(C) Dislocation (D) Igneous intrusion
49. The chemical composition of Orthoclase is :
(A) $K Al Si_2 O_4$ (B) $K Al Si_3 O_8$
(C) $K Al Si_3 O_6$ (D) $K Al Si_4 O_8$
50. Chromite is a member mineral of :
(A) Spinel group (B) Epidote group
(C) Olivine group (D) Mellilite group
51. Cu and pb of Agnigundala belong to which group of Cuddapah Supergroup ?
(A) Papaghani (B) Cheyair
(C) Nallamalai (D) Kistna
52. Kolar Gold deposit is an example of :
(A) Fissure vein deposit (B) Shear zone deposit
(C) Ladder vein deposit (D) Stockwork
53. Which one of the following does not belong to mica group ?
(A) Oxide (B) Silicate
(C) Carbonate (D) Phosphate
54. The most common impurity in iron ore is :
(A) Muscovite (B) Hornblende
(C) Biotite (D) Lepidotite

55. Ajabgarh Formation is associated with :
- (A) Iron (B) Zinc
(C) Manganese (D) Copper
56. Rutile is source for :
- (A) Tin (B) Tungston
(C) Titanium (D) Iron
57. Plaster of Paris is obtained from :
- (A) Bauxite (B) Gypsum
(C) Kaolin (D) Limestone
58. Which type of coal is costly to mine ?
- (A) Peat (B) Lignite
(C) Bituminous (D) Anthracite
59. Bornite is an ore of :
- (A) Iron (B) Copper
(C) Lead (D) Nickel
60. Diamond is found in region.
- (A) Kolar (B) Baster
(C) Panna (D) Singhbhum
61. Which of the following mineral displays twinkling ?
- (A) Calcite (B) Gypsum
(C) Augite (D) Talc
62. The rock without feldspars essentially having olivine and pyroxenes in abundance is :
- (A) Eucrite (B) Troctolite
(C) Dunite (D) Picrite
63. The gabbroic rock without pyroxenes containing mainly feldspars and olivine is :
- (A) Troctolite (B) Andesite
(C) Dacite (D) Basalt

64. A typical monomineralic rock containing labradorite is :
- (A) Anorthosite (B) Gabbro
(C) Granite (D) Norite
65. Batholiths are usually associated with :
- (A) Earthquake zone (B) Island arcs
(C) Orogenic belt (D) Folds and faults
66. In a contour map, if higher contours are closely placed, it indicates :
- (A) Steep slope (B) Uniform slope
(C) Concave slope (D) Convex slope
67. Concordant intrusive igneous plutons found in folded terrains as :
- (A) Phacolith (B) Batholith
(C) Laccolith (D) Plug
68. Ophitic texture is commonly exhibited by :
- (A) Lamprophyres (B) Andesite
(C) Dolerite (D) Trachyte
69. Lamprophyres exhibit the following texture :
- (A) Panidiomorphic (B) Allotriomorphic
(C) Hypidiomorphic (D) Polymorphic
70. The structure of myrmekite is commonly found in :
- (A) Granitic rock (B) Alkaline rock
(C) Schorl rock (D) Monomineralic rock
71. Which one is a rudaceous rock ?
- (A) Sandstone (B) Limestone
(C) Conglomerate (D) Shale
72. Bauma Sequence is the product of :
- (A) Debris flow process (B) Turbidity flow process
(C) Mass flow process (D) Rock flow process

73. Tidal bundles form in :
- (A) Rivers (B) Glaciers
(C) Mountains (D) Shallow sea
74. When top and bottom sets of a cross bedding meet at an acute angle such cross bedding is known as :
- (A) Trough (B) Planer
(C) Torrential (D) Wedge trough
75. Sediments precipitated from solutions within the basin of deposition and having later moved within the basin are :
- (A) Orthochemical (B) Allochemical
(C) Epiclastic (D) Euxinic
76. Silt and clay deposit formed by the sediments carried in suspension by air current is :
- (A) Marlites (B) Novaculites
(C) Loess (D) Delta
77. Black shale facies is characterized by the presence of :
- (A) Large volume of stagnant water (B) Running water
(C) Salty water (D) Alkaline frozen water
78. The red shale or Arkosic facies are :
- (A) Non-marine one (B) Marine one
(C) Both Marine and Non-marine (D) Metamorphic one
79. Lagoonal deposits are deposited in environment.
- (A) Estuarine (B) Euxinic
(C) Littoral (D) Lacustrine
80. The sedimentary rock without stratification is :
- (A) Sandstone (B) Limestone
(C) Tillite (D) Shale
81. What type of metamorphism is responsible for the formation of hornfelsic rocks ?
- (A) Burial (B) Regional
(C) Contact (D) Cataclastic

82. The facies which is developed in the deepest part of geosynclinal environment :
- (A) Amphibolite facies (B) Granulite facies
(C) Green schist facies (D) Sanidinite facies
83. During metamorphism the mineral graphite is changed to :
- (A) Pure carbon (B) Pure iron
(C) Pure copper (D) Pure lead
84. A line joining the points where the rocks have the same grade of metamorphism is called :
- (A) Isogyre (B) Isograde
(C) Isopach (D) Isochore
85. Complete destruction of original texture is due to :
- (A) Regional metamorphism (B) Contact metamorphism
(C) Dynamothermal metamorphism (D) Metasomatism
86. The typical product of contact metamorphism with maculose structure :
- (A) Granulose (B) Cataclastic
(C) Hornfels (D) Schistose
87. Migmatite is formed due to :
- (A) Anatexis (B) Metasomatism
(C) Palingenesis (D) Pneumatolysis
88. The process of complete melting of rock is known as :
- (A) Anatexis (B) Assimilation
(C) Palingenesis (D) Metasomatism
89. Khondalite is a rock.
- (A) Metamorphic (B) Igneous
(C) Sedimentary (D) Igneous and sedimentary
90. Find odd one out :
- (A) Schist (B) Shale
(C) Sandstone (D) Limestone
91. *Homo sapiens* belong to order :
- (A) Primates (B) Rodentia
(C) Chiroptera (D) Mollusca

92. The exoskeleton of sponges is made up of :
(A) Silica (B) Calcite
(C) Aragonite (D) Calcium phosphate
93. Find odd one out :
(A) *Nautilus* (B) *Lingula*
(C) *Nucula* (D) *Paradoxides*
94. The cephalopod suture with smooth rounded saddles and finely divided lobes is :
(A) Ammonitic (B) Goniatic
(C) Ceratitic (D) Nautilitic
95. What name has been assigned to tooth like phosphatic microfossils ?
(A) Conodonts (B) Thecodont
(C) Bathydont (D) Coprolites
96. Which one is a Cephalopoda with simple suture ?
(A) *Ceratites* (B) *Nautilus*
(C) *Goniatites* (D) *Ammonites*
97. Those bottom dwellers living between low tide and high tide are termed :
(A) Vagile (B) Sessile
(C) Nektonic (D) Littoral
98. Which of these Protozoans is not a member of Foraminifera group ?
(A) Radiolaria (B) Globigerina
(C) Nummulites (D) Lagena
99. Which out of these is a Planktonic micro-fossil ?
(A) Lagena (B) Nummulite
(C) Globigerina (D) Rotalia
100. Delthyrium is found in which class of Brachiopods ?
(A) Inarticulata (B) Articulata
(C) Both of the above (D) None of the above
101. Which group provides fastest moving invertebrates ?
(A) Brachiopoda (B) Echinodermata
(C) Cephalopoda (D) Gastropoda
102. The bivalvia shells are jointed together at dorsal side by :
(A) Adductor muscle (B) Hinge plate
(C) Ligament (D) Delthyrium

103. When did the Trilobite disappear from the earth ?
(A) Silurian (B) Early Miocene
(C) Devonian (D) End of Permian
104. Coral reefs are generally found in :
(A) Polar regions (B) Tropical regions
(C) Subtropical regions (D) Mid latitude region
105. Find odd one out :
(A) Lathi Formation (B) Chari Formation
(C) Katrol Formation (D) Umia Formation
106. Dinosaurs are reported from the rocks of :
(A) Paleozoic (B) Tertiary
(C) Mesozoic (D) Quaternary
107. Trilobites appeared for the first time in the geological record in :
(A) Devonian (B) Triassic
(C) Cambrian (D) Paleocene
108. The strike of Dharwar Supergroup is :
(A) NNW-SSE (B) NNE-SSW
(C) NE-SW (D) SE-NW
109. Lower Gondwana sediments are of great economic significance because of presence of :
(A) Iron (B) Petroleum
(C) Coal (D) Plant fossils
110. Mount Everest Limestone belong to :
(A) Ordovician (B) Silurian
(C) Devonian (D) Carboniferous
111. Zewan beds belong to :
(A) Devonian
(B) Middle carboniferous
(C) Upper carboniferous to Permocarboniferous
(D) Middle and upper Permian
112. What is the age of Muth Quartzite ?
(A) Silurian (B) Devonian
(C) Ordovician (D) Archean
113. Hercynian orogeny occurred in :
(A) Silurian (B) End of Silurian
(C) Permian (D) Carboniferous and Permian

114. The primary chronostratigraphic unit of worldwide major rank is :

- (A) Supergroup (B) Era
(C) Series (D) System

115. The Siwalik deposits give an evidence of climate.

- (A) Arid (B) Cold
(C) Warm humid (D) Both (a) and (b)

116. Makrana marble is equivalent to :

- (A) Upper Dharwar (B) Middle Dharwar
(C) Lower Dharwar (D) None of the above

117. Total duration of Siwalik system is from :

- (A) Lower Miocene to lower Pleistocene
(B) Middle Miocene to lower Pleistocene
(C) Middle Miocene to lower Pliocene
(D) Lower Miocene to upper Pliocene

118. The basic unit in biostratigraphic unit is :

- (A) Subzone (B) Zone
(C) Zonule (D) None of the above

119. The oldest and longest era in Earth's history is the :

- (A) Precambrian (B) Cenozoic
(C) Mesozoic (D) Paleozoic

120. The age of Barakar formation is :

- (A) Upper Carboniferous (B) Middle Permian
(C) Lower Permian (D) Upper Permian

ROUGH WORK