

MIZORAM PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO THE POST OF
GEOLOGIST JUNIOR UNDER COMMERCE & INDUSTRIES DEPARTMENT,
GOVERNMENT OF MIZORAM, NOVEMBER, 2022

GEOLOGY PAPER - I

Time Allowed : 2 hours

Full Marks : 200

*All questions carry equal mark of 2 each.
Attempt all questions.*

1. Barchans are
 - (a) Oasis
 - (b) Sand dunes
 - (c) Deflation basin
 - (d) Crescent-shaped dunes
2. Maximum erosional cycle occur at
 - (a) Initial stage
 - (b) Mature stage
 - (c) Old-stage
 - (d) In all stages
3. Young rivers usually have
 - (a) Many tributaries
 - (b) V-shaped valleys
 - (c) Natural levees
 - (d) Flood plains
4. Which aeolian processes is most important for formation of yardangs?
 - (a) Transportation
 - (b) Abrasion
 - (c) Attrition
 - (d) Deflation
5. Nunatak is a
 - (a) Oceanic landform
 - (b) Fluvial landform
 - (c) Glacial landform
 - (d) Aeolian landform
6. 'Glacial clay' is dominantly
 - (a) Kaolinite
 - (b) Quartz
 - (c) Feldspar
 - (d) Illtite
7. Which one marks the farthest advance of a glacier?
 - (a) Medial moraine
 - (b) Terminal moraine
 - (c) Ground moraine
 - (d) Lateral moraine
8. Which of the following rivers does not form a delta?
 - (a) Narmada
 - (b) Godavari
 - (c) Krishna
 - (d) Ganga
9. Ria coasts are caused due to
 - (a) Rivers
 - (b) Erosive action of sea water on a coastline
 - (c) Glacier like fiord coasts
 - (d) Submergence of coastal areas
10. Loess is
 - (a) Heterogeneous and unstratified deposit of silt
 - (b) Heterogeneous and stratified deposit of silt
 - (c) Homogeneous and unstratified deposit of silt
 - (d) Homogeneous and stratified deposit of silt

11. The essential component of GIS is its
 - (a) Computer
 - (b) Software
 - (c) Database
 - (d) Data catalogue
12. Regions of the electro magnetic spectrum in which the atmosphere is transparent are called
 - (a) Reflectance coefficient
 - (b) Atmospheric windows
 - (c) Atmospheric reflectance
 - (d) Atmospheric scattering
13. Which one has the shortest wavelengths?
 - (a) Visible radiations
 - (b) X-rays
 - (c) Gamma rays
 - (d) Ultra violet rays
14. Which imagery is very effective for groundwater surveys?
 - (a) Thermal infra-red
 - (b) Thermal
 - (c) Infra-red
 - (d) Radar
15. The IRS satellites are designed for an operational life of
 - (a) 3 years
 - (b) 5 years
 - (c) 7 years
 - (d) 10 years
16. Who is the 'Father of Indian Space Program'?
 - (a) Dr. APJ Abdul Kalam
 - (b) Dr. Vikram Sarabhai
 - (c) Dr. K Kasturirangan
 - (d) Prof. Satish Dhawan
17. The tone variation for well drained, coarse, dry soil material is
 - (a) Black
 - (b) Dark gray
 - (c) White
 - (d) Light gray
18. Photographic UV band is electromagnetic radiation with wavelengths between
 - (a) 0.3 to 0.4 μm
 - (b) 0.4 to 0.7 μm
 - (c) 0.7 to 1.00 μm
 - (d) 0.7 to 3.0 μm
19. Which of the following is a geostationary satellite?
 - (a) IRS
 - (b) SPOT
 - (c) LANDSAT
 - (d) INSAT
20. Fiducial marks are
 - (a) Connected with camera axis
 - (b) Printed after getting a final aerial photograph
 - (c) Printed on phot film
 - (d) Rigidly connected with the camera lens
21. Which type of fold is associated with migmatite?
 - (a) Reclined
 - (b) Piercing
 - (c) Supratenuous
 - (d) Ptygmatic
22. Planar fabric such as cleavage or foliation is determined by
 - (a) L- fabric
 - (b) Shape fabric
 - (c) S-fabric
 - (d) Primary fabric
23. Young's modulus is obtained by
 - (a) Stress
 - (b) Ration of stress to strain
 - (c) Strain
 - (d) Ration of transverse strain to longitudinal strain
24. Younger beds will always be found in the
 - (a) Direction of strike line
 - (b) Direction of dip
 - (c) Opposite direction of dip
 - (d) Inclined direction of dip and strike

25. Cleavage is a
- (a) Primary planar structure
 - (b) Primary linear structure
 - (c) Secondary planar structure
 - (d) Secondary linear structure
26. Fault is an example of
- (a) Ductile deformation
 - (b) Brittle deformation
 - (c) Malleability
 - (d) Brittle-Ductile deformation
27. Heterolithic unconformity is also known as
- (a) Disconformity
 - (b) Angular unconformity
 - (c) Parallel unconformity
 - (d) Non-conformity
28. Rake of net-slip in dip-slip fault is
- (a) 0°
 - (b) 90°
 - (c) Between 0° to 90°
 - (d) 180°
29. Salt domes are
- (a) Reclined fold
 - (b) Drag fold
 - (c) Pericline fold
 - (d) Diapiric fold
30. Both strength and plasticity of rock increases with
- (a) Increase in confining pressure
 - (b) Increase in pore fluid pressure
 - (c) Increase in overburden pressure
 - (d) Increase in confining and pore fluid pressure
31. Geosynclines which lies with craton is known as
- (a) Miogeosyncline
 - (b) Orthogeosyncline
 - (c) Parageosyncline
 - (d) Eugeosyncline
32. Deccan plateau is formed due to
- (a) Earthquake
 - (b) Control type eruption
 - (c) Fissure type eruption
 - (d) Tectonic upliftment
33. The 'Flysch' formations are
- (a) Pre tectonic
 - (b) Syntectonic
 - (c) Late tectonic
 - (d) Post tectonic
34. Shear joints are formed due to
- (a) Tensional force
 - (b) Compressional force
 - (c) Coupler force
 - (d) Torsional force
35. A major anticline that has many smaller folds is called
- (a) Anticlinorium
 - (b) Antiformal syncline
 - (c) Synclinatorium
 - (d) Synformal anticline
36. A listric normal fault is
- (a) Steep dipping normal fault
 - (b) Gentle dipping normal fault
 - (c) Having decreasing dip with depth
 - (d) Having increasing dip with depth
37. Behaviour of perfectly elastic body is governed by
- (a) Hilt's Law
 - (b) Bulk Modulus
 - (c) Hook's Law
 - (d) Bode's Law
38. Boudins are formed in
- (a) Extensional regimes
 - (b) Compressional regimes
 - (c) Zero stress regimes
 - (d) Fault regimes

39. Pitch is
- (a) Plunge angle measure of a linear structure
 - (b) Obtuse angle between strike line and linear structure
 - (c) Acute angle between strike line and linear structure
 - (d) Non of the above
40. In a SOI toposheet of 1:50,000 Scale, the difference in longitude/ latitude from one end to the other is
- (a) 5°
 - (b) 10°
 - (c) 15°
 - (d) 30°
41. The equatorial diameter of the earth is
- (a) 8972 km
 - (b) 12371 km
 - (c) 12742 km
 - (d) 14271 km
42. Source of earth's internal heat engine is
- (a) Radioactivity
 - (b) Solar energy
 - (c) Ocean tides
 - (d) Volcanoes
43. Wadati-Benioff zone indicates
- (a) Shallow earthquake
 - (b) Intermediate earthquake
 - (c) Deep focus earthquake
 - (d) Stable zone
44. The ocean floor represents
- (a) Sial
 - (b) Upper sima
 - (c) Lower sima
 - (d) Upper mantle
45. The Ingleman discontinuity lies at a depth of
- (a) 2900 km
 - (b) 3500 km
 - (c) 4980 km
 - (d) 5200 km
46. The Low Velocity Zone (LVZ) is found in the region
- (a) Lithosphere and Asthenosphere
 - (b) Upper Mantle-Lower Mantle
 - (c) Marine Trenches
 - (d) Asthenosphere-Transition zone
47. According to Airy's hypothesis
- (a) The density of the crust and the substratum is uniform
 - (b) The thickness of the crust and the substratum is uniform
 - (c) The crust and the substratum have uniform but different densities
 - (d) The crust has constant thickness at the top whereas the substratum has a constant thickness at the bottom
48. Isostasy involves
- (a) Eustatic change
 - (b) Gravitational balance
 - (c) Magnetic reversal
 - (d) Thermal balance
49. Volcanic island is associated with
- (a) Ocean-continent convergence
 - (b) Divergent boundary
 - (c) Transform boundary
 - (d) Ocean-ocean convergence
50. Acceleration due to gravity is more at
- (a) Equator
 - (b) Poles
 - (c) Both equator and poles
 - (d) Tropic of cancer

51. The average Bouguer anomaly of ocean is
(a) Zero (b) Negative
(c) Positive (d) Undefined
52. The 'Continental Terrace' includes
(a) Continental shelf (b) Continental slope
(c) Continental shelf and continental slope (d) Continental shelf, slope and rise
53. A paired metamorphic belt associated with subduction complexes are composed of
(a) Amphibolites/ granulites (b) Amphibolites/ blueschists
(c) Blueschists/ greenschists (d) Granulites/ eclogites
54. Line that joins same earthquake intensity is called
(a) Mesoseismal line (b) Teleseismal line
(c) Iseismal line (d) Epicentral line
55. The area of maximum damage in earthquake is
(a) Meizoseismal area (b) Iseismal area
(c) Homoseismal area (d) Coseismal area
56. 'Geodesy' deals with
(a) Recording of changes undergone by the crust
(b) Measurements of the dimensions of the earth
(c) Measurements of the elevations and depressions on the earth's surface
(d) Dating of rocks
57. The East Africa Rift system is an example of
(a) Aulacogens (b) Triple junction
(c) Transform fault (d) Accreting plate boundary
58. Key principle used in GPS system is
(a) Redshift (b) Rayleigh fading
(c) Radio wave (d) Doppler effect
59. Most of the world's great volcanoes are
(a) Shield cones (b) Cinder cones
(c) Plug cones (d) Composite cones
60. Delta is an example of
(a) Exogeosynclines (b) Autogeosynclines
(c) Zeugogeosynclines (d) Taphrogeosynclines
61. The smallest division of geological time scale is
(a) Eon (b) Era
(c) Period (d) Epoch
62. Isopach maps are used for analysis of
(a) Stratigraphic thickness (b) Depositional environments
(c) Sedimentary structures (d) Structural features
63. Which of the following is not a chronostratigraphic unit?
(a) System (b) Erathem
(c) Formation (d) Series

64. Who is known as the father of stratigraphy?
(a) J.D. Dana (b) James Hutton
(c) William Smith (d) L.L. Fermor
65. Radiometric age is often referred to as
(a) Total age (b) Absolute age
(c) Historic age (d) Geologic age
66. Which of the following radioactive isotopes has the longest half-life?
(a) Rubidium-87 (b) Potassium-40
(c) Carbon-14 (d) Uranium-238
67. The correlation of Precambrian terranes is mostly based on
(a) Lithology (b) Fossils
(c) Crustal upliftment (d) Eustatic changes
68. A 'zone' is a
(a) Lithostratigraphic unit (b) Chronostratigraphic unit
(c) Litho-chronostratigraphic unit (d) Biostratigraphic unit
69. Cryptozoic Eon represents
(a) The age of no life (b) The age of well developed life
(c) The age of hidden life (d) The age of modern life
70. 'Archaeopteryx' existed during
(a) Cretaceous (b) Triassic
(c) Jurassic (d) Permian
71. Which of the following stratigraphic units are correctly matched with their ages and geographical localities?
(a) Niniyur Formation – Jurassic – Cauvery Basin
(b) Long Formation – Oligocene – Andaman-Nicobar
(c) Zewan Formation – Permian – Kashmir – Lidar valley
(d) Bhandar Group – Early Proterozoic – Vindhyan Basin
72. Which is the type area of Jurassic rocks in India?
(a) Kutch (b) Trichinopoly
(c) Spiti (d) Jaisalmer
73. Permian is represented in Spiti by
(a) Kanawar Group (b) Kuling Group
(c) Muth Quartzite (d) Agglomerate Shale
74. Which of the following flora represents Upper Gondwana?
(a) Noeggerathopsis (b) Gangamopteris
(c) Ptilophyllum (d) Vertebraria
75. Cu deposits of Khetri are associated with
(a) Alwar quartzite (b) Ajabgarh schist
(c) Alwar slate (d) Ajabgarh limestone
76. The age of Tipam sandstone is
(a) Palaeocene (b) Eocene
(c) Oligocene (d) Miocene

77. 'Kuar Bet Beds' are
(a) Upper beds of Patcham series (b) Lower beds of Patcham series
(c) Limestone beds of Chari series (d) Lower beds of Umia series
78. In the Deccan Traps, fossiliferous beds are characteristically absent in
(a) Lower traps (b) Middle traps
(c) Upper traps (d) None of the above
79. The age of Neyveli lignite is
(a) Devonian (b) Cambrian
(c) Triassic (d) Tertiary
80. The shape of Cuddapah Basin is
(a) Linear (b) Curved
(c) Crescent (d) Concavo-convex
81. The most gigantic of all the Molluscs were
(a) Pelecypods (b) Gastropods
(c) Nautiliods (d) Ammonites
82. The Cro Magnon man was discovered in
(a) Germany (b) France
(c) Asia (d) Africa
83. The study of tracks and traces is known as
(a) Cladogenesis (b) Homology
(c) Ichthyology (d) Ichnology
84. Ediacaran fossils are useful in determining
(a) Archaean/Proterozoic boundary (b) Precambrian/Cambrian boundary
(c) Permian/Triassic boundary (d) Cretaceous-Tertiary boundary
85. Which Siwalik group is richest in vertebrate fossils?
(a) Kamlial (b) Dhok Pathan
(c) Nagri (d) Pinjor
86. Productus is
(a) Brachiopod (b) Lamellibranch
(c) Gastropod (d) Cephalopod
87. Pick the odd one out
(a) Period (b) Member
(c) Epoch (d) Age
88. Which microfossils has a siliceous shell?
(a) Ostracods (b) Diatoms
(c) Pteropods (d) Coccoliths
89. Foraminifera belong to the kingdom
(a) Protista (b) Monera
(c) Planta (d) Animalia

90. Sinistral coiling is found in
(a) Pupilla (b) Natica
(c) Physa (d) Trochus
91. *Williamsonia Indica* is a
(a) Filicales (b) Cycadophyta
(c) Coniferales (d) Incerlae
92. Lower Gondwana is characterised by
(a) Ptilophyllum flora (b) Dicroidium
(c) Glossopteris flora (d) Pterophyllum
93. _____ is also known as Java Man
(a) Ramapithecus (b) Australopithecus
(c) Sinanthropus (d) Pithecanthropus
94. Trilobites are found in
(a) Precambrian rocks (b) Palaeozoic rocks
(c) Mesozoic rocks (d) Cenozoic rocks
95. Acme zone indicates
(a) Range of fossil species (b) Absence of fossil species
(c) Maximum abundance of fossil species (d) Migration of fossil species
96. Stromatolite structures are related to
(a) Algae (b) Fungi
(c) Diatom (d) Foraminifera
97. Pertified wood is an example of
(a) Encrustation (b) Substitution
(c) Altercation (d) Desiccation
98. Dollo's law states that
(a) Evolution is not substantively reversible
(b) With evolution there is an increase in size of morphological parts
(c) With evolution there is decrease in size of morphological parts
(d) Evolution is substantively reversible
99. Fossils are best formed in the environment
(a) Fluvial (b) Marine
(c) Lacustrine (d) Continental
100. Type of dentition in Arca
(a) Taxodont (b) Heterodont
(c) Desmodont (d) Isodont