

No. of Pages. 16

Code No.

Y – 3051

Register Number :

Time : 2 Hours

Name :

Max.Marks : 100

**Entrance Examination for Admission to the P.G. Courses in the
Teaching Departments, 2026**

CSS

GEOLOGY

GENERAL INSTRUCTIONS

1. The Question Paper is having 100 Objective Questions, each carrying one mark.
2. The answers are to be marked **only** in the “**OMR Sheet**” provided.
3. **Negative marking** : **0.25 marks** will be deducted for each wrong answer .

INSTRUCTIONS FOR FILLING THE OMR SHEET

- The OMR sheet should not be folded or crushed.
- Use only blue/black ball point pen to fill the circles.
- Use of pencil is strictly prohibited.
- Circles should be darkened completely and properly.
- Cutting and erasing on this sheet is not allowed.
- Do not leave any stray marks on the sheet.
- Do not use marker or white fluid to hide the mark.

• **WRONG METHODS**



CORRECT METHOD



DO NOT WRITE HERE

Choose appropriate answer from the options in the questions.

(100 × 1 = 100 marks)

1. Drainage pattern resembling tree branches is:
 - A. Radial
 - B. Rectangular
 - C. Dendritic
 - D. Trellis

2. Which layer of Earth has the highest density?
 - A. Lithosphere
 - B. Crust
 - C. Core
 - D. Mantle

3. The discontinuity between crust and mantle is
 - A. Conrad discontinuity
 - B. Mohorovicic discontinuity
 - C. Gutenberg discontinuity
 - D. Lehmann discontinuity

4. Hardness of minerals is measured by:
 - A. Beaufort scale
 - B. Celsius scale
 - C. Mohs scale
 - D. Richter scale

5. Continental drift theory was proposed by:
 - A. Darwin
 - B. Hess
 - C. Holmes
 - D. Wegener

6. Aeolian processes are related to
 - A. Ice
 - B. Wind
 - C. Gravity
 - D. Water

7. Which mineral has hardness 10?
 - A. Quartz
 - B. Feldspar
 - C. Diamond
 - D. Calcite

8. The smallest unit of a crystal is:
 - A. Grain
 - B. Unit cell
 - C. Atom
 - D. Molecule

9. Karst topography is formed in:
 - A. Basalt
 - B. Granite
 - C. Sandstone
 - D. Limestone

10. The point inside Earth where earthquake originates is:
 - A. Focus
 - B. Core
 - C. Epicenter
 - D. Node

11. Which branch of geology deals with study of fossils?
 - A. Stratigraphy
 - B. Geophysics
 - C. Petrology
 - D. Palaeontology

12. Mid-ocean ridges are associated with:
- A. Divergent boundaries
 - B. Transform faults
 - C. Subduction zones
 - D. Convergent boundaries
13. Weathering caused by temperature changes is:
- A. Biological weathering
 - B. Chemical weathering
 - C. Physical weathering
 - D. Residual weathering
14. Lava that is highly viscous forms:
- A. Flood basalt
 - B. Plateau
 - C. Composite volcano
 - D. Shield volcano
15. Seismic waves that travel through solids only:
- A. Surface waves
 - B. Love waves
 - C. P-waves
 - D. S-waves
16. GIS stands for:
- A. Geospatial Integration Software
 - B. Geographic Information System
 - C. Geological Index System
 - D. Global Information Science
17. Stalactites form from:
- A. River bed
 - B. Cave roof
 - C. Ocean floor
 - D. Cave floor
18. The concept of rock cycle involves:
- A. Only metamorphism
 - B. Only sedimentary processes
 - C. Transformation between rock types
 - D. Only igneous rocks
19. Laterite soil is rich in:
- A. Carbon
 - B. Sodium
 - C. Silica
 - D. Iron and Aluminium

20. Benioff zones are related to:
- A. Sedimentation
 - B. Weathering
 - C. Volcanoes
 - D. Earthquakes
21. Continental shelf is:
- A. Mid-ocean ridge
 - B. Deep ocean floor
 - C. Shallow submerged margin
 - D. Ocean trench
22. Glacial deposits are called:
- A. Loess
 - B. Till
 - C. Moraine
 - D. Alluvium
23. Miller indices represent:
- A. Density
 - B. Mineral hardness
 - C. Chemical composition
 - D. Crystal planes
24. Which mountain type is formed by folding?
- A. Residual mountains
 - B. Block mountains
 - C. Volcanic mountains
 - D. Fold mountains
25. Cleavage in minerals refers to
- A. Density
 - B. Color
 - C. Breaking along planes
 - D. Chemical reaction
26. Bowen's reaction series explains:
- A. Weathering processes
 - B. Mineral crystallization sequence
 - C. Sedimentation process
 - D. Metamorphic facies
27. Which mineral group shows perfect basal cleavage?
- A. Quartz
 - B. Feldspar
 - C. Mica
 - D. Olivine

28. Albite-Anorthite system represents:
- | | |
|------------------------|--------------------------|
| A. Eutectic system | B. Solid solution series |
| C. Incongruent melting | D. Binary immiscibility |
29. Porphyritic texture indicates:
- | | |
|-----------------------|--------------------|
| A. Rapid cooling only | B. Uniform cooling |
| C. Two-stage cooling | D. Metamorphism |
30. Which of the following is a concordant igneous body?
- | | |
|--------------|------------------|
| A. Dyke | B. Batholith |
| C. Laccolith | D. Volcanic neck |
31. Pillow structures are indicative of:
- | | |
|-----------------------|--------------------------|
| A. Desert environment | B. Deep marine volcanism |
| C. Glacial deposition | D. Fluvial processes |
32. Which rock is ultramafic?
- | | |
|---------------|-------------|
| A. Granite | B. Diorite |
| C. Peridotite | D. Andesite |
33. CIPW norm is used to:
- Classify sedimentary rocks
 - Calculate normative mineral composition
 - Determine fossil age
 - Measure grain size
34. Which metamorphic rock is formed from shale?
- | | |
|--------------|----------------|
| A. Marble | B. Slate |
| C. Quartzite | D. Amphibolite |
35. Index minerals are used to determine:
- | | |
|----------------------|-----------------------|
| A. Rock type | B. Sedimentation rate |
| C. Metamorphic grade | D. Fossil content |

36. Which metamorphic facies indicates high pressure and low temperature?
A. Granulite facies
B. Amphibolite facies
C. Blueschist facies
D. Greenschist facies
37. Folk classification is used for:
A. Igneous rocks
B. Metamorphic rocks
C. Limestone classification
D. Structural geology
38. Udden-Wentworth scale is related to:
A. Mineral hardness
B. Grain size classification
C. Seismic intensity
D. Rock density
39. Which sedimentary structure indicates current direction?
A. Ripple marks
B. Mud cracks
C. Fossils
D. Bedding
40. Which Fossil Group is useful as index fossils?
A. Trilobites
B. Brachiopods
C. Ammonites
D. Corals
41. Graptolites belong to:
A. Mollusca
B. Hemichordata
C. Arthropoda
D. Echinodermata
42. Which is NOT a physical property of minerals?
A. Hardness
B. Cleavage
C. Chemical composition
D. Luster
43. Pleochroism is observed in:
A. Isotropic minerals
B. Opaque minerals
C. Anisotropic minerals
D. Amorphous substances
44. Nicol prism is used for:
A. Magnification
B. Polarization of light
C. Chemical analysis
D. Density measurement

45. Specific gravity of minerals depends on:
- A. Color
 - B. Atomic weight and packing
 - C. Cleavage
 - D. Luster
46. Supergene enrichment occurs due to:
- A. Magmatic processes
 - B. Surface weathering processes
 - C. Metamorphism
 - D. Volcanism
47. Which is a renewable resource?
- A. Coal
 - B. Petroleum
 - C. Solar energy
 - D. Uranium
48. Greenhouse effect is mainly due to:
- A. Oxygen
 - B. Nitrogen
 - C. Carbon dioxide
 - D. Helium
49. Strike and dip are used to describe:
- A. Mineral composition
 - B. Rock texture
 - C. Orientation of planes
 - D. Fossil types
50. Unconformity represents:
- A. Continuous deposition
 - B. Break in sedimentation
 - C. Metamorphism
 - D. Igneous intrusion
51. In Bowen's reaction series, discontinuous branch minerals are characterized by:
- A. Continuous compositional change
 - B. Complete solid solution
 - C. Sudden changes in mineral structure
 - D. Absence of silica
52. Which condition favors formation of migmatites?
- A. Low temperature and pressure
 - B. Partial melting during high-grade metamorphism
 - C. Surface weathering
 - D. Rapid cooling

53. In a normal fault, the hanging wall moves:
- | | |
|-----------------|----------------------|
| A. Upward | B. Downward |
| C. Horizontally | D. Rotationally only |
54. Which of the following indicates supergene enrichment?
- Increase in metal concentration near surface
 - Deep magmatic intrusion
 - Regional metamorphism
 - Hydrothermal alteration at depth
55. Which factor primarily controls metamorphic facies?
- | | |
|-----------------------------|-----------------------|
| A. Fossil content | B. Grain size |
| C. Pressure and temperature | D. Sedimentation rate |
56. In stereographic projection, great circles represent:
- | | |
|-------------------------|-------------------|
| A. Points | B. Planes |
| C. Linear features only | D. Mineral grains |
57. Which structure indicates top of beds in sedimentary rocks?
- | | |
|----------------|-----------------|
| A. Fault plane | B. Ripple marks |
| C. Cleavage | D. Lineation |
58. Which mineral pair shows polymorphism?
- | | |
|------------------------|-------------------------|
| A. Quartz and feldspar | B. Diamond and graphite |
| C. Calcite and gypsum | D. Olivine and pyroxene |
59. In igneous rocks, ophitic texture is characterized by:
- Large crystals in fine matrix
 - Random grain orientation
 - Pyroxene enclosing plagioclase
 - Glassy texture
60. Which process is responsible for formation of loess deposits?
- | | |
|-------------------------|---------------------|
| A. Glacial transport | B. Wind deposition |
| C. Marine sedimentation | D. River deposition |

61. Which of the following best indicates turbidity currents?
- A. Cross bedding
 - B. Graded bedding
 - C. Mud cracks
 - D. Ripple marks
62. Which metamorphic rock shows compositional banding?
- A. Slate
 - B. Marble
 - C. Gneiss
 - D. Quartzite
63. Which fossil is most useful for biostratigraphic correlation?
- A. Long-lived species
 - B. Widespread and short-lived species
 - C. Rare fossils
 - D. Plant fossils only
64. Which condition leads to formation of columnar joints?
- A. Rapid cooling
 - B. Slow cooling contraction
 - C. Metamorphism
 - D. Weathering
65. Which type of plate boundary forms island arcs?
- A. Divergent boundary
 - B. Continental collision
 - C. Ocean-ocean convergence
 - D. Transform boundary
66. Which feature distinguishes chemical weathering from physical weathering?
- A. Grain size reduction
 - B. Change in mineral composition
 - C. Formation of fractures
 - D. Temperature variation
67. Which of the following is NOT a sedimentary rock?
- A. Shale
 - B. Basalt
 - C. Limestone
 - D. Sandstone
68. In hydrologic cycle, infiltration refers to:
- A. Surface runoff
 - B. Evaporation
 - C. Water entering soil
 - D. Condensation

69. Which factor is most important in soil formation?
- A. Gravity
 - B. Parent material
 - C. Seismic activity
 - D. Magnetic field
70. Which rock type forms directly from magma?
- A. Sedimentary
 - B. Metamorphic
 - C. Igneous
 - D. Residual
71. Which structural feature results from compressional stress?
- A. Normal fault
 - B. Fold
 - C. Joint
 - D. Rift valley
72. Which mineral exhibits conchoidal fracture?
- A. Calcite
 - B. Quartz
 - C. Halite
 - D. Gypsum
73. Which of the following is a primary sedimentary structure?
- A. Foliation
 - B. Cleavage
 - C. Bedding
 - D. Lineation
74. Which process forms stalagmites?
- A. Evaporation
 - B. Deposition from groundwater
 - C. Volcanism
 - D. Wind erosion
75. Which is the correct sequence of metamorphic grade (low to high)?
- A. Gneiss → Slate → Schist
 - B. Slate → Schist → Gneiss
 - C. Schist → Slate → Gneiss
 - D. Slate → Gneiss → Schist
76. Which of the following best defines lithosphere?
- A. Entire Earth interior
 - B. Crust and uppermost mantle
 - C. Only mantle
 - D. Core and mantle

77. Which type of magma is richest in silica?
- A. Basaltic
 - B. Andesitic
 - C. Rhyolitic
 - D. Ultramafic
78. Which structure is formed due to tensional forces?
- A. Fold
 - B. Reverse fault
 - C. Rift valley
 - D. Thrust fault
79. Which mineral is most resistant to weathering?
- A. Olivine
 - B. Quartz
 - C. Feldspar
 - D. Pyroxene
80. Which process converts sediment into sedimentary rock?
- A. Crystallization
 - B. Diagenesis
 - C. Metamorphism
 - D. Melting
81. Which of the following represents a transform boundary feature?
- A. Mid-Ocean ridge
 - B. Rift valley
 - C. Fault line
 - D. Trench
82. Which rock is formed by contact metamorphism?
- A. Slate
 - B. Hornfels
 - C. Gneiss
 - D. Schist
83. Which mineral group dominates Earth's crust?
- A. Carbonates
 - B. Oxides
 - C. Silicates
 - D. Sulphides
84. Which process forms bauxite?
- A. Mechanical weathering
 - B. Laterization
 - C. Volcanism
 - D. Metamorphism

85. Which is a characteristic of shield volcanoes?
- A. Steep slopes
 - B. Explosive eruptions
 - C. Gentle slopes
 - D. High viscosity lava
86. Which fossil type records organism activity?
- A. Body fossil
 - B. Trace fossil
 - C. Index fossil
 - D. Microfossil
87. Which factor controls rate of erosion most?
- A. Color
 - B. Climate
 - C. Magnetism
 - D. Density
88. Which sediment size is classified as sand?
- A. >2 mm
 - B. 0.0625 – 2 mm
 - C. <0.004 mm
 - D. 4 – 64 mm
89. Which structure indicates compressional tectonics?
- A. Rift
 - B. Normal fault
 - C. Fold
 - D. Graben
90. Which mineral shows effervescence with acid?
- A. Quartz
 - B. Calcite
 - C. Feldspar
 - D. Olivine
91. Which of the following is a primary magma?
- A. Derived magma
 - B. Magma formed directly from mantle
 - C. Contaminated magma
 - D. Residual magma
92. Which process leads to formation of stalactites and stalagmites?
- A. Sublimation
 - B. Precipitation of calcium carbonate
 - C. Mechanical erosion
 - D. Magmatic activity

93. Which type of rock shows foliation?
A. Igneous
B. Sedimentary
C. Metamorphic
D. Volcanic glass
94. Which factor affects groundwater movement?
A. Porosity and permeability
B. Color
C. Mineral hardness
D. Magnetic field
95. Which is NOT a type of plate boundary?
A. Divergent
B. Convergent
C. Transform
D. Vertical
96. Which of the following is an ore of iron?
A. Galena
B. Hematite
C. Chalcopyrite
D. Bauxite
97. Which structure is formed due to rapid cooling of lava underwater?
A. Columnar joints
B. Pillow lava
C. Vesicular structure
D. Flow banding
98. Which term describes break in stratigraphic record?
A. Facies
B. Unconformity
C. Bedding
D. Lithology
99. Which type of coal has highest carbon content?
A. Lignite
B. Bituminous
C. Anthracite
D. Peat
100. Which is the most abundant element in Earth's crust?
A. Silicon
B. Oxygen
C. Aluminium
D. Iron
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ROUGH WORK

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