

**Entrance Examination  
for  
Admission in M. Tech. (Applied Geology) 2025**

**Date of Examination: 28.07.2025 (Monday)**

**SET - A**

Duration: 60 Minutes

Total Marks: 100

**Name of the Candidate:**

**Date of Birth:**

**ROLL NO.**

***Instructions***

1. This booklet contains Question Paper and Answer sheet. Do not tear off the answer sheet.
2. The question paper contains 50 numbers of Multiple Choice Questions. All questions are compulsory. All questions carry equal marks.
3. There shall be "NO NEGATIVE" Marking. Each **Correct Answer** will fetch **02 marks**.
4. Candidates should mark their answers in the ANSWER SHEET by ticking the correct option representing the correct/most appropriate answer with Blue/Black Ball Point PEN.
5. All candidates are requested to submit their booklet at the end of the examination. Candidates are not allowed to carry the booklet with them.

***Signature of Candidate***

***Signature of Invigilator***

***Signature of Examiner***

**Marks Obtained**

Nos. of Correct Answers

**x 2 =**

Total Marks Obtained  
out of 100

*In words :*

***Checked and Verified***

Q.1- Which among the following is not a Lithostratigraphic Unit:

- (A) Formation    ~~(B) System~~    (C) Member    (D) Group

Q.2 - The average density of the Earth's Crust is:

- (A) 2.5 g/cm<sup>3</sup>    ~~(B) 2.7 g/cm<sup>3</sup>~~    (C) 3.0 g/cm<sup>3</sup>    (D) 3.2 g/cm<sup>3</sup>

Q.3 - As per the Geological Time Scale the Dinosaurs exists during:

- (A) Palaeozoic    ~~(B) Mesozoic~~    (C) Cenozoic    (D) Precambrian

Q.4 - Which of the following stratigraphic sequence is known for the occurrence of Coal:

- (A) Vindhyan Supergroup    ~~(B) Gondwana Supergroup~~  
(C) Chhattisgarh Supergroup    (D) Aravalli Supergroup

Q.5 - Which of the following landform is not associated with Glaciers:

- (A) Cirque    ~~(B) Levee~~    (C) Arete    (D) Esker

Q.6 - In Gondwana Supergroup the beginning of sedimentation is characterized by the deposition of:

- ~~(A) Glacial sediments~~    (B) Marine sediments  
(C) Lacustrine sediments    (D) Deltaic sediments

Q.7- The most destructive and explosive volcano is:

- (A) Strombolian type    (B) Visuvius type  
(C) Hawaiian type    ~~(D) Pelean type~~

Q.8 - During Earthquake, the maximum destruction on surface of the Earth is caused by:

- (A) P waves    (B) S waves    (C) M waves    ~~(D) L waves~~

Q.9 - The crystal system, which is having four crystallographic axis is:

- (A) Tetragonal system    ~~(B) Hexagonal system~~  
(C) Orthorhombic system    (D) Cubic system

Q.10 - Kant and Laplace independently proposed the following hypothesis:

- ~~(A) Tidal hypothesis~~    (B) Protoplanet hypothesis  
(C) Nebular hypothesis    (D) Planetesimal hypothesis

**Q.11** – Which of the following is not an Alkali Feldspar:

- (A) Orthoclase    ~~(B) Oligoclase~~    (C) Sanidine    (D) Microcline

**Q.12** – As per Moh's Hardness scale the hardness of Orthoclase is:

- (A) 4    (B) 5    ~~(C) 6~~    (D) 7

**Q.13** – Which among the following mineral exhibits Vitreous lustre:

- (A) Asbestos    (B) Muscovite    (C) Galena    ~~(D) Quartz~~

**Q.14** – In stratigraphy the Geological Time unit representing the smallest interval of time is:

- (A) Eon    ~~(B) Epoch~~    (C) Era    (D) Period

**Q.15** – Fossils are most dominantly found to occur in which among the following rocks:

- (A) Schist    (B) Basalt    ~~(C) Limestone~~    (D) Trachyte

**Q.16** – The concept of younger beds are deposited on the top of older beds is known as the principle of:

- ~~(A) Order of Superposition~~    (B) Cross Cutting relationship  
(C) Original Continuity    (D) Original Horizontality

**Q.17** – Which of the following is not a metamorphic mineral:

- (A) Staurolite    (B) Cordierite    ~~(C) Glauconite~~    (D) Chlorite

**Q.18** – Which geological period is referred to as the Golden Age for Trilobite:

- ~~(A) Cambrian~~    (B) Permian    (C) Ordovician    (D) Silurian

**Q.19** – As per the Wentworth's scale, the particles having a diameter between 64 mm – 4 mm are described as:

- (A) Cobbles    ~~(B) Pebbles~~    (C) Coarse Sand    (D) Granules

**Q.20** – In a geological map if counter lines are running parallel to the lithological contact then the beds are referred to as:

- (A) Vertical    ~~(B) Horizontal~~  
(C) Low Dipping    (D) High Dipping

**Q.21** – In Polarizing Microscope, the Nicol Prism is made up of:

- (A) Muscovite      ~~(B) Calcite~~      (C) Quartz      (D) Gypsum

**Q.22** – Which among the following is a pleochroic mineral:

- (A) Quartz      (B) Apatite      ~~(C) Biotite~~      (D) Orthoclase

**Q.23** – Which of the following landform is not associated with Wind:

- (A) Pedestal rock      (B) Sand dunes  
~~(C) Roches moutonnee~~      (D) Yardang

**Q.24** – In the interior of the Earth the Mohorovicic Discontinuity separates:

- (A) Mantle and Core      (B) Continental Crust and Oceanic Crust  
~~(C) Crust and Mantle~~      (D) Upper Mantle and Lower Mantle

**Q.25** – The average thickness of the Continental Crust of the Earth is:

- (A) 12 km      (B) 20 km      ~~(C) 30 km~~      (D) 50 km

**Q.26** – The characteristic rock of the Deccan Trap is:

- (A) Dolerite      ~~(B) Basalt~~  
(C) Granite      (D) Andesite

**Q.27** – The Rampura-Agucha Lead – Zinc mine is located in which state:

- (A) Bihar      (B) Gujarat  
~~(C) Rajasthan~~      (D) Odisha

**Q.28** – In which of the following rocks Diamond usually found:

- (A) Basalt      (B) Dunite      ~~(C) Kimberlite~~      (D) Andesite

**Q.29** – The inclination of the fault plane with the vertical plane is known as:

- (A) Dip      ~~(B) Hade~~      (C) Throw      (D) Slip

**Q.30** – Which of the following statement is incorrect for minerals :

- (A) Substance that occurs naturally as homogeneous solid.  
(B) They have a definite chemical composition.  
~~(C) They formed through organic processes.~~  
(D) They have a highly ordered atomic arrangement.



**Q.31** - The sun is a primary source of energy for which of the following remote sensing type:

- (A) Active  
(B) Passive  
(C) Both A and B  
(D) None of the above

**Q.32 - Which part of Electro Magnetic spectrum is commonly used for Bathymetry studies:**

- (A) Red                      (B) Blue                      (C) Green                      (D) Both B and C

**Q.33** – The aquifer which is bounded above and below by confining layers is known as:

- (A) Perched aquifer  
(B) Artesian aquifer  
(C) Confined aquifer  
(D) Unconfined aquifer

**Q.34 – Which among the following rock forms the best aquifers due to it's high porosity and permeability:**

- (A) Shale      (B) Sandstone      (C) Basalt      (D) Granite

**Q.35 – Which of the following does not belongs to the stratigraphic sequence of Vindhyan Supergroup:**

- (A) Railo Group  
(B) Kaimur Group  
(C) Semri Group  
(D) Bhandar Group

**Q.36 – Bharveli Mine of Balaghat district in Madhya Pradesh is known for the mining of:**

- (A) Copper      ~~(B) Manganese~~      (C) Iron      (D) Coal

**Q.37 -** What would be the strike of an inclined bed dipping at  $60^\circ$  in the  $N045^\circ$  direction:

- (A) N115°      (B) N245°      (C) N335°      (D) N135°

**Q.38** - Which of the following is not a concordant form of igneous rocks:

- (A) Sill                  (B) Laccolith                  (C) Dyke                  (D) Phacolith

**Q.39 – The oceanic crust of the Earth is mainly made up of:**

- (A) Granite      (B) Limestone      (C) Basalt      (D) Sandstone

**Q.40** – Which of the following structure of sedimentary rocks is not used to determine the top and bottom criterion of the strata:

- (A) Graded bedding  
(B) Current bedding  
(C) Pressure solution  
(D) Load cast

**Q.41** - Which among the following is a non-metallic mineral resource:

- (A) Copper      (B) Aluminium      ~~(C) Phosphorite~~      (D) Manganese

**Q.42** - Which among the following facies does not belongs to the facies of contact metamorphism:

- (A) Albite Epidote Hornfels facies      ~~(B) Prehnite Pumpellite facies~~  
(C) Hornblende Hornfels facies      (D) Sanidinite facies

**Q.43** - Which among the following is not a non-clastic sedimentary rock:

- (A) Chert      ~~(B) Shale~~      (C) Limestone      (D) Travertine

**Q.44** - The chemical composition of Gypsum is:

- (A)  $\text{CaSiO}_4$       (B)  $\text{CaSO}_4$       ~~(C)  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$~~       (D)  $\text{CaSiO}_4 \cdot \text{H}_2\text{O}$

**Q.45** - The Tehri Dam of Uttarakhand is a type of dam:

- (A) Gravity Dam      (B) Arc Dam  
~~(C) Earth and Rock Fill Dam~~      (D) Concrete Dam

**Q.46** - As per the optical properties, which of the following minerals remain Isotropic:

- ~~(A) Fluorite~~      (B) Muscovite      (C) Pyroxene      (D) Microcline

**Q.47** - Which of the following crystal system have least number of Classes:

- (A) Cubic system      (B) Orthorhombic system  
~~(C) Triclinic system~~      (D) Tetragonal system

**Q.48** - The drainage pattern, develop due to sub-parallel streams aligned along the strike of the rock formations, is known as:

- (A) Dendritic      (B) Rectangular      (C) Radial      ~~(D) Trellis~~

**Q.49** - The record of an earthquake waves on the paper is known as:

- ~~(A) Seismogram~~      (B) Seismograph  
(C) Scintillometer      (D) Seismometer

**Q.50** - Which of the following is not an ore of Iron:

- (A) Magnetite      (B) Siderite      ~~(C) Manganite~~      (D) Limonite