



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH(CT)/SEM-3/CT-302/2010-11**

**2010-11**

**GEOLOGY**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :

$$10 \times 1 = 10$$

- i) In the Moh's scale of hardness, which mineral has the hardness of 8 ?
  - a) Quartz
  - b) Topaz
  - c) Apatite
  - d) Orthoclase.
- ii) Which is the densest planet in the solar system ?
  - a) Mars
  - b) Earth
  - c) Jupiter
  - d) Saturn.
- iii) Equatorial radius of the earth is
  - a) 6378 km
  - b) 6371 km
  - c) 6356 km
  - d) 6354 km.



- iv) Quartz changes into Tridymite at
- a) 767°C                                      b) 867°C
- c) 967°C                                      d) 1067°C.
- v) Micro-components of coal are referred to as
- a) stones                                      b) minerals
- c) bitumens                                      d) macerals.
- vi) The most important Kyanite deposit in India is at
- a) Lohardaga                                      b) Lapsaburu
- c) Khetri                                      d) Chikmagalur.
- vii) Biotite is known as a
- a) Black mica                                      b) White mica
- c) Brown mica                                      d) Blue mica.
- viii) What is the pure variety of talc known as ?
- a) Soapstone                                      b) Brunnerite
- c) Tremolite                                      d) Steatite.
- ix) Dolerite is a ..... Rock.
- a) Plutonic                                      b) Hypabyssal
- c) Volcanic                                      d) Extrusive.
- x) A large body of plutonic rock is called a
- a) Lopolith                                      b) Laccolith
- c) Phacolith                                      d) Batholith.



- xi) Gabbro is a ..... rock.
- |               |                  |
|---------------|------------------|
| a) Basic      | b) Acidic        |
| c) Ultrabasic | d) Intermediate. |
- xii) Conglomerate represents a ..... variety of sedimentary rock.
- |                |               |
|----------------|---------------|
| a) Arenaceous  | b) Calcareous |
| c) Ferruginous | d) Rudaceous. |
- xiii) Which discontinuity separates the mantle from the core of the Earth ?
- |            |              |
|------------|--------------|
| a) Moho    | b) Gutenberg |
| c) Repetti | d) Conrad.   |

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$

( Give illustrative sketches too, wherever possible )

- Describe the Bode's Law and its implications on the origin of the solar system and the earth.
- Distinguish between dykes and sills.
- Write a short note on earthquake waves.
- Describe the process of separating talc from its impurities.
- Why is K-feldspar preferred in ceramic bodies, while Na-feldspar in glazes ?

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**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. What is Geology ? What are the main branches of Geology ?  
Briefly describe the subject-matter of these different branches.  $2 + 4 + 9$
8. What are the different constituents of coal ? Give the most commonly accepted classification of coals explaining the basis for such classification. Describe the origin of coal.  
 $5 + 5 + 5$
9. Briefly describe the various physical properties of minerals which are used in their identification in hand specimens.
10. Describe the composition, varieties, characteristics, origin and mode of occurrence of magnesite.
11. Classify silicate minerals explaining the fundamental characteristics of each class and citing examples.

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