



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 199243

Roll No.

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B. Tech.

(SEM. II) THEORY EXAMINATION, 2014-15
GEOLOGICAL SCIENCE

Time : 3 Hours]

[Total Marks : 100

Note : Attempt All Questions. All Questions carry equal marks.

1 Attempt any FOUR parts : 5×4=20

- (a) Define the following terms :
- Strike
 - Graded Bedding
 - Unconformity
 - Grouting
 - Luster
- (b) What is the importance of geology in the field of civil engineering ? Discuss the engineering properties of rocks ?
- (c) Write brief notes on joints in rocks & their causes.
- (d) What are the causes of fold ? Explain the term meteoric-Connate-Juvenile water & write notes on the classification of earthquake.

- (e) Write down the important characteristics of the following minerals :
- (i) Haematite
 - (ii) Topaz
 - (iii) Orthoclase
 - (iv) Pyrite
- (f) Describe the qualities & properties required for road metals.

2 Attempt any TWO parts : 10×2=20

- (a) Describe the various methods of preventing landslides. Discuss all the sources of underground water. Explain the term hydrological cycle with neat sketch.
- (b) How are landslides classified ? What is Tsunami ? Write short notes on it.
- (c) Write a note on magma & its constitution & crystallisation to form rocks.

3 Attempt any TWO parts : 10×2=20

- (a) What are the different stone available in civil engineering & mention their uses.
- (b) Which group of minerals is most common in occurrence; briefly mention its salient features.
- (c) Describe the geological factor which should be considered in selecting the site for dams & tunnels.

4 Attempt any TWO parts : 10×2=20

- (a) What is the role of underground water as a geological hazard ? Name all the physical properties of minerals.
- (b) What are the uses of Quartz ? What are the secondary minerals? Mention the industrial use of Mica group.
- (c) Explain the terms :
 - a) Streak Plate
 - b) Dip & Strike
 - c) Angle of repose
 - d) Industrial minerals
 - e) Cleavage
 - f) Use of Titanium Mineral
 - g) Stratification
 - h) Artesian Wells
 - i) Hardness of Gypsum
 - j) Aquicludes

5 Attempt any TWO Parts : 10×2=20

- (a) What do you understand by the terms texture & structure of rocks ? Discuss the suitability metamorphic rocks as an engineering material.
 - (b) Write a brief note on the recognition of faults in the field. What are the geological considerations for the construction of building in seismic areas ?
 - (c) Explain the term natural & artificial pozzolanas & give their examples. What do you understand by the term geophysical investigations ?
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