

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

Paper ID : 100404

Roll No.

**B.TECH.**

**Theory Examination (Semester-IV) 2015-16**

**ENGINEERING GEOLOGY**

*Time : 3 Hours*

*Max. Marks : 100*

**Section-A**

**Q1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)**

- (a) What do you understand by the term Artesian wells?
- (b) Differentiate between Calcite and Barite.
- (c) Explain the term Columnar Jointing.
- (d) What are different Rock forming minerals?
- (e) Name the various Geophysical explorations.
- (f) Discuss Bowen's reaction series.

- (g) Write a short note on Seismogram.
- (h) Differentiate between kyanite and Quartz.
- (i) Explain Metamorphic Rock.
- (j) Define Hardness.

### Section-B

**Q2. Attempt any 5 questions from this section. (10×5=50)**

- (a) What is an earthquake? What are the effects of earthquakes?
- (b) What are the precautionary measures taken in the construction of buildings in earthquake prone zones?
- (c) Landslide is a very big problem for human beings; How? Suggest methods to minimize the landslides.
- (d) What unconformity? Explain the various causes of unconformity in rocks along with their classification.
- (e) Write about the contamination of groundwater. Also give the measures to control the groundwater pollution.

- (f) What is puzzolona? How it is classified? Also mention the main properties of puzzolona.
- (g) What are the geological investigations necessary for the alignment of hill roads?
- (h) Write the geological investigation for site selection of reservoirs and tunnels.

### Section-C

**Note: Attempt any 2 questions from this section. (15×2=30)**

- Q3. Describe different Geophysical methods in terms of principles, parameters, methods, equipment and applications of Gravity methods and Electrical methods?
- Q4. Discuss the sources of underground water along with their characteristics. What are the differences between confined and unconfined aquifers for steady flow conditions?
- Q5. Give an account of geological investigations of Dam and Reservoir sites. Discuss the problems of tunneling through stratified formations.