

Paper Code: CE-404**Roll No.**

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B.Tech.

**(SEM IV) EVEN SEMESTER EXAMINATION, 2015-16
ENGINEERING GEOLOGY**

[Time: 2 hrs.]**[Max. Marks: 50]****Note:-**Attempt All questions.

1. Attempt any four parts of the following:- **[3x4=12]**
 - (a) Write in detail about the structure of the earth and its composition with a neat diagram.
 - (b) Name at least 4 clay minerals and their important engineering properties.
 - (c) What are sedimentary rocks? Explain the properties of any two metamorphic rocks including their texture, structure.
 - (d) What do you understand by rock forming mineral? And name any 3 rock forming mineral and their properties.
 - (e) Define petrology. Describe the composition, texture, characteristics, occurrence and uses of granite
 - (f) Explain the various effects imposed on the pre-existing rocks due to metasomatic processes. How they differ from changes brought about by metamorphic process.

2. Attempt any four parts of the following:- **[3.5x4=14]**
 - (a) What do you understand by fold? Give an outline on classification of folds. And write a note on causes of folding.
 - (b) Write a brief note on "Joints in Rocks, their causes and effects on the engineering quality of rocks.
 - (c) Explain various parts of fault with the help of neat sketches.
 - (d) Classify different types of faults on the basis of apparent movement of blocks. And also write about their engineering applications.
 - (e) Write short notes on
 - (i) Dip and Strike
 - (ii) Overturned fold
 - (iii) Rift Valley
 - (iv) Hade, Heave and Throw in fault
 - (v) Sheet Joint

3. Attempt any two parts of the following:- **[6x2=12]**
 - (a) Write brief notes on any four:-
 - (i) Perched water-table
 - (ii) Vadose zone
 - (iii) Descending spring
 - (iv) Juvenile water and connate water
 - (v) Isoleismic
 - (vi) Zone of highest seismic intensity
 - (b) Give an account of the various properties and function of an aquifer. Classify different rocks as aquifer.
 - (c) Define earthquakes and tsunamis. Give a detailed account of origin of tectonic earthquakes and their distribution on earth.

4. Attempt any two parts of the following:- **[6x2=12]**
 - (a) Give an account for geological investing of dam. Also give salient features of Gravity dam and Earth dams.
 - (b) What are the geological investigations necessary for the alignment of the hill road?
 - (c) What do you understand by Mass movement? What are the main causes of mass movement? How you can prevent it?

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