

**CE - 304**  
**B.E. III Semester** Examination, December 2014  
**Engineering Geology**  
*Time : Three Hours*

Roll No .....

**Maximum Marks : 70**

- Note:** i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.  
ii) All parts of each questions are to be attempted at one place.  
iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.  
iv) Except numericals, Derivation, Design and Drawing etc.

**Unit - I**

1. a) Define the term MOHO.  
b) Write notes on spheroidal weathering (with examples)  
c) Discuss the concept of Earthquakes.  
d) Discuss the petrological character of crust, Mantle core.

OR

Discuss the concept of plate tectonics.

**Unit - II**

2. a) Explain the term ore forming minerals (with two examples)  
b) Explain the types of Lustre with examples.  
c) Discuss the classification of crystal system.  
d) Describe only Form/Habit cleavage and hardness of minerals.

OR

Describe physical properties of minerals: i) Rose quartz ii) Biotite iii) Orthoclase

**Unit - III**

3. a) Discuss colour classification and silica percentage classification of igneous rocks.  
b) Only mention the name of sedimentary textures (with examples)  
c) Discuss the different types of metamorphic textures (with diagram).  
d) What is rocks? Describe different types of the textures in igneous rocks.

OR

Describe following rock types:

i) Pink granite ii) Pegmatites iii) Conglomerate iv) Marble

**Unit - IV**

4. a) Explain parts of faults.  
b) Discuss the types of unconformity.  
c) Write notes on syncline fold and anticline fold, Dome and Basin (with sketches)  
d) Describe different types of faults on the basis of genesis/mode of occurrences (with figures).

OR

A coal seam is exposed on horizontal ground, if dip 30' west its width of outcrop is 100m. Determine its true thickness (Tt) and vertical thickness (Vt) of strata.

**Unit - V**

5. a) Mention only name branches of applied geology.  
b) Discuss the application of geology in civil engineering.  
c) Describe geological investigation of Dam site.  
d) Explain ground water exploration method.

OR

Write notes on:

i) Vertical distribution of ground water ii) Hydrological cycle iii) Grouting.