

POKHARA UNIVERSITY

Level: Bachelor Semester – Spring Year : 2010
Programme: BE Full Marks: 100
Course: Engineering Geology and Soil Mechanics Pass Marks: 45
Time : 3hrs.

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

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define Branches of geology. Write importance of engineering geology to construction field. 8
b) Define mineral and crystal. Explain the characteristic of crystal. 7
2. a) Write engineering properties of rocks. Explain about the igneous rock formation. 7
b) Define fold. Explain the types of fault with clear sketches. 8
3. a) Define the ground water movement. Explain about the river mandering with their features. 8
b) Explain the geological investigation of dam. 7
4. a) What is the information that you are aware of about geology of Nepal? Explain them in brief. 8
b) Define dip and strike. What are the importances of topographic maps and geological maps for civil engineers? 7
5. a) Define soil mechanics. What is the significance of soil mechanics in civil engineering? 7
b) A partially saturated sample from a borrow pit has a natural moisture content of 15% and bulk unit weight of 1.9g/cc. The specific gravity of solid is 2.70. Determine the degree of saturation, void ratio and unit weight of saturated sample. 8
6. a) Define Atterberg limits. 7
b) Classify the soil under the unified soil classification system. 8
7. Write short notes on **any two**: 2×5

- a) Index properties of soil
- b) Engineering Properties of soil
- c) Phase Diagram