

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC Sem-I June-July Examination 2011

Subject code: X10602

Subject Name: Engineering Geology

Date: 25/06/11

Total Marks: 70

Time: 10:30am to 1:00pm

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the terms weathering, erosion and denudation. Describe the chemical weathering of rocks giving suitable illustrations. **07**
- (b) Describe the Lustre and Form (Structure) properties of minerals with suitable examples. **07**
- Q.2** (a) Discuss the importance of engineering geology in civil engineering practices. **07**
- (b) What are sedimentary rocks? How are they formed? **07**
- OR**
- (b) Describe important structures observed in igneous rocks. **07**
- Q.3** Write notes on the following topics: **07**
- (a) Rock Cycle
- (b) Parts of a Typical Fault
- OR**
- Q.3** Write notes on the following topics: **07**
- (a) Sills and Dykes
- (b) Kinds of Metamorphism
- Q.4** (a) What are landslides? How are they caused? **07**
- (b) Discuss the suitability of a dam site in folded and faulted sequence of rocks. **07**
- OR**
- Q.4** (a) Discuss how hill slopes can be made stable. **07**
- (b) Discuss the implication of folds on the foundation of various civil engineering structures. **07**
- Q.5** (a) Briefly discuss various geological criteria to be considered in the selection of a tunnel alignment. **07**
- (b) Define aquifer, aquifuse and aquiclude. Describe the porosity and permeability of rocks. **07**
- OR**
- Q.5** (a) Describe the applications of remote sensing and GIS techniques in civil engineering practices. **07**
- (b) Discuss wind erosion through deflation and abrasion. **07**
