

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – SUMMER • 2014****Subject Code: 140604****Date: 27-06-2014****Subject Name: Engineering Geology****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Define engineering geology. Explain technical responsibilities of a civil engineer and an engineering geologist in civil engineering projects. **07**
- (b) Define mineral. Describe in detail Moh's scale of hardness and cleavage as physical properties of minerals. **07**
- Q.2** (a) Explain (1) Magnitude and Intensity of an earthquake. (2) Branches of geology important in civil engineering. **07**
- (b) What are geological agents? Describe in detail the mechanical weathering of rocks. **07**
- OR**
- (b) Define the terms weathering, erosion and denudation. Explain river meandering. **07**
- Q.3** (a) Define crystal. Enlist elements of a crystal. Write note on any one crystallographic system. **07**
- (b) What is an earthquake? Describe the types of earthquake waves and concepts of plate tectonics. **07**
- OR**
- Q.3** (a) Explain dip and strike, normal and reverse faults with neat sketches. **07**
- (b) What are folds? Explain various terminology of a typical fold with neat sketches. **07**
- Q.4** (a) What are sedimentary rocks? Describe the formation of clastic sedimentary rock and write tabular classification of sedimentary rocks. **07**
- (b) Describe the factors and kinds of metamorphism. **07**
- OR**
- Q.4** (a) Define and explain (1) Equigranular and Ophitic textures (2) Dykes (3) Batholith. **07**
- (b) Write notes on rock cycle and sand dunes. **07**
- Q.5** (a) Enlist and explain briefly the geological criteria for site selection of dam. **07**
- (b) What does landslide mean? State various factors affecting landslides. **07**
- OR**
- Q.5** (a) Porosity and Permeability. **04**
- (b) Streak and forms as physical properties of minerals. **06**
- (c) Explain remote sensing and geographical positioning system. **04**
