

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: X 10602**Date: 21/01/2013****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) What are primary and secondary structures of rocks? Explain in the same context origin of bedding. **07**
(b) Explain origin of igneous rocks? Classify them based on silica percentage and depth of origin. **07**
- Q.2** (a) Discuss various geological criteria to be considered in selection of a dam site. **07**
(b) List the agents of weathering and explain mechanical weathering of rocks in detail. **07**
- OR**
- (b) Explain with examples what are aquifer, porosity, permeability and specific yield? **07**
- Q.3** (a) How are sedimentary rocks formed? Explain with examples what are clastic and non-clastic rocks? **07**
(b) Explain different parts of fault and discuss effects of faulting on rocks. **07**
- OR**
- Q.3** (a) What are the agents of metamorphism? Explain effects of metamorphism on pre-existing rocks? **07**
(b) Engineering consideration of jointing in rocks. **07**
- Q.4** (a) Explain parts of fold with neat figure and classify them on the basis of position of the axial plane. **07**
(b) Explain internal structure of the earth with neat diagram. **07**
- OR**
- Q.4** (a) State the various methods of geophysical exploration. Describe electrical resistivity method of geophysical exploration. **07**
(b) What are different preventive measures for landslide? **07**
- Q.5** (a) Discuss the merit and demerit: when tunnel is passing thorough inclined sedimentary rocks. **07**
(b) Discuss the merit and demerit; when dam is proposed on sedimentary rocks. **07**
- OR**
- Q.5** (a) Describe applications of remote sensing techniques in civil engineering Practices. **07**
(b) Elaborate the usefulness of geological maps and sections in civil engineering. **07**
