

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-III(Mining Engg) Examination December 2009****Subject code: 132203****Date: 29 / 12 / 2009****Subject Name: Geology-1****Time: 11.00 am – 1.30 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 the principles of stratigraphy? List Era, Period and epoch of standard geologic time scale in tabular form along with associated age. **07**
(b) Describe Mohs' Hardness scale. Also explain different form(structure)s in which minerals occur. Provide suitable examples **07**
- Q.2** (a) Explain with neat figure: bedding plane, dip, strike and unconformity. Also classify faults on the bases of sense of movement. **07**
(b) Explain the Internal Structure of the Earth as revealed by the seismological evidence. Draw a neat figure. **07**
- OR**
- (b) What is weathering? How minerals deposits are produced as an outcome of weathering? Explain with the help of suitable examples. **07**
- Q.3** (a) Give detailed account of processes and structures associated with different types of plate boundaries. **10**
(b) Write physical properties of kyaite and gypsum. **04**
- OR**
- Q.3** (a) What is ore mineral? Provide detailed account of physical properties of chalcopryite, bauxite, hematite and wolframite. **07**
(b) Give detailed account of Mica family. **07**
- Q.4** (a) Describe erosional and depositional work of groundwater. **07**
(b) Describe any two structures produced by depositional process of river along with their economic importance. **07**
- OR**
- Q.4** (a) Describe stratigraphy of Cuddapah Basin of Andhra Pradesh. **07**
(b) Provide detailed account of economic importance of Archean group. **07**
- Q.5** (a) Explain different parts of fold with neat figure. **07**
(b) Classify folds on the bases of position of axial plane. **07**
- OR**
- Q.5** (a) Write short note on drilling methods and remote sensing as a tool for geological exploration. **07**
(b) Classify feldspar group of minerals on the basis of chemical composition and crystallization system. Also describe common physical properties of the group. **07**