

# GUJARAT TECHNOLOGICAL UNIVERSITY

## B.E Semester: 4 Mining Engineering

Subject Code 142203  
Subject Name Geology-II

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Sr.No	Course contents
1.	Agradational Geomorphic Process : Earthquakes definition, Geological causes, measurement (Magnitude and intensity), Seismic-zones of India, Aseismic designs, Volcanoes their types products and distribution. Mountains-their types, genesis and distribution.
2.	Igneous Rocks : Forms of Igneous rocks. Tabular classification of Igneous rocks. Texture, structures and cooling history of Igneous rocks, Crystallization of unicomponent and biocomponent magma. Petrological characters of Granite, Syenite, Gabbro, Anorthosite, Dunite, Peridotite, Pegmatite, Rhyolite, Basalt.
3.	Sedimentary Rocks : Formation of Sedimentary rocks. Classification of Sedimentary rocks. Texture and Structures. Characteristics of conglomerate, Breccia, Sandstone, Siltstone, Shale, Limestone, dolomites and Phosphorite.
4.	Metamorphic Rocks : Kind and agents of metamorphism. Textures and Structures of Metamorphic rocks. Metamorphic facies and grade. Characteristics of Gneiss, Phyllite Schist, Slate, Quartzite, Eclogite, Granulite.
5.	Structural Geology : multigeneration folding. Lineation, Schistosity and Joints. Geological maps showing various combinations of fold fault, unconformity and intrusives.
6.	Phenozoic Stratigraphy : Marwar Supergroup and Cambrians of salt range. Gondwana Supergroup. Deccan Traps. Mesozoics of Gujarat and Rajasthan. Siwalik Supergroup. Origin of Indogangetic alluvium, Thar desert and Himalaya.
7.	Tunnels : Terminology and Classification, Hazards and influence of geological factors at tunnel sites (including, structural, Lithological and Ground water). Indian Tunnels. Geological investigations at Dem preventive measures of land slides.

### Reference Books:

1. A Text Book of Engg. & General Geology, Parbin Singh
2. Engineering Geology, K.M.Bangar
3. Engineering Geology, R.S.Kurmi
4. Physical Geology, Tyrell
5. Textbook of Geology, Duttas