

4thSemester	RPP4D002	Geology of Petroleum	L-T-P 3-0-0	3 CREDITS
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Course Objectives: To impart basic knowledge of minerals, rocks, principles of stratigraphy, structural geology and topographic maps.

Module I: (10 hrs)

Minerals: General properties, Classification of minerals and properties of common rock forming minerals.

Petrology: Rocks; Classification and description of some common rocks.

Module II: (10 hrs)

Stratigraphy: Principles of Stratigraphy, Concepts of palaeontology, Fossils, their mode of preservation and significance as indices of age and climate, Concept of index fossils, Broad stratigraphic subdivisions and associated rock types of important coal belts and oil fields of India.

Module III: (10 hrs)

Structural Geology: Interpretation of topographic maps; Attitude of planar and linear structures; Effects of topography on outcrops. Unconformities, folds, faults and joints - their nomenclature, classification and recognition.

Module IV: (07 hrs)

Forms of igneous intrusions - dyke, sill and batholiths. Effects of folds and fractures on strata and their importance in exploration activities.

Module V: (08 hrs)

Exploration: Meaning, methods of exploration, surface geological methods-gravity methods, magnetic methods, geophysical methods-electrical resistivity methods, seismic refraction methods, radiometric surveying.

Books:

- H.H. Rutely, 'Elements of Mineralogy', McGraw Hill Book Co., 2005.
- H.H. Read, 'Rutley's Elements of Mineralogy'.
- M.S. Krishnan, 'Geology of India'.
- P.K. Mukherjee, 'Introduction to Geology'.
- M.P. Billings, 'Structural Geology'.
- Philip Kearey, Michael Brooks, 'An Introduction to Geophysical Exploration', Blackwell Science.