**SYLLABUS FOR THE SUBJECT OF GEOLOGY**

**PAPER - I**

**Total Marks: 100**

**Physical Geology**: Earth as a member of the solar system; its origin, age, composition

and internal structure. Geomorphic processes

**Structural Geology**: Physical properties of rocks and rock behavior in different tectonic

environments; deformation by fracturing and folding; interpretation of linear and planar

elements.

**Paleontology:** Paleontological principles and techniques and their application to the

evolution of life, the ecological structure of ancient biological communities, and the

history of the earth.

**Stratigraphy and Sedimentology:** Principles of stratigraphy; Stratigraphic record and

nomenclature, Geological time scale, Stratigraphy of Salt Range. Origin, transportation

and deposition of sediments; biostratigraphic dating and correlation; Sedimentary

processes and environments.

**Mineralogy/ Petrology:** Crystal chemistry; crystal growth and mineral genesis,

physicochemical principles governing crystal structures. Mineralogical, chemical,

textural, and structural properties of igneous, metamorphic and sedimentary rocks; their

origin and relations to evolution of the Earth crust and mantle including rocks of both

the continents and ocean basins.

**Geochemistry:** chemical processes involved in the development of the earth and

distribution of the elements in the earth’s crust, atmosphere and ocean. Physical

chemistry of soils including soil mineralogy (formation, relative stability, ion exchange

properties) and surface chemistry. Principles of thermodynamics. Application of thermo

chemistry to high and low temperature processes.