

PE-104 Applied Petroleum Geology

Introduction: Introduction to various branches of geology, the origin of earth and its place in universe, interior of the earth, chemical composition of the earth's crust

Rock types and geological settings: Igneous, sedimentary, and metamorphic rocks formation and minerals, occurrence of mineral deposits in Pakistan Geological time scale, stratigraphy and correlation, Geological structures, agents of weathering and erosion.

Mountains, basins and plate tectonics: Theories of plate tectonics, mountain building and sedimentary basin of Pakistan, Earthquakes and seismic waves, earth surface processes, drainage patterns and their types, earthquakes, and volcanism.

Petroleum systems and elements: Origin of Petroleum, physical & chemical properties, composition of hydrocarbons, conventional and unconventional resources. Petroleum system and Elements and Potential petroleum reservoirs of Pakistan.

Recommended book(s)

Text Books:

1. Richard C. selley, " Elements of petroleum geology", 2nd Edition, 1997

Reference Books:

1. Long, L.E: "GEOLOGY:""14th edition, McGraw. Hill New York,2009.
2. Peter K. Link, "Basic Petroleum Geology", Oil and Gas Consultants International-Tulsa, Oklahoma, 2001.