

Course Code and Title : PGEVS1E007T, Environmental Geoscience
 Credit Hours : 04
 Total Number of Lectures : 60
 Course Teachers : Dr. Pankaj Mehta

Teaching Plan:

Topic	No. of Lectures	Teacher
UNIT-I: EARTH PROCESSES		
Brief geological history of the planet fundamental concepts	2	Dr. Pankaj Mehta
Primary differentiation and formation of core, mantle, crust, magma, generation, eruption and volcanoes	3	Dr. Pankaj Mehta
Formation and classification of rocks	3	Dr. Pankaj Mehta
Plate tectonics-sea floor spreading, mountain formation rock deformation and evolution of continents	4	Dr. Pankaj Mehta
UNIT-II: SOIL		
Weathering and soil formation	2	Dr. Pankaj Mehta
Soil profile, Soil classification, Soils of India	3	Dr. Pankaj Mehta
Ice sheets and fluctuations of sea levels	3	Dr. Pankaj Mehta
Volcanism: component and types of volcanoes, volcanic materials, processes and effects of volcanism	3	Dr. Pankaj Mehta
UNIT-III: GEORESOURCES		
Important ferrous and nonferrous metals, non- metallic and industrial minerals in India and in the world; mineral deposits through geologic time	3	Dr. Pankaj Mehta
Geo-indicators, resources and reservoirs	3	Dr. Pankaj Mehta
Mineral resources of J&K	2	Dr. Pankaj Mehta
Ocean as a new area for exploration of natural resources	2	Dr. Pankaj Mehta
UNIT-IV: GEOLOGICAL AGENTS		
Factors affecting landform development	1	Dr. Pankaj Mehta
Fluvial system: factors affecting stream erosion, deposition, erosional and depositional	4	Dr. Pankaj Mehta

land form		
Underground water system-water table, land forms formed through ground water action	3	Dr. Pankaj Mehta
Aeolian system: mechanism of wind erosion, erosional and depositional land forms	3	Dr. Pankaj Mehta
Glacial system: mechanism of glacial erosion, erosional and depositional land forms	3	Dr. Pankaj Mehta
Unit-V: ENVIRONMENTAL GEOCHEMISTRY		
Atomic properties of elements, Periodic table and geochemical classification of elements	4	Dr. Pankaj Mehta
Abundance of elements in the bulk earth, crust, hydrosphere, atmosphere and biosphere	2	Dr. Pankaj Mehta
Introduction to mineral structures and compositions; thermodynamic classification of elements into essential, structural, major and trace elements	4	Dr. Pankaj Mehta
Mineral stability diagrams and controls on the chemistry' of natural waters	3	Dr. Pankaj Mehta

REFERENCE BOOKS:

1. Press & Seiver, The Earth, Frank Press
2. Skinner & Porter, Dynamic Earth, Wiley
3. Krauskopf, Introduction to Geochemistry, Mc-Graw Hill
4. Parbin Singh, Engineering & General Geology, S.K. Kataria & Sons