

<p>drainage and groundwater basins. Water table and piezometric surface.</p> <p>Well Hydraulics and well designs: Theory of groundwater flow, Darcy's law, its validity and applications, determination of permeability in laboratory and in field. Types of wells, drilling methods, construction, design, development and maintenance of wells. Specific capacity and its determination Steady and unsteady and radial flow conditions. Pumping tests-methods, data analysis and interpretations. Seawater intrusion. Groundwater Chemistry: Groundwater quality- physical, chemical, biological properties of water quality criteria for different uses, graphical presentation of water quality data, problems of arsenic and fluoride in India Saline water intrusion in coastal aquifers and its prevention. Groundwater contamination.</p> <p>Groundwater occurrence and exploration: Classification of rocks with respect to their water bearing characteristics, groundwater provinces of India. Groundwater exploration techniques.</p> <p><u>List of Books</u></p> <ol style="list-style-type: none"> 1. Todd D.K.: Groundwater hydrology, John Wiley, NY , 1980 2. Raghunath, H.M.: Ground Water, New Age International Publishers, 2007 3. Fetter, C.W.: Applied hydrogeology, NY, Macmillan, 1994 4. Davis and De Wiest: Hydrogeology 	
GLO-202: Petroleum Geology	3-0-0 = 3 credits
<p>Introduction to petroleum. Physical properties and chemical composition of petroleum. Origin of Petroleum. Petroleum Traps and Reservoir rocks. Primary and secondary migration and Accumulation. Petroleum exploration. Petroliferous basins of India. Oil belts of the world.</p> <p><u>List of Books</u></p> <ol style="list-style-type: none"> 1. Selley, R.C., Elements of Petroleum Geology: W.H. Freeman & Co, New York.2003 2. Tissot, B.P., and Welte, D.H. Petroleum Formation and Occurrence - A New Approach to Oil and Gas Exploration: Springer -Verlag, Berlin. 1978 3. Levorsen , A.I. Geology of Petroleum: W.H. Freeman and Company. 1967 4. North, F.K., Petroleum Geology: Allen & UnWin, 607p. 1986 	
GLO-203: Exploration Geophysics	3-0-0 = 3 credits
<p>Introduction to exploration geophysics: Electrical methods: instrumentation, field procedure and interpretation using electrical methods. Electrical profiling and sounding using Wenner and Schlumberger configurations. Principles and fundamental procedures of data collection and interpretation. Seismic Methods: Principles, instrumentation, survey procedures and interpretation using seismic methods. Correction applied to seismic data.</p> <p>Geophysical well logging: Introduction well logging methods, porosity logs, well log interpretation. Gravity and magnetic methods: Principles-field methods-gravimeters-corrections, interpretation of gravity data. Principles, instrumentation, field procedures and interpretation of magnetic data.</p> <p><u>List of Books</u></p> <ol style="list-style-type: none"> 1. William Lowrie. Fundamentals of geophysics,Cambridge university press, 1997 2. Kearey and Brook. An introduction to exploration geophysics, Blackwell Sc. publ, 1984 3. Sharma PV. Geophysical methods in geology, Elsevier, 1986 4. Dobrin M.B. An introduction to geophysical prospecting, McGraw Hill New Delhi, 1984 5. Ramachandra Rao, M.B. Outline of geophysical prospecting, Wesley press, 1975. 	
GLO- 204: Micropalaeontology	3-0-0=3 Credits
<p>Surface and sub-surface sampling methods, sample processing techniques; morphology, classification and evolution of foraminifera. Study of selected benthic and planktonic foraminifera. Morphology and geological distribution of ostracoda, calcareous nannofossils, radiolaria, conodonts. Applications of microfossils in biostratigraphy, palaeoenvironmental interpretation and sequence stratigraphy. Deep sea record and stable isotopes studies of calcareous microfossils. Role of micropalaeontology in hydrocarbon exploration.</p> <p><u>List of Books</u></p>	