

SYLLABUS :-

Brief introduction to ocean environment and ocean floor characteristics, waves, tides, currents, seawater properties; statistical analysis & distributions, multiple regression, correlation, auto-covariance, cross-spectra, practical applications in ocean engineering; Introduction to offshore structures-gravity platforms, jacket platforms, tension leg platforms, marine risers, submersibles, offshore pipelines, Instrumentation for ocean applications: pressure sensors, current meters, CTD, depth sounder, buoy systems etc. Fundamentals of mooring system and mooring cables. Submarine pipelines: interaction of pipelines with seabed: free span, scouring and burial of seabed pipelines, forces on sea-bed pipelines, current and wave-induced vibrations of pipelines, lifting-off of pipelines, introduction to dredging and reclamation, ocean energy and fundamental principles of energy extractions from sea waves.