Syllabus	Introduction • Characteristics of Offshore and Coastal Systems, Maritime Operations, Ocean Wave Environment • Linear Potential Theory, A Review, • The equation of motion and Response Amplitude Operator, Review, • Shallow water hydrodynamics, • Bathymetry effects, • Some nonlinear effects, Loads on Offshore Structures • Cantilever beams • Beam vibration & natural modes, • Transient response, • Wind and Current loads on offshore structures, • Vortex induced vibration, • Extreme environment, Cables & mooring • Basic catenary in air, • Catenary in water, • Mooring systems configuration and design, • Wave-drift forces, • Low frequency damping, • Dynamic Positioning, • Numerical computations, Underwater Acoustics • Introduction to Sonar (Acoustic Waves, Doppler shift, intensity and Decibels), • Sonar Equations, • Transducers, Directionality and Arrays, • Ambient noise, • Underwater guidance and navigation, Arctic Marine Structures • Ice structure, • Arctic Stratification, • Ice load on structures, • Wave-ice interactions,