SYLLABUS :-

Basic concepts; Types of structures; Force displacement relationships; Statistical and kinematic indeterminancy; Assumptions, objectives and general approach in ship structural analysis; Principle of virtual work; Castiglianos theorem; Other energy based method; Introduction to the flexibility and stiffness matrix methods formation of equations; Determination of member forces and joint displacement; Equivalent joint loads, Stiffness matrix; Deformation matrix; Member and overall stiffness matrices. Boundary conditions; Effects of temperature variations, lack of fit etc. Introduction to finite element method; Advantages and disadvantages; Beam formulation; Plane stress and plate bending problems; Use of conforming and nonconforming elements; Application to ship structures deck beams and girders, frames, double bottoms, bulkheads, deck and shell plating.