SUBJECT NO-NA31005, SUBJECT NAME- RESISTANCE AND PROPULSION

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Components of ship resistance; Dynamic similarity; Froude hypothesis; Viscous resistance; Laminar and turbulent flows; Effect of roughness; Friction lines; Form resistance; Wave resistance; Kelvin wave pattern and waves generated by a ship; Wave interference; Air resistance; Appendage drag; Ship resistance in shallow water; Resistance data presentation; Estimation of effective power - methodical series and statistical methods- Hull form and resistance. Screw propeller geometry; Propeller theories; Laws of similarity for propellers; Propellers in (open) water; Propeller coefficients and design charts; Hull propeller interaction - wake, thrust deduction and relative rotative efficiency; Propulsive efficiency and its components; Propeller cavitation- Propeller blade strength; Propulsion experiments- Propeller design; Speed trials and service performance analysis; Unconventional propulsion devices.