Naval Arc Part I

Introduction

Dear Students,

Warm Greeting

I am pleased to give a simple summary of the topics that are covered in this part Naval architecture.

This subject is intended for students who are pursuing B.Tech Marine Engineering, Graduate Marine Engineering courses and the cadets who are appearing for class four and two of Marine Engineering examinations.

The classes we cover in our tuition will give you in depth knowledge of the subject from basic principles to advanced topics necessary for the examinations with clear understanding through extensive worked examples, diagrams, and solutions to examination questions. The text integrates the SI system of units and provides a valuable revision of mathematical and mechanical concepts relevant to the field.

The classes are divided into 6 units. In the first two units we cover the basics of Hydrostatics, Archimedes Principle, Buoyancy and its relation with the weight of the ship, ton per centimeter of immersion, wetted surface area, shear forces and bending moments.

In the third unit we cover Simson's first law as applicable to calculate the area , volume, ton per cm for the non geometrical shapes of the hull and defining the first and second moment of inertia in computing the Metacentric height and stability equations.

In the fourth unit we will discuss about the centre of gravity of the ship, effect of adding new masses, effect of movement of the mass onboard and effect of the suspended mass like handling of masses in cranes and derrick.

In the fifth unit, the stability of the ship at small angles of heel, calculation of BM, Metacentric diagram, free surface effect will be discussed with various worked out examples.

In the Sixth unit we will discuss on trim, change in draught due to added masses, change in mean draught and end draught due to density, change in mean draught and end draught due to bilging.

Thanking you

With Regards

Dr. M.Kumarasamy