



**B. Tech Degree IV Semester Examination in Marine Engineering,
June 2009**

MRE 407 SHIP TECHNOLOGY

Time: 3 Hours

Maximum Marks: 100

- I a) Explain with the help of neat sketches the main dimensions of the ship. (10)
 b) Sketch the general shape of load, shear force and bending moment distributions of a normal ship. Briefly explain how these curves can be obtained. (10)
- OR**
- II a) Explain the terms Displacement, Dead weight, Lightweight, Steel weight, Outfit weight and discuss how they are related. (10)
 b) What are the loads acting on ship structure? Explain bogging and sagging. (10)
- III a) Explain longitudinal and transverse framing systems. Which are the common stiffener sections used in shipbuilding? (10)
 b) Neatly sketch the bottom structure of a general cargo ship. Name and mark all strakes and stiffener members. (10)
- OR**
- IV a) Differentiate between single bottom and double bottom constructions. Why double bottom is mandatory in large ships? (10)
 b) Sketch midship section of a general cargo ship and mark keel strake, garboard strake, bilge strake, sheer strake, deck stringer, hatch opening and tween deck. (10)
- V a) What are the functions of bulkheads? How many bulkheads are necessary in a ship? (10)
 b) Explain bar stem and plate stem constructions. Sketch the chain locker arrangements. (10)
- OR**
- VI a) Explain aft peak bulkhead and fore peak bulkhead. Why these bulkheads are necessary? What is a corrugated bulkhead? (10)
 b) Sketch the stern frame of a single screw ship with horn rudder and show how the rudder and propeller shafting is connected. (10)
- VII a) What is tonnage? How do you measure it? (10)
 b) Which are the activities in a mould loft, assembly shop and stock yard? (10)
- OR**
- VIII a) What are Load Line Rules? Explain Type-A and Type-B ships. (10)
 b) Sketch the layout of a typical shipyard. (10)
- IX Write short notes on any five
- i) Plimsoll marking
 - ii) Bilge keel
 - iii) Building dock
 - iv) Freeboard
 - v) ILLC
 - vi) Cofferdam
 - vii) Stern tube
 - viii) Panting arrangements
 - ix) Launching

(5 x 4 = 20)