

## ***B. Tech Degree IV Semester Examination in Marine Engineering June 2011***

### **MRE 407 SHIP TECHNOLOGY**

Time : 3 Hours

Maximum Marks : 100

- I. (a) Define draught, buoyancy, displacement, dead weight and lightweight. (10)  
 (b) Explain transverse bending and longitudinal bending of ships. What are the members resisting longitudinal bending? (10)

**OR**

- II. (a) Define LOA, LBP, sheer, camber and depth (extreme). (10)  
 (b) Explain pounding, racking, panting, hogging and sagging. (10)
- III. (a) What are the different types of sections used in the construction of ships? Explain with neat sketches. (5)  
 (b) Draw a neat sketch of the bottom structure of a bulk carrier showing all strakes and stiffeners and mark the various components. (15)

**OR**

- IV. (a) Explain the tests carried out on welded joints. (5)  
 (b) Draw a neat sketch of the bottom structure of a container ship showing all strakes and stiffeners and mark the various components. (15)
- V. (a) Explain the construction of bilgekeel. What is its purpose? (6)  
 (b) Explain the structural arrangement on deck in way of hatch opening. (6)  
 (c) Explain the following with neat sketches. (8)  
     (i) Sheer strake– deck stringer plate connection  
     (ii) Deck beam–side frame connection

**OR**

- VI. (a) Explain the different types of bulkheads used in ships. (9)  
 (b) What is cofferdam? Explain its uses. (3)  
 (c) Explain the construction of deep tanks. (8)
- VII. (a) Make a neat sketch of typical structural arrangement at the stem of a ship including its chain locker and mark the various components. What are the structural arrangements in the stem to resist panting? (15)  
 (b) What is bulbous bow? What are its advantages? (5)

**OR**

- VIII. (a) Explain the different types of sterns. (5)  
 (b) Make a neat sketch of the structural arrangement at the stern and mark stern tube, rudder post, stern frame and rudder trunk. (10)  
 (c) Explain locking pintle and bearing pintle. (5)
- IX. (a) What are Type-A and Type-B ships? (5)  
 (b) Explain freeboard marking. (5)  
 (c) Explain Gross Tonnage and Net Tonnage. How are they measured? (10)

**OR**

- X. Make a neat sketch of the lay out of a shipyard and explain various production processes carried out till launching. (20)