

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)

May/ June 2017 End Semester Examinations
B.Tech. (Marine Engineering) Second Semester
(AY 2009-2014 batches)

Ship Structure & Construction (UG11T1401/ UG11T2401)

Date: 10.06.2017

Maximum Marks: 100

Time: 3 Hrs

Pass Marks : 50

Part – A (10 x 3=30 marks)
(All questions are compulsory)

1. (a) Define L.B.P, And LOA.
- (b) With the help of sketch show Heaving, Yawing, Swaying, Surging, Rolling, Pitching.
- (c) With the help of sketch show Bulb Angle, Bulb Plate, Equal Angle, and Channel.
- (d) Why welding electrodes are coated with Flux ?
- (e) Show with the help of simple sketch, the arrangement of margin plate, and tank side bracket.
- (f) What is the Purpose of Beam Knee and Web Frame ?
- (g) What do you understand by Class A bulkhead and Class B bulkhead?
- (h) Write two advantages and two disadvantages of Bulbous Bow.
- (i) Why Rudder is situated Aft of the Ship ?
- (j) Write the name of any five classification society.

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Part- B **(5 x 14= 70 marks)**
(Answer Any 5 of the following)

2. (a) With the help of sketch explain in details the bottom construction of a ship of double bottom construction. (8)
- (b) With the help of sketch explain how the side shell of a ship is supported? What special arrangement is provided where tween deck frame is carried through a second Deck? (6)
3. (a) Mention five main functions of bulkhead. (5)
- (b) What is the purpose of collision bulkhead ? At what distance collision bulkhead is located from forward perpendicular? How the bulkheads are stiffened? How much is the gap between the stiffeners in normal bulkhead and collision bulkhead ? (6)
- (c) Write the procedure for testing of water tight bulkhead. (3)
4. (a) With the help of sketch show the forward construction of a ship? (8)
- (b) With the help of sketch explain how the forward end is specially constructed to resist panting ? (6)
5. (a) What is the purpose of rudder? Why rudders are hollow? (3)
- (b) What do you understand by balanced, semi-balanced and un-balanced rudder? Why semi balanced rudder is advantageous over the other two ? (5)
- (c) Describe with the help of sketch, the arrangement of a rudder carrier bearing having conical bearing surface. (6)
6. (a) What do you understand by classification society? (2)
- (b) What are the key points of the functioning of classification society? (6)
- (c) How "Flag State" and "Classification Society" are related to each other? (2)
- (d) What is the main role of IMO ? (4)

7. Discuss in details the various types of static and dynamic stresses acting on a ship. (14)
8. (a) What are the criteria which governs the choice of the ship's stern form ? (4)
- (b) What are the Common Types of Ship's Sterns ? (2)
- (c) Draw a simple sketch of Transom Stern and write the advantages of it. (6)
- (d) What is cant Frame ? (2)
