

INDIAN MARITIME UNIVERSITY
(A Central University, Govt. of India)

May/June 2015 End Semester Examinations

SEMESTER – IV, B.TECH (MARINE ENGINEERING)

SHIP STRUCTURE & CONSTRUCTION (T 2401 / T 1401)

Date: 05.06.2015

Time: -3 Hrs

Max. Marks: 100

Pass Marks: 50

PART – A
(Compulsory Questions)

(3 x 10 = 30 Marks)

1. a) Explain “Pounding” and “Panting”
b) Why air release and drain holes are essential on solid floors?
c) What is “Breast Hook”? Where and why is it fitted?
d) What is a “Dynamic Positioning Vessel”?
e) What are the advantages of “Corrugated Bulkheads” and how are they attached to the ship’s side plating?
f) What is a “Web Frame”? Show with a sketch. Where and why are they fitted?
g) Some bulkheads must be fitted on all ships – irrespective of the type and size of the ship. Which are these bulkheads and where on ships are they fitted?
h) What are “Half-beams”? Where do you find them?
i) What are “Hatch Coamings”? How are they fitted and strengthened?
j) Name the statutory certificates and state the purpose for which they have been issued

PART – B
(Answer any five of the following)

(5 x 14 = 70 Marks)

2. Show with suitable sketches and brief description the following :-
 - a) A solid floor in a longitudinally framed double bottom
 - b) A “Duct keel” arrangement in a ship
 - c) Cofferdam arrangement in Machinery space double bottom

(14)

3. a) Show with sketches how ship's side frames are attached to different decks at different Levels (7)
 b) Show the construction of a "Bulwark". What arrangements are made to reduce the amount of water coming on main deck from ship's sides during heavy rolling? (7)
4. Show with a neat sketch the arrangements provided in the fore peak region to resist panting. (14)
5. Draw an unbalanced rudder as fitted on a ship and explain how the rudder can be removed from place for maintenance. (14)
6. Show the following on diagram with short notes :- (14)
 Sheer, Camber, Tumble Home, Rise of floor,
 Bilge keel, Freeboard, Stem
7. a) What is a "Classification Society". Name a few of them. (4)
 b) Explain the role of "Classification Society" in the construction of a ship. (10)
8. Discuss the effects of various stresses on the ship's structure longitudinally and transversely when the ship is either stationary or moving . (14)
