

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)

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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)
