

INDIAN MARITIME UNIVERSITY
(Central University, Government of India)

May/June 2016 End Semester Examinations
B.Tech. (Marine Engineering)

Fourth Semester – Ship Structure and Construction - (UG11 T2401/T1401)

Date : 08.06.2016

Max Marks: 100

Time: 3 Hrs

Part-A

(3 x 10 = 30 Marks)

Compulsory Question

- 1) a) Define the following ship terms: - i) Sheer ii) Draught iii) Camber
- b) Which all factors are to be considered in the selection of shell plating thickness of a ship?
- c) Explain in brief “Gun whale bar” & “Bulwark” in a ship.
- d) What is a ‘Bulbous bow and where is it fitted in a ship? Discuss the disadvantages of fitting it in a ship.
- e) What do you understand by “GRT” & “NRT” of a ship?
- f) What are corrugated bulkheads?
- g) What is a Dynamic Positioning Vessel?
- h) Name three statutory certificates you know and state the purpose for which they have been issued.
- i) List out three conditions of operations that a sliding type watertight door must fulfill.
- j) Name the methods by which plate surface preparation is carried out prior applying a primer coat on it.

Part-B

(14 x 5 =70 Marks)

Answer any Five Questions

- 2) a) What is the meaning of “Launching” of a Vessel.
- b) Describe various method of launching of vessel. (4+10)
- 3) a) Differentiate between “Balanced”, “Unbalanced” & Semi balanced rudder. (6)
- b) With respect to rudder of a ship, briefly explain the following: (8)
 - i) How is the weight of a rudder supported?
 - ii) What is “jumping clearance” and why is it necessary?
 - iii) How is the area of a rudder determined for any ship? Explain ‘Aspect Ratio’.
 - iv) Explain the procedure of pressure testing of double plate rudder.
- 4) Draw a collision bulkhead and explain its significance for the ship’s operation. (14)
- 5) Describe the various stresses associated with a ship floating in water and at sea. (14)
- 6) Draw a neat sketch of the mid-ship section of a bulk carrier and label it. (14)
- 7) Draw a neat sketch and label the various areas in the layout of a shipyard. (14)
- 8) Highlight on the following: a) Role of International Maritime Organisation (IMO),
b) National authorities in regard of maritime affairs, c) Role of various Classification Societies. (14)
