

**Indian Maritime University**  
**(A Central University, Govt of India)**  
**Supplementary Examinations – March/April 2025**  
**Programme Name: B Tech (Marine Engineering)**  
**Semester: V**  
**Subject Code: UG11T3502**  
**Subject Name: Ship Structure and Construction**

Date: 28.03.2025

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

**Section A**

**Answer All Questions**

**10X1=10 Marks**

1. A passenger ship is a ship that carries more than  
(a) 6 passengers (b) 9 passengers (c) 12 passengers (d) 15 passengers
2. Bending moment which causes a beam to bend with the convex side upwards is called  
a) Racking  
b) Transverse bending  
c) Sagging  
d) Hogging
3. Plain Carbon Steel and \_\_\_\_\_ are the most common grades of steel used for shipbuilding  
a) Mild steel  
b) Stainless steel  
c) Alloy steel  
d) High carbon steel
4. What is Hawse pipe?  
a) Fire line on deck  
b) Hydraulic line on deck  
c) A pipe made from an old hawser  
d) Pipe through which the anchor chain passes out of the ship
5. Effectiveness of rudder can be improved by  
a) increasing the rudder area and shorter rudder steering time

- b) decreasing the rudder area and shorter rudder steering time
  - c) increasing the rudder area and longer rudder steering time
  - d) decreasing the rudder area and longer rudder steering time
6. Magnetic particle testing is \_\_\_\_\_ type of weld test
- a) Physical
  - b) Destructive
  - c) NDT
  - d) Metallurgical
7. Horizontal support member used to strengthen bulkheads are called
- a. Panels
  - b. Stiffener
  - c. Beam Knee
  - d. Stringer
8. Which term refers to distance from the waterline to the upper deck of the vessel?
- a) Flare
  - b) Camber
  - c) Deadrise
  - d) Freeboard
9. An empty space between two bulkheads or floors which prevents liquid leakage is known as -----
- a) Bilge Well
  - b) Cofferdam
  - c) Deep Tank
  - d) Bottom Tank
10. What is SEQ survey?
- a) safety equipment survey
  - b) ship equipment survey
  - c) ship engine room survey
  - d) stability equivalence survey

### **Section B**

**Answer All Questions**

**5X2=10 Marks**

- 11. Define the term "Rise of floor".
- 12. What are the differences between TIG welding & MIG welding?.
- 13. What are the functions of Bulkhead?
- 14. Define - Gross Tonnage and Net Tonnage.
- 15. What are the advantages of 'Duct Keel' over 'Flat Plate Keel'?

### Section C

**Answer Any Five Questions**

**5X10=50 Marks**

16. a) What is the purpose of Panting Stringer? (4)  
b) Explain briefly on 'Water tight bulkhead' with a neat sketch. (6)
17. Draw a midship section of a double bottom tanker and label the parts? (10)
18. Sketch and describe clearly on Plain and Plated water tight transverse bulkhead (10)
19. a) Draw and Explain the construction of Chain Locker. (6)  
b) List out various welding defects. (4)
20. a) List out various ship systems (3)  
b) Explain with a neat sketch the method of support provided for a balanced Rudder in a Cast Steel Frame. (7)
21. a) What is the purpose of Cable Laying Vessel? (3)  
b) Explain briefly on types of 'Offshore Support Vessel' with suitable example. (7)
22. a) What are the functions of ship classification society? (4)  
b) List out the closing appliances of the ship (3)  
c) What is meant by ship annual survey? (3)

