

Indian Maritime University
(A Central University, Govt of India)
Supplementary Examinations – March/April 2024

Programme Name: B Tech (ME)

Semester: V

Subject Code: UG11T4506

Subject Name: SHIP STRUCTURE AND MARINE SHAFTING

Date: 02.04.2024

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. Welding defects can be identified by using
 - (a) Ultra Sound
 - (b) X ray
 - (c) Magnet
 - (d) All the above

3. Bulbous bow is fitted to
 - (a) improve appearance
 - (b) reduce pounding effect
 - (c) improve bow strength
 - (d) improve propulsive efficiency.

4. What does the term "scantling" refer to in shipbuilding?
 - a) The width of a ship's hull at the waterline
 - b) The measurements and dimensions of various structural components of a ship

- c) Lighter weight for the ship
 - d) The length of the ship from stem to stern
5. The purpose of bilge keel is to _____
- a) lower the centre of gravity of the ship
 - b) reduce the amplitude of roll
 - c) reduce pitching
 - d) reduce yawing
6. Which of these ships are assigned minimum freeboard?
- (a) General cargo ships
 - (b) Bulk carriers
 - (c) Oil tanker
 - (d) Container ships
7. Classification Society marking is on the
- a) Summer load line
 - b) Tropical zone load line
 - c) Plimsoll line
 - d) Fresh Water load line
8. Panting arrangements are usually found at
- a) Forward of Collision bulkhead
 - b) Aft of collision Bulkhead
 - c) Double bottom
 - d) Machinery space
9. The strake next to the keel is identified as
- a) Bilge strake
 - b) Sheer strake
 - c) Garboard Strake
 - d) Keel Strake
10. The weld joint between two plates of the same strake of hull plating is called _____.
- a) Bracket
 - b) Gusset
 - c) Seams
 - d) Butt

Section-B

Answer All Questions

5X2=10 Marks

11. What are the differences between TIG welding & MIG welding?
12. Define frame spacing
13. Define GT & NT of ship
14. What is the purpose of rudder?
15. Write short note on chain locker.

Section - C

Answer Any FIVE Questions

5X10=50 Marks

16. (a) Explain about types of welding in detail with suitable diagram. **(5 Marks)**
(b) List out the welding defects and explain with diagrams. **(5 Marks)**
17. a) Distinguish between transverse and longitudinal framing. **(6 Marks)**
b) Explain racking stress with the help of a neat sketch **(4 Marks)**
18. a) List out the functions of water tight bulkhead. **(6 Marks)**
b) What is a classification society? and list four functions of classification societies. **(4 Marks)**
19. a) Explain Hogging and sagging of a ship in waves with the help of neat sketches **(5 Marks)**
b) Explain with neat sketches on types of rudder. **(5 Marks)**
- 20 a) Write short note on bilge keel **(4 Marks)**
b) Draw neat sketch of typical midship section of a tanker and label it. **(6 marks)**
21. a) Sketch and label load line marking **(4 marks)**
b) Sketch a cast stern frame and write any two functions. **(6 marks)**
22. a) Sketch the structural arrangements in the fore-end of ship. **(7 marks)**
b) Briefly explain on bilge well. **(3 Marks)**

