

# Indian Maritime University

(A Central University, Govt. of India)

End Semester Examinations - May/June 2024

Programme Name : B.Sc. Nautical Science

Semester : 2

Subject Code : UG21T5204

Subject Name : SHIP CONSTRUCTION

Exam Date: 06-06-2024

Duration: 3 Hrs.

Max. Marks: 70

Pass Marks: 35

## General Instructions

1. All Sections (A, B & C) are to be attempted.
2. Options, if any, are specified in respective section.
3. Any other tables/charts to be used.

### **SECTION A** **Answer all the questions** **(10 x 1 = 10)**

S.No	Question
1	In a longitudinally framed ship, the longitudinal frames are held in place and supported by athwartship members called _____. a) stringers b) web frames c) pillars d) brackets
2	A cofferdam is a/an _____. a) empty space between tank tops and bilges b) cement baffle in a fresh water tank c) tank for storing chemicals d) empty space separating compartments to prevent the contents of one compartment from entering another in case of leakage
3	Bilge keel is connected to the ground bar by a) Strong weld b) Light continuous or intermittent weld c) Butt weld d) None of these
4	The height of the air pipes should be same throughout the ship. a) TRUE b) FALSE
5	The bitter end is the _____. a) looped end of a mooring cable b) end of the chain shackled to the anchor c) fixed end of the mooring cable fastened to the mooring winch drum d) end of the anchor chain fastened to the vessel
6	Which of the following takes the weight of the rudder? a) steering gear b) rudder stock c) rudder carrier bearing d) locking pintle

7	The term face, back and rake are associated with a) Rudder b) Propeller c) Bilge keel d) Anchor
8	Which type of weld testing can be used to detect internal flaws? a) Radiographic b) Magnetic particle c) Dye penetrant d) Visual inspection
9	The corner of the hatch opening on deck is stiffened by a) Hatch end beam b) Hatch side girder c) Hatch coaming d) All of the above
10	What is the connecting plate between a side frame and a transverse deck beam called? a) Girder b) Gusset c) Knee d) Stiffener

**SECTION B**  
Answer all the questions  
(5 x 2 = 10)

S.No	Question
11	Differentiate between air pipe and ventilator.
12	Write two advantages of welding over riveting
13	State one advantage and one disadvantage of longitudinal framing system.
14	What is the use of peak tanks in ships?
15	Describe Panama Fairlead

**SECTION C**  
Answer all the questions  
(5 x 10 = 50)

S.No	Question
16	a) Explain a controllable pitch propeller. State two advantages and two disadvantages of it. (5 marks) b) Sketch and label the anchoring arrangement on the fore-castle Deck? (5 marks)
17	Sketch and label the transversely framed (Solid and bracket floors) double bottom tank?
18	a) Sketch and mention one benefit of each: (i) Rake (ii) Skew (5 marks) b) Mention five functions of the stern frame. (5 marks)
19	With the help of suitable sketches explain bilge piping system of a ship.
20	Describe any two destructive and three non-destructive tests which may be carried out on the welding material or welding joint?

*[Handwritten signature]*