
Indian Maritime University
(A Central University, Govt of India)

Mar/Apr'26 SE

Programme Name: B.Sc (Nautical science)

Semester: VI

Subject Code: UG21T5604

Subject Name: SHIP MANOEUVRING & COLLISION PREVENTION REGULATIONS

Date: 28.03.2026

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 the respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable. (10 x 1 mark = 10 marks)

1. Weighing anchor means

- a) To lift the anchor
- b) Drop the anchor
- c) Anchor fouled, cannot be picked up
- d) Anchor dragging

2. By IMO rules Tactical diameter should be where TD = Tactical diameter, L = ship length

- a) $TD < 5L$
- b) $TD = 10L$
- c) $TD > 5L$
- d) $TD = 100$ meters

3. The tactical Diameter increases in shallow water (T/F)

4. What is the squat effect in ship navigation?

- a) The increase in water depth near the shoreline
 - b) The tendency of ships to list to one side during turns
 - c) The decrease in the ship's speed due to increased water resistance
 - d) The phenomenon where ships sink deeper into the water when traveling at high speed.
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5. What is the purpose of using fenders during mooring?

- a) To secure the ship to the dock
- TMI* b) To provide cushioning and prevent damage to the ship and the dock
- c) To control the ship's steering
- d) To measure the distance between the ship and the dock

6. What is the primary purpose of a rope stopper on board a ship?

- a) To control the ship's navigation
- b) To secure ropes and lines in place
- c) To provide illumination during night-time operations
- d) To measure the depth of water

7. Which areas are covered by the Polar Code?

- a) Arctic and Antarctic
- b) Antarctic and Southern Ocean
- c) Arctic and North Atlantic
- d) Antarctic and North Pacific

8. In constant radius turn

- a) ROT will have to be varied proportionally to keep R constant
- b) constant radius turn having no relation with ROT
- c) ROT remains constant
- d) None of the above.

9. What is a mixed mooring system?

- TMI* a) A mooring system that combines both traditional and modern mooring techniques
- b) A mooring system that involves anchoring to both fixed structures and floating buoys
- c) The method in which wires in conjunction with soft ropes with different SWL and construction are used.
- d) A mooring system that incorporates both active and passive stabilization devices

10 Mooring tails are used for

- a) that introduce elasticity in a high Modulus (low stretch) mooring & towing line, providing safer operations
 - b) Stabilizing a ship during rough seas
 - c) Providing additional propulsion to a ship
 - d) helps in anchoring
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Section B

Five Questions of 02 Marks each

11. Short notes on a ship squatting in shallow water. (2marks)
12. Draw and label kenter lugless shackle. (2marks)
13. Describe Anchor holding power. (2 marks)
14. What is the horizontal positioning of the forward and aft mast light according to annex 1 -3a for a power-driven vessel? (2 marks)
15. Write short notes on the Mooring winch. (2 marks)

Section C

Seven Questions of 10 Marks each of which any 05 questions to be answered.

16. a) Draw and explain the standing moor. (5*2=10 marks)
b) How do you know the ship is dragging Anchor?
17. a) Draw and explain the turning circle diagram. (5*2=10 marks)
b) Explain Williamson's turn and Scharnow's turn in case of Man overboard
18. a) What actions you will take in case of grounding? (5*2=10 marks)
b) Explain the Procedures for anchoring in deep water and shallow water
19. a) What are the precautions to be taken during embarkation and disembarkation of the Pilot by pilot ladder (5*2=10 marks)
b) What actions are to be taken when the vessel enters in restricted visibility?
20. a) Draw a diagram and explain the following a) Track reach (5*2=10 marks)
b) side reach c) head reach
b) What is the purpose of mooring tail? Describe 2 methods of connecting mooring tails to the wire rope.
21. a) What precautions to be taken before entering the piracy-prone area? (5*2=10)
b) Define the term Drift Angle in ship manoeuvring.
22. a) list safe practices to be followed during Berthing operations on the ship. (5*2=10)
b) Write short notes on polar code.
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