

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations– June 2024
Programme Name: B.Sc. Nautical science

Semester: VI

Subject Code:UG21T5604

Subject Name:SHIP MANOEUVRING & COLLISION PREVENTION REGULATIONS

Date: 05.06.2024

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 the respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable. (1*10=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. When anchoring a vessel, it is best to release the anchor when:-
 - a) Going full ahead
 - b) Gathering slightly ahead
 - c) Going full astern
 - d) Just starting to gather sternway

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.

5. What is the purpose of using fenders during mooring?
- To secure the ship to the dock
 - To provide cushioning and prevent damage to the ship and the dock
 - To control the ship's steering
 - To measure the distance between the ship and the dock
6. What is the primary purpose of a rope stopper on board a ship?
- To control the ship's navigation
 - To secure ropes and lines in place
 - To provide illumination during night-time operations
 - To measure the depth of water
7. The necessity to comply with the use of radar in watch keeping is a mandate from what rule in the International Regulations for Preventing Collision at Sea.
- Rule 7
 - Rule 9
 - Rule 24
 - Rule 34
8. In constant radius turn
- ROT will have to be varied proportionally to keep R constant
 - constant radius turn having no relation with ROT
 - ROT remains constant
 - None of the above.
9. What is a mixed mooring system?
- A mooring system that combines both traditional and modern mooring techniques
 - A mooring system that involves anchoring to both fixed structures and floating buoys
 - The method in which wires in conjunction with soft ropes with different SWL and construction are used.
 - A mooring system that incorporates both active and passive stabilization devices
- 10 Mooring tails are used for
- Introducing elasticity in a high Modulus (low stretch) mooring & towing line, providing safer operations
 - Stabilizing a ship during rough seas
 - Providing additional propulsion to a ship
 - helps in anchoring

Section B

Five Questions of 02 Marks each

11. How do you cover the spurling pipe? And what is the reason?
12. What is a slip wire? And how do you make fast the eye of the slip rope?
13. What is the meaning of safe speed in ROR
14. How to determine the Wheel-Over Point?
15. What is the meant by Blind Pilotage Techniques?

Section C

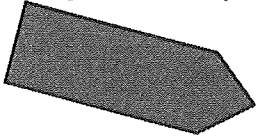
Answer any five questions out of Seven Questions (5x 10 marks = 50 marks)

16. (a) State any 5 important factors to be considered before deciding on a position for dropping anchor? (5marks)

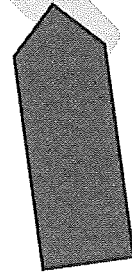
(b) After dropping anchor, how will you determine by observing the cable whether the anchor is holding or dragging. Explain? (5marks)
17. a) Draw and explain the turning circle diagram. (2x 5 marks = 10 marks)
b) Describe the "Williamson turn" for rescue of a man overboard.
18. a) What actions you will take in case of Grounding? (2 x 5 marks = 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 (2 x 5 marks = 10 marks)
b) What actions are to be taken when the vessel enters in Restricted visibility?

20.

Target vessel, speed 12.5 kts



Own Vessel, speed 11.5 kts



From the above diagram

Discuss elaborately your course of action when in sight of one another and justify with ROR rules.

(10 marks)

21. a) What precautions to be taken before entering the piracy-prone area?
b) Define the term Drift Angle in ship manoeuvring. (2 x 5marks = 10 marks)

22. a) list safe practices to be followed during Berthing operations on the ship.
b) Write short notes on polar code. (2 x 5marks = 10 marks)
