C–8981

Sub. Code
98824

DIPLOMA EXAMINATION, APRIL 2023

Second Semester

Nautical Science

SHIP CONSTRUCTION AND SHIP STABILITY–II

(2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Gutter strake.
2. What is meant by 'painting'?
3. Which parts of the ship is affected by pounding stress?
4. What is bilge keel?
5. Why and where are deep tanks provided?
6. Describe Centre of Floatation.
7. Where is the position of Centre of Gravity of a hanging mass, relative to the ship?
8. Define Righting moment.
9. What do you understand by the term List?
10. What is MCT 1 cm?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Draw the fore peak structural arrangement of a ship with neat diagram.

Or

(b) Explain Gross tonnage, Net tonnage and Gross tonnage.

12. (a) Distinguish between 'Stiff and Tender condition of ship with neat diagram.

Or

(b) Describe racking stress and its causes.

13. (a) Describe the Fresh water generation system of a general cargo ship.

Or

(b) Describe Lifesaving appliances Plan on board ship.

14. (a) Explain Buoyancy and Centre of Buoyancy with neat diagrams.

Or

(b) What is free surface effect explain with sketch.

15. (a) Discuss the double bottom arrangements of ship.

Or

(b) What factors are to be considered while calculating the amount of cargo to be loaded?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Draw the profile view of a General Cargo ship and mention any five principal parts.

Or

(b) Draw the cross section of double hull tanker and label the parts.

17. (a) Sketch and describe parts of a unbalanced type rudder.

Or

(b) Draw a Sketch of a typical forecastle anchoring arrangements.

18. (a) A vessel of constant triangular cross-section has a depth of 10 m and a breadth at the deck of 14 m. Calculate the draught at which the vessel will become unstable if the centre of gravity is 6.75 m above the keel.

Or

(b) Explain the three stability conditions of ship.

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