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**Indian Maritime University**  
**(A Central University, Govt of India)**  
**End Semester Examinations – December 2025**  
**B Tech (ME)**  
**Seventh Semester**  
**UG11T4707**  
**Sea Trials, Dry Docking & Shipyard**

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Date: 19.12.2025

Duration: 03 Hrs

Max Marks: 70

Pass Marks: 35

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General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

**Section A**                      **(10 x 1 Mark = 10 Marks)**  
**Answer ALL Questions**  
**Choose the Correct Answer**

1. Sea trials are conducted at which stage of a ship's lifecycle?  
A) Design phase  
B) Construction phase  
C) Post construction phase  
D) Decommissioning phase
  2. If the sea trial was carried out in less depth,  
A) A correction must be applied for shallow draft  
B) The sea trial must be carried out again  
C) We can use the data obtained without correction  
D) None of the above
  3. What is the primary purpose of dry docking?  
A) To load and unload cargo  
B) To perform maintenance and repairs below the waterline  
C) To refuel the ship  
D) To conduct sea trials
  4. What is typically inspected and maintained during dry docking?  
A) Hull  
B) Propeller  
C) Rudder  
D) All of the above
  5. What is the role of classification societies in dry docking?  
A) To repair the ship  
B) To provide crew training  
C) To verify compliance with standards  
D) To manage cargo operations
  6. For which of the following is the Beaufort scale used?  
A) Lines plan  
B) Speed of ship  
C) Geographical location of ship  
D) Wind speed
  7. The most suitable type of dry dock for a VLCC is,  
A) Synchro lift dry dock  
B) Graving dry dock  
C) Floating dry dock
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D) Hydro lift dry dock

8. Ship's anemometer records

- A) Ship's speed over ground
- B) Ship's speed through water
- C) Relative wind speed and direction
- D) Water depth

9. What are the primary functions of shipyards?

- A) Construction, maintenance, and repair
- B) Cargo handling and storage
- C) Navigation and piloting
- D) Crew training and accommodation

10. What is a common safety hazard in shipyards?

- A) Lack of sunlight
- B) Heavy machinery operation
- C) Calm weather conditions
- D) Excessive noise levels

**Section B** (5 x 2 Mark = 10 Marks)  
**Answer ALL Questions**

- 11. Name the four criteria to be considered while selecting a site for sea trials
- 12. Name the various types of dry docks
- 13. State two main concerns for ships during docking with cargo on-board
- 14. State two main methods of protecting steelwork from corrosion within the marine environment
- 15. Which material is most commonly used in modern shipbuilding?

**Section C** (5 x 10 Mark = 70 Marks)  
**Answer Any 5 Questions**

- 16 a. What are speed trials, and what do they evaluate? (5 Marks)
  - 16 b. Explain the procedure and the purpose of different types of manoeuvring test done during sea trials (5 Marks)
  - 17 a. What methods are used for analysing sea trial data? (5 Marks)
  - 17 b. What safety measure is crucial during sea trials? (5 Marks)
  - 18 a. Describe the features of Graving Docks and also explain their advantages and disadvantages (5 Marks)
  - 18 b. Describe the features of Synchro-Lift Systems and also explain their advantages and disadvantages (5 Marks)
  - 19 a. Describe the features of Hydro-Lift Systems and also explain their advantages and disadvantages (5 Marks)
  - 19 b. Describe the features of Floating Dock Systems and also explain their advantages and disadvantages (5 Marks)
  - 20 a. What is the primary purpose of dry docking, and why is it essential for seagoing ships? (5 Marks)
  - 20 b. What steps are involved in planning for a dry docking operation, and why is each step important? (5 Marks)
  - 21. Sketch and label the layout of a shipyard. (10 Marks)
  - 22. With reference to shipyard, explain 4 different launching methods. (10 Marks)
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