

Advanced Maritime Technology Knowledge Assessment

Maritime Technology · Answer Key · 8 Questions

1. What is the primary purpose of a bulbous bow on a large vessel?

- A) To increase cargo capacity
- B) To reduce frictional resistance**
- C) To improve maneuverability in shallow waters
- D) To enhance stability in rough seas

2. Which international convention established the International Maritime Dangerous Goods (IMDG) Code?

- A) International Labour Organization (ILO)
- B) International Maritime Organization (IMO)**
- C) United Nations Conference on Trade and Development (UNCTAD)
- D) World Trade Organization (WTO)

3. What is the core principle behind an Azipod propulsion system?

- A) Vertical shaft drive with integrated propeller
- B) Pod-mounted electric motor directly driving the propeller, capable of 360-degree rotation**
- C) Twin propellers driven by a single diesel engine
- D) Waterjet propulsion with directional thrust nozzles

4. The 'load line' or 'Plimsoll line' marked on the hull of a ship indicates:

- A) The maximum speed the vessel can safely achieve
- B) The minimum freeboard required for safe operation in different water conditions**
- C) The optimal draft for fuel efficiency
- D) The structural integrity limits of the hull

5. What is the function of a ballast water treatment system?

- A) To remove excess salt from seawater
- B) To prevent the discharge of invasive aquatic species into new environments**
- C) To purify water for onboard consumption
- D) To increase the stability of the vessel

6. Which type of sonar system is primarily used for detailed seabed mapping and surveying?

- A) Side-scan sonar**
- B) Forward-looking sonar
- C) Single-beam echo sounder
- D) Doppler sonar

7. The term 'deadweight tonnage' (DWT) on a merchant ship refers to:

- A) The total weight of the ship when fully loaded, excluding its own weight
- B) The weight of the ship's structure and machinery
- C) The maximum weight of cargo the ship can carry**
- D) The volume of cargo the ship can hold

8. What is the primary function of a Variable Frequency Drive (VFD) in modern marine propulsion systems?

- A) To control the ignition timing of the engine
- B) To regulate the speed of electric motors, optimizing power consumption**
- C) To manage the flow of cooling water to the engine
- D) To monitor hull stress during heavy weather