الجامعة الوطنية
National University
Science & Technology للعلوم والتكنولوجيا
كلية عمان البحرية الدولية
International Maritime College Oman

ACADEMIC YEAR 2023 - 2024

Program	Year	Semester	Paper
DO	3	2	Midterm

MODULE NAME:	**SHIPHANDLING & MANUEVERING 1**		
MODULE CODE:	**DSEAM-V**	**EXAM DATE:**	**07/11/2023**
INSTRUCTOR's NAME:	**C.Eslam Mostafa**	**DURATION:**	**1.5 hrs.**

Questions to be answered on:	**Allowed tools:**	**Number of pages**
✓ Space provided on the question paper	Pen, Pencil	(Incl. cover page): **4**

Points of attention:

- For each question, the maximum earned points are mentioned between brackets at the end of each question.
- Write very clearly! Answers that are not readable are not marked and don't get points!
- Make sure your answers are written to the point.
- All answers should be written **in English.**
- Write all the answers in **blue or black pen only.**
- Use the **pencil** only for **diagrams & graphs.**
- Show all the calculation steps in the given space.
- When finished submit the question paper, together with the answer scripts and the signed cover page to the invigilator.
- Any cheating/copying may result in an instant failing of the examination.

STUDENT NAME:

STUDENT ID:

FINAL MARKS	
	30
	10

Number of answer scripts:.....

Invigilator:.....

Student's signature: .....

Time of receipt:.....

ANSWER ALL QUESTIONS

Q 1: Choose the correct answer **(6 Marks)**

1. In a single screw ship (SSS), fixed pitch propeller (FPP), left-handed propeller (LHP), rudder 0 degrees, ship going astern, where does the bow go?
   a. To port side. b. To starboard side. c. The ship goes to stern without swinging.
2. In a single screw ship (SSS), fixed pitch propeller (FPP), right-handed propeller (RHP), rudder 30 degrees to starboard, ship is going astern, where does the stern go?
   a. To port side. b. To starboard side. c. The ship goes to stern without swinging.
3. In a twin-screw ship (TSS), to turn to port side in the position, what orders you should take?
   a. Put both engines to astern. b. Put port engine ahead, and starboard engine astern.
   c. Put starboard engine ahead and port engine astern.
4. You are aboard a single-screw vessel with a fixed right-handed propeller. The vessel is dead in the water and the rudder is amidships. If you reverse your engines, you expect your vessel to.
   a. Move bow to starboard b. Move stern to starboard c. Move astern without swinging.
5. You are aboard a single-screw vessel with a controllable pitch right-handed propeller. The vessel is dead in the water and the rudder is amidships. If you put your engine ahead, you would expect...
   a. Her stern will go to port. b. Her bow will go to port. c. Move ahead without swinging.
6. You are aboard a twin-screw vessel with controllable pitch outward propellers. If you stopped the port engine and put the starboard engine astern, you would expect _____.
   a. Her bow will go to port. b. Her bow will go to starboard c. Her stern will go to starboard.
7. You are aboard a left-handed single screw vessel making no way in the water. How will the vessel react when you apply a starboard rudder angle?
   a. The bow will swing to port. b. The stern will go to starboard.
   c. She will remain without any swing as rudder alone has no effect on the vessel.
8. A rudder arrangement where all the surface area of the rudder acts behind the axis of rotation is called:
   a. Balanced rudder. b. Unbalanced rudder. c. Ordinary rudder. d. Semi balanced rudder
9. You are aboard a left-handed single screw vessel making way in the water. How will the vessel react when you apply a port rudder angle?
   a. The bow will swing to starboard. b. The bow will swing to port.
   c. She will remain without any swing as rudder alone has no effect on the vessel.
10. You are stopped with no way upon your vessel at the pilot station, heading 090°. Your vessel is a large twin-screw ship. You must come around 180° to board your pilot. How should you use the engines and rudder to turn the ship fastest in the least amount of space?
    a. Full ahead on the engines and hard over rudder engine.
    b. Full ahead on one engine, full astern on the other engine.
    c. Half ahead on one engine with hard over rudder, then full astern on the other engine.
    d. Slow ahead with hard over rudder.
11. Generally, you can best keep a vessel under steering control when the vessel has _____.
    a. Sternway
    b. No way on, with engines stopped.
    c. Headway
    d. None of the above

12. Knowing the type of FPP propeller is useful in our work while ship is moving to…….
    a. Know the side force effect.
    b. Fix the ship's position.
    c. Take care when using the mooring lines and when there is MOB (POB).
    d. Knowing the chain length.

Q 2 **(8 Marks)**

a) State the function of the following Mooring lines : (Help in / Prevent from)

- **FWD Spring Line :**

- **FWD Head Line :**

- **Breast Line :**

  ---

b) State wheather following statements are True or False :

1. A single screw vessel is easier to maneuver than a twin screw vessel because she can turn without using rudder. ( )
2. A CPP must stop moving in one direction to move in the other direction [meaning from ahead to astern & vice versa]. ( )
3. Wind affect the Loaded vessel more than Ballast vessel ( )
4. Beaching is accidentally occur due to several reasons, mainly mistakes ( )

Q 3 Regarding the ship forces : (10 Marks)

a) State 4 Controllable + 4 Uncontrollable forces. (0.5 Mark/each)

---

a) State 6 signs that the vessel is under shallow water effect? (1 Mark each)

Q 4. From your studying ship stopping distances: **(6 Marks)**

b) Define : (1 Mark each)

- **Crash-stop distance**
- **Bare steerage Way**
- **Making Way**
- **Unbalanced Rudder**

---

c) State Four parameters that stopping distance depending on: (0.5 Mark/each)
