

U.S.C.G. Merchant Marine Exam
Master of Unlimited Tonnage
Q306 Great Lakes Topics
(Sample Examination)

Choose the best answer to the following Multiple Choice questions.

1. When running before a heavy sea, what will moving weights aft on the vessel accomplish?

- (A) Reduce the yawing of the vessel
- (B) Reduce the rolling of the vessel
- (C) Increase the rolling of the vessel
- (D) Increase the yawing of the vessel

If choice A is selected set score to 1.

2. A U.S. Coast Guard icebreaker, while escorting ships in ice, has sounded four short and one long blasts on the whistle. What does this indicate?

- (A) The vessel is increasing speed; watch for broken ice
- (B) The vessel has become icebound, Stop
- (C) The vessel has its engines full astern, stay clear
- (D) The vessel is increasing the distance between vessels

If choice B is selected set score to 1.

3. Your vessel's existing draft is FWD 17'-04", AFT 18'-08". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 765 long tons are discharged from No. 7 hatch.

- (A) FWD 15'-04 3/4", AFT 18'-04"
- (B) FWD 15'-11 3/5", AFT 18'-11"
- (C) FWD 18'-08 2/5", AFT 18'-05"
- (D) FWD 18'-05 3/4", AFT 18'-10"

If choice B is selected set score to 1.

4. Your vessel's existing draft is FWD 19'-02", AFT 20'-10". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 170 long tons are discharged from No. 8 hatch.

- (A) FWD 19'-00.4", AFT 20'-08.6"
- (B) FWD 18'-10.8", AFT 20'-10.4"
- (C) FWD 19'-03.4", AFT 20'-05.6"
- (D) FWD 19'-05.4", AFT 20'-03.4"

If choice B is selected set score to 1.

5. Fog can form in any season on the Great Lakes, but it is most likely to occur over open waters in which period?
- (A) Autumn and early winter
 - (B) Spring and early summer
 - (C) Summer and early autumn
 - (D) Winter and early spring

If choice B is selected set score to 1.

6. Generally speaking, which direction do the more destructive storms occurring on the Great Lakes usually come from?
- (A) The northwest or north
 - (B) The southeast or south
 - (C) The northeast or east
 - (D) The southwest or west

If choice D is selected set score to 1.

7. Which action reduces the yawing of a vessel in a following sea?
- (A) Pumping out tanks aft
 - (B) Increasing GM
 - (C) Shifting weights to the stern
 - (D) Shifting weights to the bow

If choice C is selected set score to 1.

8. What is NOT a basic shiphandling rule for navigating in ice concentrations on the Great Lakes?
- (A) Transit ice along pressure ridges when possible.
 - (B) Keep moving - even very slowly, but keep moving.
 - (C) Excessive speed means ice damage.
 - (D) Work with the ice movement, not against.

If choice A is selected set score to 1.

9. Which statement is TRUE concerning weather conditions on the Great Lakes?
- (A) When a vessel is south of an eastward-moving storm center, the approach of the low is evidenced by winds from the north to northeast.
 - (B) Thunderstorms are most likely to develop from November through April.
 - (C) When a vessel is north of an eastward-moving storm center, changes in the weather are less distinctive than when sailing south of the center.
 - (D) The most destructive storms usually come from the northwest or north.

If choice C is selected set score to 1.

10. Which expresses the term leeway?

- (A) The momentum of a vessel after her engines have been stopped
- (B) The lateral movement of a vessel downwind of her intended course
- (C) The difference between the true course and the compass course
- (D) The displacement of a vessel multiplied by her speed

If choice B is selected set score to 1.

11. At your current speed of 19 knots you only have enough fuel remaining to travel 265 miles. You must travel 731 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?

- (A) 10.2
- (B) 13.8
- (C) 11.4
- (D) 12.6

If choice C is selected set score to 1.

12. How are distances on the Great Lakes System are generally expressed?

- (A) Miles above the entrance to the St. Lawrence Seaway (MASLW)
- (B) Statute miles
- (C) Nautical miles
- (D) Miles above the head of the passes (AHP)

If choice B is selected set score to 1.

13. Which type of ice is a hazard to navigation?

- (A) Growlers
- (B) Ice rind
- (C) Pancake ice
- (D) Frazil ice

If choice A is selected set score to 1.

14. An icebreaker assisting a vessel through an ice field would display a visual signal consisting of the code letter "I" (India) to signify that "_____".

- (A) I am altering my course to port
- (B) I am altering my course to starboard
- (C) My vessel is stopped and making no way through the water
- (D) I am operating astern propulsion

If choice A is selected set score to 1.

15. Assume that your vessel has just entered Lake Erie by way of the Welland Canal and is proceeding in a southwesterly direction. Which statement about the aids to navigation you can expect to encounter along the route is TRUE?

- (A) All red even-numbered buoys should be kept on your port side when proceeding in this direction.
- (B) Lighted aids, fog signals, and radio beacons maintained by Canada are not included in the Great Lakes Light List.
- (C) The characteristics of buoys and other aids are as if "returning from seaward" when proceeding in this direction.
- (D) All aids are maintained by the U.S. Coast Guard, 9th Coast Guard District, Cleveland, Ohio.

If choice C is selected set score to 1.

16. The maneuvering information required to be posted in the wheelhouse must be based on certain conditions. Which of the following is NOT one of these conditions?

- (A) The depth of the water must be at least one and one-half times the draft.
- (B) There must be no current.
- (C) The hull must be clean.
- (D) There must be calm weather-wind 10 knots or less and a calm sea.

If choice A is selected set score to 1.

17. What does the line labeled "MS" indicate on the Great Lakes load line model shown in illustration D031DG below?

- (A) Midsummer
- (B) Midseason
- (C) Mean sea level
- (D) Maximum submergence

If choice A is selected set score to 1.

18. If the pitch of the propeller is 24.8 feet, and the revolutions per day are 93,373, calculate the day's run allowing 11% positive slip.

- (A) 307.3 miles
- (B) 422.8 miles
- (C) 339.0 miles
- (D) 380.9 miles

If choice C is selected set score to 1.

- 19.** If the pitch of the propeller is 21.5 feet, and the revolutions per day are 96,666, calculate the day's run allowing 9% negative slip.
- (A) 311.1 miles
 - (B) 357.9 miles
 - (C) 341.8 miles
 - (D) 372.6 miles

If choice D is selected set score to 1.

- 20.** On 23 August in DR position LAT 24°07.0'N, LONG 136°16.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 074.5°psc. The chronometer reads 08h 56m 19s and is 02m 34s fast. Variation in the area is 2°W. What is the deviation of the magnetic compass?
- (A) 2.5°E
 - (B) 2.8°W
 - (C) 4.5°E
 - (D) 4.8°W

If choice C is selected set score to 1.

- 21.** On 6 August your 1552 zone time DR position is LAT 24°26.0'S, LONG 73°19.0'E. At that time, you observe the Sun bearing 302°psc. The chronometer reads 10h 55m 07s, and the chronometer error is 02m 38s fast. The variation is 6°E. What is the deviation of the standard magnetic compass?
- (A) 4.1°W
 - (B) 4.6°E
 - (C) 5.9°E
 - (D) 6.1°W

If choice D is selected set score to 1.

- 22.** Your vessel is underway and approaching an overhead obstruction on Lake Superior. Given the following information, determine the clearance between your vessel and the obstruction. Highest point on vessel: 74 ft. Lowest point of obstruction: 126 (LWD) Monthly lake level: +2 (LWD) International Great Lakes Datum: 600.0 (182.88 meters)
- (A) 474 feet
 - (B) 400 feet
 - (C) 175 feet
 - (D) 50 feet

If choice D is selected set score to 1.

23. How are aids to navigation on the Great Lakes arranged geographically?

- (A) In an easterly and southerly direction, except on the New York State Barge Canal
- (B) In a westerly and northerly direction, except on Lake St. Clair
- (C) In a westerly and northerly direction, except on Lake Michigan
- (D) In an easterly and southerly direction, except on Lake Erie

If choice C is selected set score to 1.

24. While steaming at 19.4 knots, your vessel consumes 392 barrels of fuel oil per day. In order to reduce consumption to 182 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?

- (A) 18.2 knots
- (B) 13.2 knots
- (C) 17.4 knots
- (D) 15.0 knots

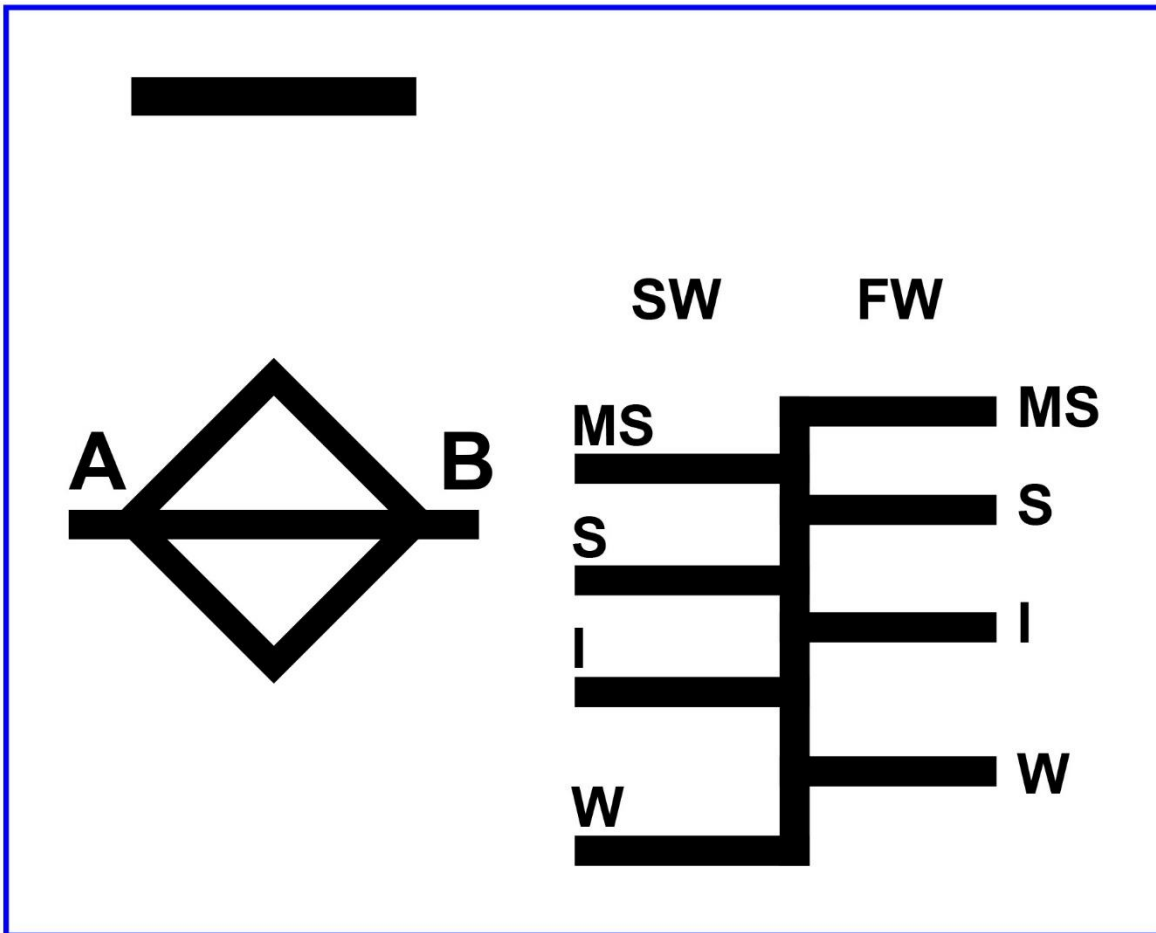
If choice D is selected set score to 1.

25. If a tug equipped with flanking rudders is to be turned in a confined circle, when going astern, which is the best action to take to make the stern move to port?

- (A) The rudder is hard to port and the flanking rudders are hard to starboard
- (B) The rudder is amidships and the flanking rudders are hard to port
- (C) All of the rudders are hard to starboard
- (D) The rudder is hard to port and the flanking rudders are hard to port

If choice D is selected set score to 1.

D031DG



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