

## U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q324 Great Lakes Topics

(Sample Examination)

**Choose the best answer to the following Multiple-Choice Questions.**

1. Which is the vertical reference for all water levels and benchmarks on the Great Lakes - St. Lawrence River System?
- A. Mean Sea Level Datum
  - B. North Central Reference Datum
  - C. International Great Lakes Datum
  - D. Great Lakes Low Water Datum

Correct answer: C

2. You are steaming in a heavy gale and find it necessary to heave to. Under most circumstances, how is this best accomplished?
- A. Going slow astern and taking the seas on the quarter
  - B. Stopping the engines and drifting beam to the seas
  - C. Taking the sea fine on the bow and reducing the speed
  - D. Increasing the speed and taking the sea broad on the bow

Correct answer: C

3. A vessel operating on the Great Lakes, and whose position is south of an eastward-moving storm center, would experience which condition?
- A. A southeast to south wind
  - B. High clouds
  - C. A rising barometer
  - D. Fog

Correct answer: A

4. You are underway in heavy weather and your bow is into the seas. Which action should you take to prevent pounding?
- A. Decrease the speed of the vessel
  - B. Increase the speed of the vessel
  - C. Secure all loose gear on your vessel
  - D. Put the seas on an 85 degree angle from the bow

Correct answer: A

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

Correct answer: B

6. Advection fog holds longest over which portions of the lakes?

- A. Northwest
- B. Southeast
- C. Southwest
- D. Northeast

Correct answer: A

7. Your vessel is on a voyage from Ogdensburg, NY, to Chicago, IL, via the Great Lakes. The date is October 3 of the current year. If your vessel is subject to the load line requirements, using illustration D031DG below, to which of her marks should she be loaded?

- A. Salt water - Intermediate
- B. Fresh water - Intermediate
- C. Salt water - Winter
- D. Fresh water – Winter

Correct answer: B

8. On the Great Lakes, which defines the term "controlling depth"?

- A. The least depth within the limits of the channel which restricts the navigation
- B. The distance in units of the chart (feet, meters or fathoms) from the reference datum to the bottom
- C. The designed dredging depth of a channel constructed by the Corps. of Engineers
- D. The minimum amount of tail water available behind a dam

Correct answer: A

9. Which publication offers information on Great Lakes ice services?

- A. National Weather Service, Ice Outlooks
- B. Light List volume VII
- C. U.S. Coast Pilot #6
- D. Marine Weather Log

Correct answer: C

10. Your vessel has been ordered to proceed to the United Grain Growers Wharf at Thunder Bay, Lake Superior, for the purpose of taking on a load of wheat. Which publication(s) would you consult for such information as the length of the wharf, the depth of the water alongside, and the loading capacity at the facility?

- A. The Navigational Chart and Light List Vol. VII
- B. The International Guide to Canadian Ports and Facilities
- C. The Lake Carriers Association Facilities Directory
- D. The United States Coast Pilot #6

Correct answer: D

11. Which statement concerning storm surges on the Great Lakes is FALSE?

- A. They are common along the deeper areas of the lakes.
- B. They cause rapid differences in levels between one end of the lake and the other.
- C. The greatest water level difference occurs when the wind is blowing along the axis of the lake.
- D. If the wind subsides rapidly, a seiche effect will most likely occur.

Correct answer: A

12. Which describes nearly half of all storms that enter the Great Lakes Basin during the period from October through May?

- A. Lows which originate in north central and western Canada
- B. Highs which originate in northeastern and eastern Canada
- C. Lows which originate in the central and western USA
- D. Highs which originate in the east and east central USA

Correct answer: C

13. In illustration D031DG below, what does the single line located directly above the diamond indicate?

- A. Load line
- B. Water line
- C. Deck line
- D. Freeboard line

Correct answer: C

14. When the period of beam seas equals the natural rolling period of a vessel, what will most likely occur?

- A. Excessive pitching
- B. Excessive rolling
- C. Excessive yawing
- D. No change should be evident

Correct answer: B

15. On the Great Lakes, which can cause short-term fluctuations in water levels?

- A. Steady barometric pressure
- B. Below normal rain fall
- C. Seiches
- D. Calm winds

Correct answer: C

16. A vessel is loaded to her summer marks for a voyage from Montreal, Canada to Duluth, MN via the Great Lakes System. The voyage has been estimated to take nine (9) days. If the vessel departs Montreal on September 28th, which of the following statements is TRUE?

- A. The vessel's intermediate load line marks may not be submerged after September 30.
- B. The vessel is in violation of the load line requirements.
- C. The vessel must be at her summer marks when she arrives at Duluth.
- D. The vessel must be at her winter marks by the evening of the third day.

Correct answer: A

17. Which type of fog is the most dense and widely spread of those that occur on the Great Lakes?

- A. Steam fog
- B. Lake effect fog
- C. Advection fog
- D. Radiation fog

Correct answer: C

18. Your vessel is off a lee shore in heavy weather and laboring. Which action should you take?

- A. Put the bow directly into the sea and proceed at full speed.
- B. Put the sea and wind on either quarter and proceed at increased speed.
- C. Put the sea and wind about two points on either bow and reduce speed.
- D. Heave to in the trough of the sea.

Correct answer: C

19. In which situation could a vessel most easily capsize?

- A. Running in the trough
- B. Anchored with your bow into the seas
- C. Running into head seas
- D. Running with following seas

Correct answer: A

20. 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. The characteristics of buoys and other aids are as if "returning from seaward" 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. All red even-numbered buoys should be kept on your port side when proceeding in this direction.
- D. All aids are maintained by the U.S. Coast Guard, 9th Coast Guard District, Cleveland, Ohio.

Correct answer: A

21. Your vessel is approaching the International Bridge on the St. Mary's River. If the gage on the bridge, read from top to bottom, indicates 124 ft. and the IGLD (1955) is 600 ft., determine the actual vertical clearances between the existing water level and the lowest point of the bridge over the channel.

- A. 124 feet
- B. 476 feet
- C. 724 feet
- D. 840 feet

Correct answer: A

22. If your propeller is racing in rough weather, which action should you take?

- A. Stop your engine until the rough weather passes
- B. Increase your engine speed
- C. Ignore it, this is acceptable in rough weather
- D. Decrease your engine speed

Correct answer: D

23. You are heading into the sea during rough weather. What may happen if there is too much weight forward in your small boat?

- A. The craft will rise rapidly over the wave
- B. The craft will broach
- C. The craft may plunge into the wave
- D. The craft will list severely

Correct answer: C

24. Which of the Great Lakes is generally the last to reach its seasonal low and seasonal high-water marks?

- A. Lake Huron
- B. Lake Michigan
- C. Lake Superior
- D. Lake Ontario

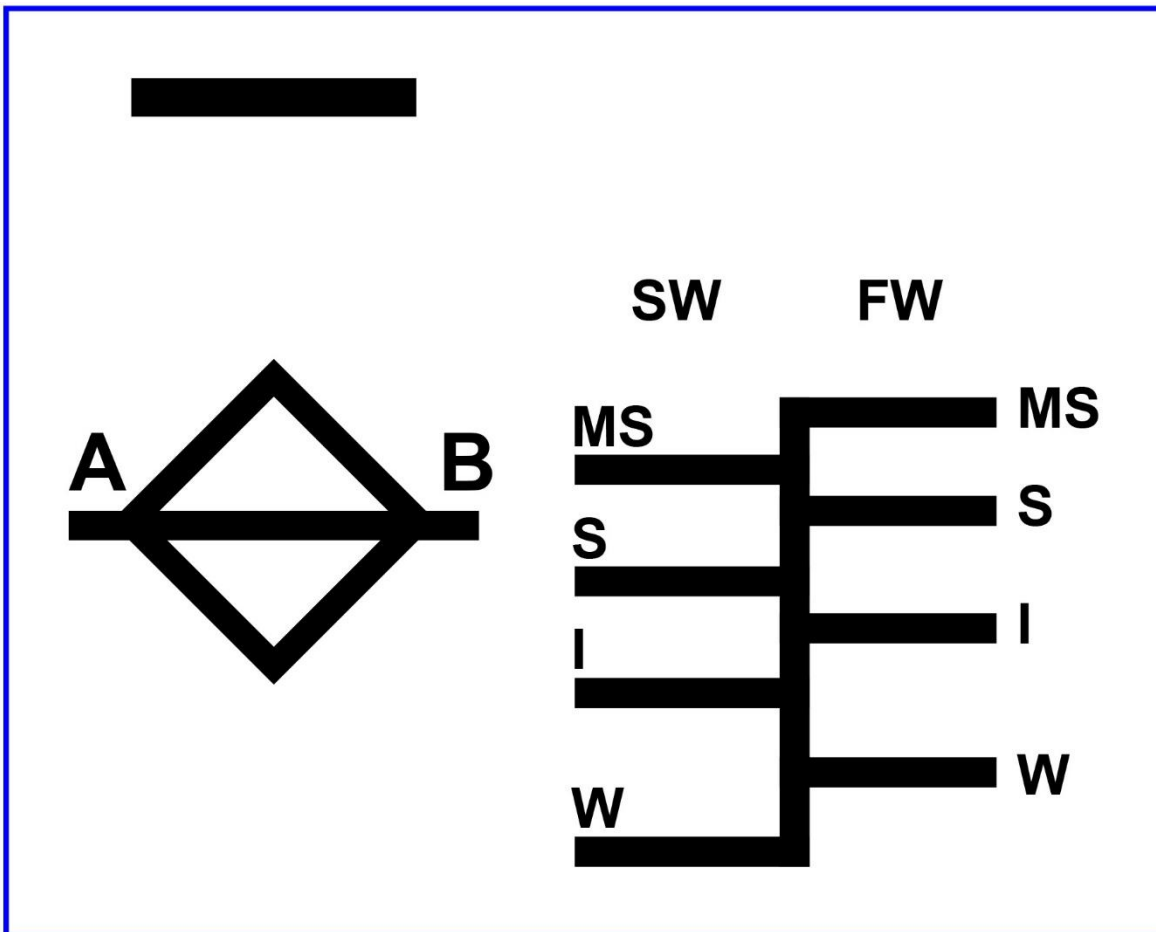
Correct answer: C

25. Where on a vessel are the load line markings shown in illustration D031DG inscribed?

- A. The starboard side
- B. Both the port and starboard sides
- C. Around the stern
- D. The port side

Correct answer: B

## D031DG



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