

U.S.C.G. Merchant Marine Exam
Mobile Offshore Drilling Units
Q434 OIM - Bottom Bearing Units Underway
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. While going on location in 200 feet water depth when the roll angle of the COASTAL DRILLER is 2.5 degrees, the roll period should be longer than _____.
- (A) 0.8 second
 - (B) 6.2 seconds
 - (C) 13.0 seconds
 - (D) 17.0 seconds

If choice C is selected set score to 1.

2. The COASTAL DRILLER, with a draft of 10 feet 3 inches in seawater, has a displacement of _____.
- (A) 13,011 kips
 - (B) 13,336 kips
 - (C) 13,445 kips
 - (D) 14,637 kips

If choice B is selected set score to 1.

3. The COASTAL DRILLER, in transit with winds expected to exceed 70 knots, must lower the legs to 60.5 feet below the hull in order to meet the requirements for leg strength and _____.
- (A) variable load
 - (B) environmental load
 - (C) stability
 - (D) load line

If choice C is selected set score to 1.

4. For a jack-up, the angle of maximum stability corresponds approximately to the angle of _____.
- (A) deck edge immersion
 - (B) the load line
 - (C) loll
 - (D) downflooding

If choice A is selected set score to 1.

5. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). What is the new TCG if the entire contents of drill water tanks 6 and 7 are discharged?

- (A) -0.23 foot
- (B) 0.00 foot
- (C) 0.23 foot
- (D) 0.54 foot

If choice A is selected set score to 1.

6. The maximum draft to which a drilling unit may be safely loaded is called _____.

- (A) deep draft
- (B) mean draft
- (C) calculated draft
- (D) load line draft

If choice D is selected set score to 1.

7. What is the sounding in drill water tank #1 for the COASTAL DRILLER, if the weight of drill water in the tank is 388.32 kips?

- (A) 14.5 feet
- (B) 15.0 feet
- (C) 15.5 feet
- (D) 16.0 feet

If choice C is selected set score to 1.

8. A jack-up level at 12.5 feet draft transfers 100 kips of drill water from a tank with a TCG of -30 feet to a starboard tank with a TCG of 70 feet. The resulting starboard draft is 13 feet. The moment required to change list one inch (MCL1") is _____.

- (A) 667 foot-kips
- (B) 833 foot-kips
- (C) 1,400 foot-kips
- (D) 1,667 foot-kips

If choice B is selected set score to 1.

9. Which of the following items should all MODU personnel be familiar with?

- (A) navigational systems
- (B) fuel consumption rates
- (C) maintenance schedule
- (D) boarding and operating procedures

If choice D is selected set score to 1.

10. The COASTAL DRILLER, while in transit, expects the winds to increase to 75 knots. In order to meet the stability and leg strength requirements, the tip-of-can (TOC) position should be at _____.

- (A) 0.00 feet (flush with bottom of hull)
- (B) 1.20 feet
- (C) 12.38 feet
- (D) 60.50 feet

If choice D is selected set score to 1.

11. Among the possible causes of unexpected constant inclination of the floating COASTAL DRILLER is _____.

- (A) miscalculation of loads
- (B) consumption of on board liquids
- (C) liquid transfer through open valves
- (D) flooding due to hull damage

If choice A is selected set score to 1.

12. Adding the longitudinal free surface correction to the uncorrected height of the center of gravity of a MODU yields _____.

- (A) KG
- (B) FSCL
- (C) GML
- (D) KGL

If choice D is selected set score to 1.

13. On the COASTAL DRILLER, the level of water in each of two pump bilge pits is monitored by _____.

- (A) low and high level alarms
- (B) hydrostatic alarm switches
- (C) OSS units (overflow sequence selector units)
- (D) visual sight gages

If choice B is selected set score to 1.

14. A jack-up with a calculated moment to change list one inch (MCL1") of 1,200 foot-kips intends to transfer 100 kips of weight in a transverse direction. How far should the weight be transferred to change the draft on the port side from 11.5 to 11.0 feet?

- (A) 12 feet
- (B) 48 feet
- (C) 120 feet
- (D) 144 feet

If choice D is selected set score to 1.

15. In MODU construction, beams are transverse girders which provide support to _____.

- (A) bulkheads
- (B) decks
- (C) deckhouse structures
- (D) vertical frames

If choice B is selected set score to 1.

16. The COASTAL DRILLER is in transit at the load line draft. It discharges 279.93 kips of weight. The new draft is _____.

- (A) 10 feet 8 inches
- (B) 10.8 feet
- (C) 10.0 feet
- (D) 10.88 feet

If choice A is selected set score to 1.

17. Deck beams on a MODU are generally spaced at equal intervals and run _____.

- (A) transversely
- (B) vertically
- (C) intermittently
- (D) longitudinally

If choice A is selected set score to 1.

18. When the wave period and the apparent rolling period of the MODU are the same _____.

- (A) synchronous rolling occurs
- (B) roll period increases
- (C) roll period decreases
- (D) roll amplitude is dampened

If choice A is selected set score to 1.

19. On the COASTAL DRILLER, the level of water in each of two pump bilge pits is monitored by hydrostatic alarm switches connected to a remote panel located in the _____.

- (A) control house
- (B) OIM's office
- (C) SCR room
- (D) OIM's quarters

If choice B is selected set score to 1.

20. What is the VCG of the drill water in the COASTAL DRILLER's #1 Drill Water Tank, if the weight in the tank is 388.32 kips?

- (A) 7.25 feet
- (B) 7.50 feet
- (C) 7.75 feet
- (D) 8.00 feet

If choice C is selected set score to 1.

21. While the COASTAL DRILLER is in transit at a draft of 10 feet 6 inches, a severe storm is predicted within 12 hours. VM are 520,462 ft-kips, FSML are 26,000 ft-kips, and FSMT are 25,000 ft-kips. How much should the KG corrected for free surface effects be lowered to satisfy the maximum allowable KG criteria?

- (A) 26.90 feet
- (B) 25.00 feet
- (C) 1.90 feet
- (D) 0.00 feet

If choice D is selected set score to 1.

22. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). If the contents of #6 and #7 drill water tanks are discharged, what is the new height of the center of gravity corrected for transverse free surface effects?

- (A) 47.49 feet
- (B) 49.16 feet
- (C) 50.82 feet
- (D) 50.93 feet

If choice C is selected set score to 1.

23. The downflooding angle for a MODU is the maximum angle at which _____.

- (A) stability is positive
- (B) intact stability curves are valid
- (C) neutral equilibrium exists
- (D) the load line is not submerged

If choice B is selected set score to 1.

24. The COASTAL DRILLER, while in an ocean transit, experiences a single amplitude roll of 8 degrees. What is the minimum period of motion which does not exceed the design limits of the legs?

- (A) 10 seconds
- (B) 8 seconds
- (C) 6 seconds
- (D) 4 seconds

If choice A is selected set score to 1.

25. On the COASTAL DRILLER, a noticeable increase in the level indicator while extracting the legs from the soil indicates _____.

- (A) one or two legs are stuck
- (B) the legs are being extracted through a punch-through soil layer
- (C) the legs are free
- (D) a punch-through is occurring

If choice A is selected set score to 1.

26. While in ocean transit, the COASTAL DRILLER has a roll period of four seconds. What would be the largest angle each side of vertical that does not exceed the design limit of the legs?

- (A) 6.3 degrees
- (B) 5.0 degrees
- (C) 3.5 degrees
- (D) 2.0 degrees

If choice D is selected set score to 1.

27. The COASTAL DRILLER has a trim of 2.13 feet by the stern. The draft in sea water at the forward draft marks is observed to be 8.0 feet. The KMT is _____.

- (A) 153.73 feet
- (B) 160.42 feet
- (C) 179.41 feet
- (D) 203.97 feet

If choice A is selected set score to 1.

28. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). How much more variable load in kips can be placed on the unit if winds increase to greater than 70 knots?

- (A) 0 kips
- (B) 200 kips
- (C) 600 kips
- (D) 1,000 kips

If choice A is selected set score to 1.

29. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). What is the margin on the maximum allowable KG if winds remain less than 70 knots?

- (A) 0.00 feet
- (B) 14.35 feet
- (C) 14.82 feet
- (D) 65.00 feet

If choice B is selected set score to 1.

30. The elevating system of the COASTAL DRILLER is normally limited to _____.

- (A) 14,158 kips
- (B) 14,400 kips
- (C) 17,280 kips
- (D) 21,297 kips

If choice B is selected set score to 1.

31. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). What is the new transverse free surface correction (FSCT) if the entire contents of drill water tanks 6 and 7 are discharged?

- (A) 2.24 feet
- (B) 2.14 feet
- (C) 2.10 feet
- (D) 1.67 feet

If choice D is selected set score to 1.

32. The COASTAL DRILLER is loaded as shown in the Sample Load Form #1 (Rig Move). If the entire contents of the port pipe rack are back-loaded to an offshore supply vessel, how much drill water would have to be transferred from tank #1 to tank #26 to level the vessel in trim?

- (A) 62.7 kips
- (B) 111.4 kips
- (C) 64.4 kips
- (D) 114.9 kips

If choice D is selected set score to 1.

33. The COASTAL DRILLER is experiencing a single amplitude roll angle of 3 degrees and a roll period of 10 seconds. What is the maximum water depth that can be used for going on location?

- (A) 45 feet
- (B) 95 feet
- (C) 145 feet
- (D) 245 feet

If choice B is selected set score to 1.

34. While in 150 feet water depth when the pitch angle of the COASTAL DRILLER is 1 degree, the platform pitch period for going on location should be longer than _____.

- (A) 0.2 second
- (B) 3.2 seconds
- (C) 7.0 seconds
- (D) 9.2 seconds

If choice C is selected set score to 1.

35. In securing deck loads for an ocean tow, drill pipe should be _____.

- (A) limited to no more than five courses high
- (B) held in place with heavy materials such as spare pendant wire
- (C) galvanized to protect against corrosion
- (D) provided with bulwarks at both ends of their bays

If choice D is selected set score to 1.

36. Yawing can be described as _____.

- (A) jumping on the tow line as the rig pitches
- (B) jumping on the tow line as the rig slams into waves
- (C) veering from side to side on the end of the tow line
- (D) corkscrew motion due to wave action

If choice C is selected set score to 1.

37. The procedure of strengthening damaged structures on a MODU by using wood or steel is called _____.

- (A) battening
- (B) bracing
- (C) blocking
- (D) shoring

If choice D is selected set score to 1.

38. Which of the following would be the most probable location to encounter explosive and flammable gasses on a MODU?

- (A) at any location
- (B) in machinery spaces
- (C) on the drill floor and liquid mud handling areas
- (D) in bulk storage tanks

If choice C is selected set score to 1.

39. If a man falls overboard from a rig under tow, you should FIRST _____.

- (A) sound the general alarm
- (B) deploy life buoys
- (C) notify the tug
- (D) launch a boat

If choice B is selected set score to 1.

40. During severe storms when survival becomes a major concern, it may become necessary to relieve high anchor tensions on the windward side of the unit by _____.

- (A) ballasting the rig
- (B) paying out cable on the leeward side
- (C) paying out cable on the windward side
- (D) deballasting the rig

If choice B is selected set score to 1.

41. The end of the joint with the exterior threads is called the _____.

- (A) box
- (B) pin
- (C) stem
- (D) stand

If choice B is selected set score to 1.

42. In MODU operations, hoisting and lowering pipe in and out of the drilled hole is the main function of the _____.

- (A) cathead spool
- (B) stand pipe
- (C) swivel
- (D) drawworks

If choice D is selected set score to 1.

43. To determine the number of inflatable liferafts required on a mobile offshore drilling unit, you should check the _____.

- (A) stability letter
- (B) Certificate of Inspection
- (C) load line certificate
- (D) Operations Manual

If choice B is selected set score to 1.

44. A MODU crane which has been idle for a period of over six months shall be inspected to the same standards as a _____.

- (A) yearly inspection
- (B) quarterly inspection
- (C) monthly inspection
- (D) weekly inspection

If choice A is selected set score to 1.

45. Each EPIRB shall be tested using the integrated test circuit and output indicator every _____.

- (A) week
- (B) month
- (C) two weeks
- (D) quarter

If choice B is selected set score to 1.

46. On a MODU, where Must the fire control plan be posted?

- (A) Mess Area
- (B) Crew Lounge
- (C) Pilot house
- (D) None of the above

If choice C is selected set score to 1.

47. You are aboard a vessel which is near a platform engaged in oil exploration. Under U.S. pollution regulations, you may NOT discharge garbage if you are within _____.

- (A) 1650 feet (500 meters)
- (B) 1750 feet (533 meters)
- (C) 1970 feet (600 meters)
- (D) 2500 feet (762 meters)

If choice A is selected set score to 1.

48. Which of the following will the certificate of inspection of a MODU specify?

- (A) maximum water depth for drilling
- (B) maximum load line draft
- (C) number of credentialed personnel required on board
- (D) next date for an inclining experiment

If choice C is selected set score to 1.

49. Beyond the area of state ownership in the U.S. outer continental shelf, the right to drill is controlled by the _____.

- (A) Minerals Management Service
- (B) American Bureau of Shipping
- (C) U.S. Corps of Engineers
- (D) U.S. Coast Guard

If choice A is selected set score to 1.

50. The maximum draft to which a MODU can legally be submerged is indicated by the _____.

- (A) Certificate of Inspection
- (B) Tonnage mark
- (C) Load Line mark
- (D) Muster List ("Station Bill")

If choice C is selected set score to 1.