
Q438 - Barge Supervisor MODU Operations

1. A weight of 1,000 kips is equivalent to _____.

- 1,000 pounds
- 2,000 short tons
- 2,240 pounds
- **500 short tons**

Note:
One thousand kips is equivalent to 500 short tons. A kip is defined as 1,000 pounds, and a short ton is 2,000 pounds; therefore, 1,000 kips (1,000,000 pounds) divided by 2,000 pounds per short ton equals 500 short tons.

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2. Why is electrical power preferred over mechanical power for driving heavy machinery on drilling rigs?

- Less maintenance
- Lighter
- **More flexible**
- More fuel efficient

Note:
Electrical power is preferred on drilling rigs due to its greater flexibility in equipment placement and control compared to mechanical power transmission.

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3. What class of bulkhead is required around the galley on a MODU?

- **Class A**
- Class B
- Class C
- Class D

Note:
Class A bulkheads are required around galleys on MODUs due to the galley's designation as a high fire-risk service space. Class A bulkheads provide the necessary fire resistance to contain a fire and protect adjacent areas, exceeding the standards of Class B, C, and D divisions.

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4. On all mobile offshore drilling units, the deckhead of each accommodation space must be located above _____.

- **the deepest load line**
- the operating draft
- the transit draft
- the survival draft

Note:
Regulations require that the deckhead of each accommodation space on mobile offshore drilling units be located above the deepest load line to ensure living spaces remain above the highest permitted waterline in all loading conditions.

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5. If you observe any situation which presents a safety or pollution hazard during fuel transfer operations on a MODU, what action should you take FIRST?

- Sound the fire alarm.
- **Shut down the transfer operation.**
- Notify the ballast control operator.
- Wait for the person in charge to act.

Note:
Immediately stop the fuel transfer operation if a safety or pollution hazard is observed. This action directly addresses the source of the risk, minimizing potential spills and fire hazards, and aligns with regulatory requirements.

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6. The discharge side of every fire pump must be equipped with a _____.

- gate valve
- **pressure gauge**
- strainer
- check valve

Note:
A pressure gauge is required on the discharge side of every fire pump to ensure adequate fire-main pressure during emergencies and drills, as mandated by Coast Guard regulations. This gauge provides immediate visual confirmation of pump performance and system integrity, differentiating it from valves, strainers, or check valves which serve different functions in the fire protection system.

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7. The size of fire hydrant hose connections on a cargo vessel must be either 1-1/2 inches or _____.

- 1 inch
- **2-1/2 inches**
- 3 inches
- 3-1/2 inches

Note:
46 CFR regulations specify that fire hydrant hose connections on cargo vessels must be either 1-1/2 inches or 2-1/2 inches.

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8. Repair of structures on a MODU in the vicinity of liquid mud handling areas presents what possible hazard?

- Liquid muds may flood adjoining spaces.
- Toxic gasses may be present.
- **Flammable gasses may be present.**
- An oxygen-deficient atmosphere may be present.

Note:
Liquid mud systems can release flammable gases that, if ignited by repair work, pose a fire or explosion hazard. Formation hydrocarbons entering the mud stream create gas-cut mud, which can accumulate in mud tanks and pits, especially with inadequate ventilation. Repair activities often involve ignition sources, making flammable gas presence the primary concern in these areas.

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9. For H2S detection, sensitized tapes indicate H2S presence by means of discoloration of an exposed spot on the tape. The shade of the color on the spot depends upon the concentration of H2S and which of the following factors?

- **duration of the exposure**
- air pressure at the time of the exposure
- air temperature at the time of the exposure
- humidity at the time of exposure

Note:
The discoloration of sensitized tapes, indicating H2S presence, is determined by the duration of exposure because the chemical reaction is cumulative over time. This reaction produces a darker spot proportional to the dose of H2S, which is the product of concentration and exposure time. Air pressure, temperature, and humidity are not primary factors influencing the discoloration.

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10. The airborne concentrations of substances (such as hydrogen sulfide) under which nearly all workers may be repeatedly exposed without adverse effects are called _____.

- exposure limits
- concentration limits
- **threshold limit values**
- substance limit values

Note:
Threshold limit values (TLVs) are defined as airborne concentrations to which nearly all workers can be repeatedly exposed without adverse health effects. TLVs are guidelines established by ACGIH and represent standardized occupational exposure limits, unlike the generic terms 'exposure limits' or 'concentration limits'.
