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Q441 - Ballast Control Operator 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.

2. In MODU construction, a greater number of watertight bulkheads results in _____.

- **increased capacity to set flooding boundaries**
- decreased capacity to set flooding boundaries
- reduced compartmentation
- greater deck load capacity

Note:

Increased watertight bulkheads create more compartments, which expands the ability to contain flooding by establishing more flooding boundaries.

3. Structural bulkheads on a MODU are usually _____.

- continuous
- **watertight**
- non-watertight
- transverse

Note:

Structural bulkheads on a MODU are designed to be watertight to maintain buoyancy and stability in the event of flooding, fulfilling regulatory requirements for damage stability.

4. When taking soundings on a MODU, coating the tape with chalk helps to _____.

- show the depth of any water in an oil tank
- reduce possibility of sparks
- make the tape roll easier
- **better identify the correct reading**

Note:

Chalking a sounding tape highlights the wet mark, enabling clear identification of the liquid level for accurate readings. This improves reading clarity, not spark prevention, tape rolling ease, or differentiation of liquids.

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

- Close the valves at the transfer manifold
- Notify the person in charge of the shore facility
- Sound the fire alarm
- **Shut down the transfer operation**

Note:

Immediately stopping the fuel transfer operation is the priority action to mitigate safety or pollution hazards, as it directly eliminates the source of the risk before any follow-up measures are taken. Regulations and established procedures mandate the ability to immediately halt fuel transfer in unsafe conditions, preventing further fuel movement and minimizing potential incidents like spills or fires. Subsequent actions, such as valve closures, notifications, or alarms, are secondary to this initial step of shutting down the transfer.

6. Damage stability of a MODU is the stability _____.

- **after flooding**
- which exists when the wind speed is less than 50 knots
- at survival draft
- before collision

Note:

Damage stability refers to a vessel's stability following damage and flooding, not in intact conditions or under specific environmental factors.

7. 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.

8. 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'.

9. Requirements for H₂S preparation and equipment usage aboard MODU's in U.S. offshore waters are administered by which of the following organizations?

- **Minerals Management Service**
- American National Standards Institute
- U.S. Coast Guard
- U.S. Corps of Engineers

Note:

The Minerals Management Service (MMS) administered requirements for H₂S preparation and equipment usage aboard MODUs on the U.S. Outer Continental Shelf, as it was the Department of the Interior agency responsible for offshore drilling safety.

10. What is the percentage of oxygen in a typical sample of uncontaminated air?

- 12 percent
- 15 percent
- 18 percent
- **21 percent**

Note:

Normal, uncontaminated air contains approximately 21% oxygen by volume. This value is a standard reference for safety and monitoring equipment and distinguishes normal air from oxygen-deficient atmospheres, which pose a hazard.
