Demo PDF file. This file includes questions: 10 from 182. Full version of file looks the same as demo, but full version includes all questions. You may download file with all questions by link on bottom of this page

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Q614 - Engineering Safety & Environmental Protection

1. In order to prevent the unnecessary release of hydrocarbons to atmosphere, when taking on departure ballast, one method used is to _____.

- **allow entering ballast to displace the inert gas to a tank where cargo is currently being discharged**
- manually open the pressure/vacuum device
- completely open the mast riser valve
- use blowers to purge the inert gas from tanks

Note:
Displacing inert gas with ballast into a tank undergoing discharge maintains a closed system, preventing hydrocarbon release to the atmosphere.

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2. Static water pressure on the hull of a ship is greatest at the _____.

- boot topping
- stern
- bow
- **keel**

Note:
Static water pressure increases with depth; therefore, the keel, being the deepest point on the hull, experiences the greatest pressure.

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3. Which of the following describes a vessel which is subjected to "hogging"?

- **It has its main deck plating under tensile stress.**
- It has its bottom plating under shearing stress.
- It has its main deck plating under compressive stress.
- It has its bottom plating under ductile stress.

Note:
Hogging occurs when a vessel bends upward in the middle, resulting in tensile stress on the main deck plating and compressive stress on the bottom plating. Therefore, the correct answer is that the vessel has its main deck plating under tensile stress.

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4. In a compartment that has been completely flooded with water, the greatest pressure will be exerted _____.

- at a point that is one-third from the bottom of the bulkhead
- at the vertical center of the bulkhead
- **along the bottom of any bulkhead**
- along the top of the bulkhead

Note:
Hydrostatic pressure increases with depth; therefore, the greatest pressure in a flooded compartment is exerted along the bottom of any bulkhead.

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5. When should you expect to find an insulating flange in a fueling hose?

- When static electricity is not expected to be a problem.
- When a bonding cable is employed.
- When transferring LNG.
- **When the terminal is equipped with a cathodic protection system.**

Note:
Insulating flanges are used in fueling hoses to electrically isolate a vessel's systems from a terminal's cathodic protection system, preventing stray currents and potential arcing.

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6. To determine if all requirements of the Declaration of Inspection are met for oil transfer operations just prior to bunkering from a shoreside facility, _____.

- **vessel and facility are jointly and independently inspected by the designated persons in charge**
- vessel and facility are independently inspected by their respective designated person in charge
- facility is inspected by the designated person in charge of the vessel and vice versa for the vessel
- vessel and facility must be inspected by a representative of the Coast Guard captain of the port

Note:
To ensure all Declaration of Inspection requirements are met before bunkering, the vessel and facility must be jointly and independently inspected by their respective designated persons in charge.

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7. One consideration for determining the safest maximum rate at which bunker fuel may be received is by the _____.

- distance to the fuel storage tanks ashore
- **number of tanks to be filled**
- size of the fuel storage tanks ashore
- type of fuel transfer pump

Note:
The number of tanks to be filled limits the safe bunker fuel receiving rate because it dictates the need for timely control and redirection of flow to prevent overfilling.

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8. Why is it important for double bottom fuel oil tanks not to be topped off when loading fuel at cold temperatures?

- Fueling valve may become stuck closed and cause the fuel oil to spill before the valve can be opened.
- Increased viscosity of the product needs higher loading pressure, which increases the chances of a spill.
- Air pockets may cause the fuel to bubble out of the ullage hole.
- **A temperature rise of the fuel will cause an overflow from the tank vent.**

Note:
Fuel expansion during warming necessitates leaving ullage space in double bottom tanks to prevent overflow through the vent.

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9. The most critical part of the bunkering operations, which can result in an oil spill, is when the _____.

- pumping operation is first started
- **tanks are being topped off**
- system is being lined up
- hose joints are made up

Note:
Topping off tanks presents the greatest risk of an oil spill due to the limited ullage, requiring precise control and communication to prevent immediate overflow.

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10. An LNG carrier has an approved type of gas detecting system to detect methane leaks in the _____.

- cargo handling rooms
- boiler burner supply piping
- barrier spaces
- **all of the above**

Note:
Methane detection systems are required on LNG carriers in all gas-hazard locations, including cargo handling rooms, boiler burner supply piping, and barrier spaces. Therefore, 'all of the above' is the correct answer.

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