

SET 1

What is the main requirement of the OPA 90?

- New tankers and tank barges should have double hulls *
- New tankers and tank barges should not ply in US waters
- New tankers and tank barges with single hulls can ply in us ports

Volume 2 of IMDG code comprises one part which is

- Part 1 - General provisions, definitions and training
- Part 2 - Classification
- Part 3 - The Dangerous Goods List (DGL) *
- Part 4 - Packing and tank provisions

What is the maximum limit of sulphur content in bunker fuel oil?

- 4.5% m/m *
- 1.5 % m/m
- 3.0 % m/m

What is the minimum requirement for carrying garbage management plan onboard a ship?

- Any ship above 400 GT or any ship carrying 15 persons or more *
- Any ship which is 12 metres or more in length
- All ship, Irrespective of size and length

Petroleum liquids that have closed-cup flash points below 140 Deg F(60 Deg C) are considered as

- Non-volatile Liquids
- Flammable Liquids
- Volatile Liquids *
- Combustible Liquids

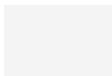
What does SECA stand for?

- Sox Elimination Controlled Area
- Sox Emission Controlled Area *
- Sox Escalation Controlled Area

7.

What are the three broad classification of cargoes transported on tankers?

- Liquefied Natural gas, Liquefied Petroleum gas, Liquefied Nitrogen
- Container, Dry Bulk and Refrigerated cargo
- Petroleum liquids, chemical liquids, and special liquids *



8.

What is the closed-cup flash point of non-volatile petroleum liquids?

below 140 Deg F(60 Deg C)

113 Deg F(45 Deg C) and above

below 113 Deg F(45 Deg C)

140 Deg F(60 Deg C) and above

*

9.

What is the Reid vapor pressure of flammable liquids of natural gasoline & Naphtha which has open cup flash point of 80 Deg F (26.7 Deg C)?

More than 8.5 but less than 14 psi

8.5 psi and below

14 psi and above

More than 24.6 psi

*

10.

What is the requirement for ships to have SOPEP onboard ships?

SOPEP Should be carried on board tankers of 150 GT or more and on other ships of 400 GT or more

SOPEP should be carried onboard tankers of 150 GT or more and on all other ships irrespective of size

SOPEP should be carried only onboard tankers of 400 GT or more

*

1.

What is the main requirement of the OPA 90?

New tankers and tank barges should have double hulls

New tankers and tank barges should not ply in US waters

New tankers and tank barges with single hulls can ply in us ports

*

2.

What is the meaning of a Category 2 ship?

Oil tanker of 5000 tones deadweight and above

Tanker of 20,000 deadweight and above without SBTs

Tanker of 20,000 deadweight and above with SBTs

*

3.

What are the three broad classification of cargoes transported on tankers?

Liquefied Natural gas, Liquefied Petroleum gas, Liquefied Nitrogen
Container, Dry Bulk and Refrigerated cargo
Petroleum liquids, chemical liquids, and special liquids
General cargo, Dry Break Bulk and Frozen cargo

*
*

4.

What is the requirement for ships to have SOPEP onboard ships?

SOPEP Should be carried on board tankers of 150 GT or more and on other ships of 400 GT or more

SOPEP should be carried onboard tankers of 150 GT or more and on all other ships irrespective of size

SOPEP should be carried only onboard tankers of 400 GT or more

*
*

5.

What type of ships have to carry the SMPEP for NLS manual onboard their ships?

Ship of 400 GT or more carrying 15 persons or more

Ships of 150 GT or more carrying oil cargoes

Ships of 150 Gt or more carrying noxious liquid substances

*
*

6.

Tankers carry palm oil, molasses and tallow as special liquids cargoes in bulk, which are grouped as

Animal/Vegetable oils

Miscellaneous Liquids

Non-volatile Liquids

Other chemical Liquids

*
*

7.

Under which Annex is the Garbage record book required?

Annex II

Annex V

Annex VI

*
*

8.

Animal/Vegetable Oils carried in tankers and classified as

Chemical Liquid

Special Liquids

Non-volatile Liquids

Non-flammable Liquids

*
*

9.

Which part of the oil record book deals with machinery space operations?

Part I

*

Part II

Part III

10.

Volume 2 of IMDG code comprises one part which is

Part 1 - General provisions, definitions and training

Part 2 - Classification

Part 3 - The Dangerous Goods List (DGL)

*

Part 4 - Packing and tank provisions

1.

Animal/Vegetable Oils carried in tankers and classified as

Chemical Liquid

Special Liquids

*

Non-volatile Liquids

Non-flammable Liquids

2.

Structure of MARPOL Convention layouts are as follows: find the correct one,

Convention, Protocol I, Protocol II, Protocol 1978, Protocol 1997

*

Convention, Protocol 1978, Protocol 1997, Protocol I, Protocol II

Protocol 1978, Protocol 1997, Protocol I, Protocol II, Convention

Protocol 1997, Protocol 1978, Protocol I, Protocol II, Convention

3.

Under which Annex is the Garbage record book required?

Annex II

Annex V

*

Annex VI

4.

What is the main requirement of the OPA 90?

New tankers and tank barges should have double hulls

*

New tankers and tank barges should not ply in US waters

New tankers and tank barges with single hulls can ply in us ports

5.

Petroleum liquids that have closed-cup flash points below 140 Deg F(60 Deg C) are considered as

Non-volatile Liquids

Flammable Liquids

Volatile Liquids *

Combustible Liquids

6.

What is the meaning of a Category 2 ship?

Oil tanker of 5000 tones deadweight and above

Tanker of 20,000 deadweight and above without SBTs

Tanker of 20,000 deadweight and above with SBTs *

7

The IMDG Code became mandatory on

1st of January 2000

1st of January 2002

1st of January 2004 *

1st of January 2006

What is the requirement for ships to have SOPEP onboard ships?

SOPEP Should be carried on board tankers of 150 GT or more and on other ships of 400 GT or more *

SOPEP should be carried onboard tankers of 150 GT or more and on all other ships irrespective of size

SOPEP should be carried only onboard tankers of 400 GT or more

9.

How should CAS be aligned with other ship's surveys?

Alignment with the renewal survey and no inclusion in the drydock survey *

Alignment with the intermediate or special survey and no inclusion in the drydock survey *

Independent of the intermediate survey and drydock survey

Under which Annex is the Garbage record book required?

Annex II

Annex V *

Annex VI

1.

Liquids that have an open-cup flash point at or below 80 Deg F (26.7 Deg C) are classified as

Non-volatile Liquids

Flammable Liquids *

Volatile Liquids

Combustible Liquids

2.

Find the correct statement with respect to special liquids carried in tankers

Special liquids are divided in to three groups as Animal oils, Vegetable oils and Miscellaneous Liquids

Special liquids are divided in to two groups as Animal oils and Miscellaneous Liquids

Special liquids are divided in to two groups, Animal/Vegetable oils and Miscellaneous Liquids *

Special liquids are divided in to three groups as Chemical Liquids, Vegetable Oils and Miscellaneous Liquids

3.

Which part of the oil record book deals with machinery space operations?

Part I *

Part II

Part III

4.

What is the main requirement of the OPA 90?

New tankers and tank barges should have double hulls *

New tankers and tank barges should not ply in US waters

New tankers and tank barges with single hulls can ply in us ports

5.

What is the Reid vapor pressure of flammable liquids of natural gasoline & Naphtha which has open cup flash point of 80 Deg F (26.7 Deg C)?

More than 8.5 but less than 14 psi

8.5 psi and below

14 psi and above *

More than 24.6 psi

6.

Which Annex deals with the prevention of pollution by sewage from ships?

Annex VI

Annex III

Annex IV *

7.

What does SECA stand for?

Sox Elimination Controlled Area

Sox Emission Controlled Area *

8.

What type of pollution control is addressed by Annex II of MARPOL?

Pollution by oil

Pollution by noxious liquid substances *

Pollution by garbage

9.

What is the requirement for ships to have SOPEP onboard ships?

SOPEP Should be carried on board tankers of 150 GT or more and on other ships of 400 GT or more *

SOPEP should be carried onboard tankers of 150 GT or more and on all other ships irrespective of size

SOPEP should be carried only onboard tankers of 400 GT or more

10.

What are the three broad classification of cargoes transported on tankers?

Liquefied Natural gas, Liquefied Petroleum gas, Liquefied Nitrogen

Container, Dry Bulk and Refrigerated cargo

Petroleum liquids, chemical liquids, and special liquids *

General cargo, Dry Break Bulk and Frozen cargo

1.

What are the three broad classification of cargoes transported on tankers?

Liquefied Natural gas, Liquefied Petroleum gas, Liquefied Nitrogen

Container, Dry Bulk and Refrigerated cargo

Petroleum liquids, chemical liquids, and special liquids *

General cargo, Dry Break Bulk and Frozen cargo

2.

Find the correct statement with respect to special liquids carried in tankers

Special liquids are divided in to three groups as Animal oils, Vegetable oils and Miscellaneous Liquids

Special liquids are divided in to two groups as Animal oils and Miscellaneous Liquids

Special liquids are divided in to two groups, Animal/Vegetable oils and Miscellaneous Liquids *

Special liquids are divided in to three groups as Chemical Liquids, Vegetable Oils and Miscellaneous Liquids

3.

Tankers carry palm oil, molasses and tallow as special liquids cargoes in bulk, which are grouped as

- Animal/Vegetable oils
- Miscellaneous Liquids
- Non-volatile Liquids
- Other chemical Liquids

*

4.

Under which Annex is the Garbage record book required?

- Annex II
- Annex V
- Annex VI

*

5,

What type of ships have to carry the SMPEP for NLS manual onboard their ships?

- Ship of 400 GT or more carrying 15 persons or more
- Ships of 150 GT or more carrying oil cargoes
- Ships of 150 Gt or more carrying noxious liquid substances

*

6.

What was the last date by which use of hydrochloroflourocarbons were prohibited?

- 2015
- 2010
- 1 Jan 2020

*

7.

What is the Reid vapor pressure of flammable liquids of natural gasoline & Naphtha which has open cup flash point of 80 Deg F (26.7 Deg C)?

- More than 8.5 but less than 14 psi
- 8.5 psi and below
- 14 psi and above
- More than 24.6 psi

*

8.

What did Annex VI of Marpol enter into force?

- 1 July 1992
- 19 May 2006
- 31 December 1988

*

9.

What is the open cup flash point of the petroleum liquids that are classified as combustible liquids?

- Above 80 Deg F (26.7 Deg C)

*

Above 60 Deg F (15.6 Deg C)

Below 80 Deg F (26.7 Deg C)

Below 60 Deg F (15.6 Deg C)

10.

The IMDG Code became mandatory on

1st of January 2000

1st of January 2002

1st of January 2004 *

1st of January 2006

SET 2

1.

_____ is a lowest temperature at which a substance catches fire.

Critical temperature

Ignition temperature *

Eutectic temperature

2.

What is an inert condition ?

When the oxygen has been eliminated from a tank

When the oxygen is 10% by volume in a tank

A condition in which the oxygen content throughout the atmosphere of a tank has been reduced to 8% or less by volume by the addition of inert gas. *

When the oxygen is 21% by volume in a tank

3.

What factor mainly affects Vapour cloud dilution rate?

Quantity of Spill

Weather conditions *

Thermal inversion

diameter of the vapour cloud

4.

The substance involved in combustion is called

Combustible *

Non-combustible

flammable substances

5.

What is cold work ?

Carrying out work in a cold atmosphere
Work that cannot create a source of ignition
Carrying out work on reefer containers
Work that can be done only in cold temperatures

*

6.

_____ burns automatically at room temperature.

A) Phosphorus

7.

Which type of anodes must not be fitted in tanks where flammable gases can be present ?

Magnesium anodes

*

Aluminium anodes

Zinc anodes

8.

What is meant by "intrinsically safe" ?

Equipment can be used in hazardous atmosphere

An electrical circuit is intrinsically safe if any spark produced normally or accidentally is incapable of igniting a gas mixture

*

There is no danger if sparks are produced in an unsafe atmosphere

Equipment can be used in hazardous atmosphere

9.

What is a hot work permit ?

Document used for carrying out repairs under super vision

A document issued by a responsible person permitting specific hot work to be done during a particular time interval in a defined space

*

Document used for work in a drydock

Document valid for 7 days for carrying out tank cleaning

What is bonding ?

Connecting together of cargo pipe line flanges

The connecting together of metal parts to ensure electrical continuity

*

Making a ship to shore cable connection

Connecting together flexible couplings on deck

1.

_____ is a lowest temperature at which a substance catches fire.

Critical temperature

Ignition temperature

Eutectic temperature

2.

How Threshold Limit Values are specified?

PPM (Parts per Million)

Specific Numbers

Volume of Gas in Air

ppm/volume gas in Air *

3.

What is pour point ?

The temperature at which oil gets frozen

The lowest temperature at which a petroleum oil will remain fluid *

The temperature at which oil cannot be discharged

The temperature at which oil needs to be heated

4.

What is an inert condition ?

When the oxygen has been eliminated from a tank

When the oxygen is 10% by volume in a tank

A condition in which the oxygen content throughout the atmosphere of a tank has been reduced to 8% or less by volume by the addition of inert gas. *

When the oxygen is 21% by volume in a tank

5.

A liquid is considered to be flammable when the flash point is less than

50° F

60° F

70° F

80° F *

6.

What is Upper flammable limit ?

The limit for man entry of personnel into tanks

The concentration of a hydrocarbon gas in air above which there is insufficient oxygen to support combustion

The limit where there is insufficient inert gas to support combustion

The limit where there is too much inert gas to support combustion

*

7.

What is pour point ?

The temperature at which oil gets frozen

The lowest temperature at which a petroleum oil will remain fluid

The temperature at which oil cannot be discharged

The temperature at which oil needs to be heated

*

8.

The lowest temperature at which a substance catches fire is called its _____ temperature.

A) ignition

What is lower flammable limit ?

The concentration of a hydrocarbon gas in air below which there is insufficient hydrocarbon to support combustion

The limit where there is insufficient oxygen to support combustion

The limit where there is too much oxygen to support combustion

The limit for man entry of personnel into tanks

*

10.

What is cold work ?

Carrying out work in a cold atmosphere

Work that cannot create a source of ignition

Carrying out work on reefer containers

Work that can be done only in cold temperatures

*

What is cathodic protection ?

Cathodes placed on the hull of a ship

Anodes placed in the stern of a ship

Protection of the hull of a ship

The prevention of corrosion by electrochemical techniques

*

Where is smoking permitted on board ship while at a berth ?

Designated smoking room

*

Anywhere on the ship

In the engine room

In the cargo control room

The term "copious quantities of water" used within the EmS SPILLAGE SCHEDULES refers to the minimum total quantities of water provided for optimal fire fighting using

Two jets of water

Three jets of water

Four jets of water

*

Five jets of water

As a requirement of SOLAS, the number of sets of full protective clothing resistant to chemical attack that should be provided in addition to firefighters' outfits, is

2 sets

3 sets

4 sets

*

5 sets

What is a material safety data sheet (MSDS) ?

It is used for finding out the dangers of contract

It is used for finding out the effects of inhalation

A document identifying a substance and all its constituents

*

A document giving the chemical name of the product

What is hot work ?

Hot work is carried out in high ambient temperatures

Work involving sources of ignition or temperatures sufficiently high to cause the ignition of a flammable gas mixture.

*

The temperature is very high where the work is done

Work carried out using hot material

What is volatile petroleum ?

Petroleum having a flashpoint above 60 Degrees C

Petroleum having a flashpoint above 100 Degrees C

Petroleum having a flashpoint below 100 Degrees C

Petroleum having a flashpoint below 60 Degrees C

*

What is flash point ?

The lowest temperature at which a liquid gives off sufficient gas to form a flammable gas mixture near the surface of the liquid.

*

The temperature at which the gas is not flammable

The temperature at which the liquid stops emitting gas

The temperature at which an explosion is not possible

What is non-volatile petroleum ?

Petroleum having a flashpoint of 60 Degrees C or above

Petroleum having a flashpoint of 60 Degrees C or below

Petroleum having a flashpoint of 100 Degrees C or above

Petroleum having a flashpoint of 100 Degrees C or below

*

10.

What is cold work ?

Carrying out work in a cold atmosphere

Work that cannot create a source of ignition

Carrying out work on reefer containers

Work that can be done only in cold temperatures

*

What is purging ?

The introduction of inert gas into a tank already in the inert condition to further reduce the existing oxygen content or hydrocarbon gas content to a level below which combustion cannot take place if air is introduced

*

Introducing of oxygen into a tank to a high level

Using blowers to push oxygen into a tank

Using natural ventilation to gas free a tank

What is a material safety data sheet (MSDS) ?

It is used for finding out the dangers of contract

It is used for finding out the effects of inhalation

A document identifying a substance and all its constituents

A document giving the chemical name of the product

*

What is a Corona ?

Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy.
Generally, corona on its own is capable of igniting a gas.

Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy.
Generally, corona on its own is incapable of igniting a gas.

Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy.
Generally, corona on its own is incapable of igniting a gas if it is a lean mixture

*

Which gas helps in the process of combustion?

Cooking gas

Nitrogen gas

Oxygen gas

Producer gas

*

5.



(1)

Substances which catch fire are called

acids

bases

combustible

burners

*

6.



(1)

What is cathodic protection ?

Cathodes placed on the hull of a ship

Anodes placed in the stern of a ship

Protection of the hull of a ship

The prevention of corrosion by electrochemical techniques

*

7.



(1)

Sublimation is the phase transition of a substance:

From the liquid to the solid phase

From the solid to the liquid phase

From to the gas phase to the solid phase

From the solid to the gas phase

*

8.



(1)

What is putrefaction?

Most animal and vegetable oils undergo decomposition over time in stored condition

*

Most animal and vegetable oils undergo decomposition over time in stored condition, when heated

Most animal and vegetable oils undergo decomposition over time in stored condition, when heated beyond a particular temperature which varies for each and every oil

9.



(1)

Fuel must be heated to its _____ before it starts burning.

A) ignition temperature

10.



(1)

What is an inert condition ?

When the oxygen has been eliminated from a tank

When the oxygen is 10% by volume in a tank

A condition in which the oxygen content throughout the atmosphere of a tank has been reduced to 8% or less by volume by the addition of inert gas.

*

When the oxygen is 21% by volume in a tank

1.



(1)

Substances which catch fire are called

acids

bases

combustible

*

burners

2.



(1)

What is cathodic protection ?

Cathodes placed on the hull of a ship

Anodes placed in the stern of a ship

Protection of the hull of a ship

The prevention of corrosion by electrochemical techniques

*

3.



(1)

What is Nitrogen Asphxiation?

It is unconsciousness caused by Nitrogen can lead to death

It is unconsciousness caused by Inert gas can lead to death

Nitrogen, which is non-flammable, non-toxic and colourless

Nitrogen which is undetectable to the human senses

*

4.



(1)

What is Toxicity

Toxicity is the degree to which a substance or mixture of substances can harm humans.

Toxicity means poisonous and affects you on oral consumption

Toxicity means Acidic

None of the above

*

5.



(1)

What is Time Weighted Average?

Exposure time

Short Term exposure time

Highest exposure time

Averaging all the exposure times for a time period 8 hours

*

6.



(1)

What is lower flammable limit ?

The concentration of a hydrocarbon gas in air below which there is insufficient hydrocarbon to support combustion

The limit where there is insufficient oxygen to support combustion

The limit where there is too much oxygen to support combustion

The limit for man entry of personnel into tanks

*

7.



(1)

What is Upper flammable limit ?

The limit for man entry of personnel into tanks

The concentration of a hydrocarbon gas in air above which there is insufficient oxygen to support combustion

The limit where there is insufficient inert gas to support combustion

The limit where there is too much inert gas to support combustion

*

8.



(1)

Which is a non-* of charges ?

Toluene is a Non-accumulator of charges

Cyclohexane is a Non-accumulator of charges

Alcohols is an Accumulator of charges

Kotones is a Non-accumulator of charges

*

9.



(1)

What is pour point ?

The temperature at which oil gets frozen

The lowest temperature at which a petroleum oil will remain fluid

The temperature at which oil cannot be discharged

The temperature at which oil needs to be heated

*

(1)

What is Auto-ignition ?

The ignition of a combustible material without initiation by a spark or flame, when the material has been raised to a temperature at which self-sustaining combustion occurs.

Automatic ignition of material in a hot atmosphere

Ignition of materials when they come in contact with each other

Ignition caused by mixture of vapours given off by cargoes

*

1.



(1)

What factor mainly affects Vapour cloud dilution rate?

Quantity of Spill

Weather conditions

Thermal inversion

diameter of the vapour cloud



2.



(1)

What is bonding ?

Connecting together of cargo pipe line flanges

The connecting together of metal parts to ensure electrical continuity

Making a ship to shore cable connection

Connecting together flexible couplings on deck



3.



(1)

Rapid combustion takes place in coal mines.

True



False

4.



(1)

What is lower flammable limit ?

The concentration of a hydrocarbon gas in air below which there is insufficient hydrocarbon to support combustion

The limit where there is insufficient oxygen to support combustion

The limit where there is too much oxygen to support combustion

The limit for man entry of personnel into tanks



5.



(1)

Which of the following is a supporter of combustion?

cooking gas

nitrogen gas

oxygen gas

producer gas



6.



(1)

Sun's heat and lightning strike cause spontaneous combustion in forests.

True



False

7.



(1)

Substances which catch fire are called acids.

True



False



8.



(1)

Burning of candle is an example of slow oxidation.

True

False

9.



(1)

What is flash point ?

The lowest temperature at which a liquid gives off sufficient gas to form a flammable gas mixture near the surface of the liquid.

The temperature at which the gas is not flammable

The temperature at which the liquid stops emitting gas

The temperature at which an explosion is not possible

10.



(1)

Tank clingage depends on:

surface tension only

cohesive and adhesive forces

cohesive, adhesive forces and surface tension

cohesive forces, adhesive forces and the liquids melting point

SET 3

1.



(1)

Oxygen Analyzer: what is your key finding in measuring oxygen level ?

Portable oxygen analyzers are normally used to determine whether the atmosphere inside an enclosed space (cargo tank for example) may be considered fully inerted or safe for entry.

Fixed oxygen analyzers can be used for monitoring the oxygen content of the boiler uptakes and the inert gas main.

The common types of oxygen analyzers in use are, Paramagnetic sensors and Electrochemical sensors.

Oxygen is strongly paramagnetic (i.e. it is attracted by the poles of a magnet but does not retain any permanent magnetism) whereas most other common gases are not.

2.



(1)

Key Features and Measurement of an Effective Safety Culture; identify one statement that identifies an effective safety culture

Recognition that all accidents are preventable and only usually occur following unsafe actions or a failure to follow established procedures

Individual seafarers assume responsibility for safety rather than relying on others to provide it

Through mutual respect, increasing confidence in the value of the safety culture results in a more effective Safety Management System

A safety management system that is always setting targets for continuous improvement, with a goal of zero accidents



3.



(1)

What is the maximum interval of time between sampling and analysing for each sampling head location sequentially?

Not exceeding 50 minutes interval

Not exceeding 40 minutes interval

Not exceeding 30 minutes interval

Not exceeding 60 minutes interval



4.



(1)

For entering an enclosed space, 21% _____ is necessary.

Oxygen

carbondioxide

Nitrogen



5.



(1)

What is the least a person should do before entering machinery spaces?

Wear appropriate personal protective equipment

Inform the bridge

Inform his superiors



6.



(1)

Class D fires involve

Solid cellulosic materials such as wood, paper, clothing, etc.

Vapour/air mixture over the surface of flammable liquids

Energised electrical equipment

Combustible materials such as magnesium, sodium, etc.



7.



(1)

The hydrocarbon content in the atmosphere of a pump room is measured using a

Tankscope

Explosimeter

The Draeger instrument

Alarm system detector



8.



(1)

What is the limitation of a combustible gas detector of catalytic combustion type?

It cannot be used for measurement in air

It cannot be used for measurement in nitrogen

It cannot be used for measurement in methane

It cannot be used for measurement in oxygen



9.



(1)

The manifold pressure when loading oil cargo should be

Above the cargo tank pressure

Below the cargo tank pressure

Above atmospheric pressure

'Zero'



10.



(1)

What is the maximum reliable shelf life of a filter gas mask canister if the seal is unbroken?

1 year from the date of manufacture

3 years from the date of manufacture

5 years from the date of manufacture

7 years from the date of manufacture

1.



(1)

Vapours having low relative density than air will be found at the _____ of the enclosed space.

middle

top

bottom

2.



(1)

Which step is NOT generally taken when gas-freeing a tank?

Washing the tank interior with sea water

Application of degreasing solvents

Removal of corrosion products and sludge

Fresh air ventilation

3.



(1)

The reading of a combustible gas indicator indicates the percentage of the

lower explosive limit of a flammable gas concentration

upper explosive limit of a flammable gas concentration

concentration of flammable gas in a compartment

concentration by weight of nonflammable gas in a compartment

4.



(1)

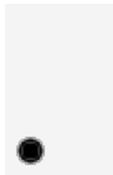
The manifold pressure when loading oil cargo should be

Above the cargo tank pressure

Below the cargo tank pressure

Above atmospheric pressure

'Zero'



5.



(1)

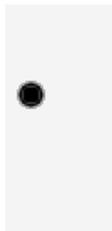
A crew member suffering from hypothermia should be given _____.

a small dose of alcohol

treatment for shock

a large meal

a brisk rub down



6.



(1)

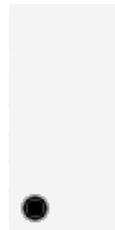
What instrument is used to measure hydrocarbon gas in an inert atmospheres ?

Explosimeter

The Draeger instrument

The Multi-Gas detector

Tankscope



7.



(1)

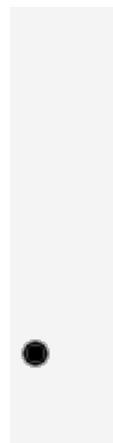
Operating Principle of the Infrared instrument: identify the key principle that leads to detection of hydrocarbon gas,

The infra-red (IR) sensor is a transducer for the measurement of the concentration of hydrocarbons by the absorption of infra-red radiation.

The vapor to be monitored reaches the measuring chamber by diffusion or by means of a pump.

An infrared source illuminates a volume of gas that has entered inside the measurement chamber.

The gas absorbs some of the infrared wavelengths as the light passes through it, while others pass through it completely unattenuated.



8.



(1)

Areas like cargo residues, cargo and tank coatings must be suspected for oxygen-deficient areas.

True



False

9.



(1)

What should be prohibited in the vicinity of battery rooms?

Painting

Washing

Smoking



10.



(1)

Safe ship operations include:

Running the ship profitably

Deliver cargo safely

No damage to the environment



1.



(1)

Which of the following current level leads to muscular contraction?

0.01A

0.015A



0.5A

0.10A

2.



(1)

Is an enclosed space entry permit required for entering pump room?

The Master will decide based on findings by Chief Officer

The chief officer will assess the situation and decide

Yes, the checklist, permit and other procedures apply for all enclosed spaces



No, the pumproom has a fixed fan for ventilation and frequently visited

3.



(1)

What should you do when the alarm bell on a self-contained breathing apparatus sounds?

Immediately evacuate the contaminated area.

Open the bypass valve on the regulator and immediately evacuate the contaminated area.

Move the tank selector lever to the full tank position and reset the alarm so you can evacuate the area when it sounds again.

Move the reserve lever to the 'reserve' position on the regulator and reset the alarm so you can evacuate the area when it sounds again.



4.



(1)

Experience indicates that hazardous potentials in respect of static electricity do not occur if the velocity of liquid, while loading is: Find the correct answer

Below 7 m/s

Above 7 m/s

Above 10 m/s

Below 3 m/s



5.



(1)

Electrochemical Sensors: identify a key finding for its use on board tankers

Electrochemical sensors are based on the fact that cells can be constructed that react with the measured gas and generate an electric current.

The Cell current can be measured, and the amount of gas determined.

The sensors are low cost and are small enough to allow several to be incorporated into the same instrument, making them suitable for use in multi-gas detectors.

There are numerous electrochemical sensors available covering a number of gases which may be present in the shipboard environment, such as ammonia, hydrogen sulfide, carbon monoxide, carbon dioxide and sulfur dioxide.



6.



(1)

Which step is NOT generally taken when gas-freeing a tank?

Washing the tank interior with sea water

Application of degreasing solvents

Removal of corrosion products and sludge

Fresh air ventilation



7.



(1)

Which of the following conditions represents a particular advantage of using a positive pressure type self-contained breathing apparatus in an atmosphere that is immediately dangerous to life or health?

The equipment is compact and the wearer can work in confined spaces without difficulty.

The equipment used is lightweight and easy to wear by reducing physical strain on the wearer.

The average operating time for most air cylinders is over an hour.

The positive pressure in the face piece prevents contaminated air from entering the face piece.



8.



(1)

Which of the following is an entry activity?

Permit closed

Confirmation of removal of all equipment

Entry permit issued



9.



(1)

Which of the following is a particular challenge when entering fuel oil tanks?

slippery surface

corrosion

low lighting

sediments



10.



(1)

Water extinguishes a fire by

Heat removal or cooling

Smothering or oxygen exclusion

Flame inhibition

1.



(1)

What is an EEBD used for ?

For escape from machinery or accommodation spaces in the event of a fire

For safety when entering a tank

For rescuing a person from a tank

For supplying oxygen to a victim

2.



(1)

To detect the presence of explosive gases in any space, tank, or compartment, you should use a

flame scanner

halide torch

combustible gas indicator

detector filament

3.



(1)

A man has suffered a burn on the arm. There is extensive damage to the skin with charring present. How is this injury classified using standard medical terminology?

Dermal burn

Third-degree burn

Major burn

Lethal burn

4.



(1)

Which of the following is required to be included in the fireman's (emergency) outfit?

Chemical protection face shield

Approved work vest

Self-contained breathing apparatus

5 cell approved flashlight

5.



(1)

What is the least you must do before entering a cofferdam in the engine room?

Open up the manhole and enter the cofferdam

Complete an enclosed space checklist

Enter the cofferdam and simultaneously start ventilation

6.



(1)

Which of the following activity is done on completion of work?

Closing and securing all openings

Satisfactory lighting

Intimating all the related parties about the intended entry

7.



(1)

Carbon dioxide extinguishes a fire by

Heat removal or cooling

Smothering or oxygen exclusion

Flame inhibition

8.



(1)

When the percentage oxygen is between _____ one may feel, fainting, nausea vomiting.

19.5% and 16%

16% and 12%

12% and 10%

10% and 8%

9.



(1)

If there has been a fire in a closed unventilated compartment it may be unsafe to enter because of

- excess hydrogen
- unburned carbon particles
- excess nitrogen
- a lack of oxygen

10.



(1)

Which of the following current level stops the heart functioning and blood circulation?

- 0.01A
- 0.015A
- 0.5A
- 0.10A

1.



(1)

The permit to work system as recommended by the Code of Safe Working Practices for Merchant Seaman has how many sections ?

- Two
- Three
- Four
- Five

2.



(1)

What marking must be clearly visible on a crane?

- Manufacturer's logo
- Safe working load
- Make of the crane

3.



(1)

A cargo tank should be considered an enclosed space

if the previous cargo was of flammable nature

always irrespective of nature of cargo carried previously

if the previous cargo was of toxic nature

if the chief officer declares it to be so after testing

4.



(1)

What is the maximum reliable shelf life of a filter gas mask canister if the seal is unbroken?

1 year from the date of manufacture

3 years from the date of manufacture

5 years from the date of manufacture

7 years from the date of manufacture

5.



(1)

If there has been a fire in a closed unventilated compartment it may be unsafe to enter because of

excess hydrogen

unburned carbon particles

excess nitrogen

a lack of oxygen

6.



(1)

The permit to work should not last for more than

12 hours

24 hours

36 hours

48 hours

7.



(1)

What are all the three basic stages which leads to a potential static hazard and necessary for an electrostatic ignition?

Viscosity, charge separation and temperature

Charge accumulation, velocity and density

Charge separation, charge accumulation and electrostatic discharge

Flammable gas, air and heat source

8.



(1)

When entering the pump room of a tanker to rescue an unconscious person, which items of the equipment listed are you required to be using?

Protective clothing and explosion-proof flashlight

Combustible gas indicator and canister gas mask

Flame safety lamp and resuscitation equipment

Self-contained breathing apparatus and lifelines

9.



(1)

For what minimum duration can an EEBD be used ?

5 minutes

10 minutes

15 minutes

20 minutes

10.



(1)

For entering an enclosed space, 21% _____ is necessary.

Oxygen

carbondioxide

Nitrogen

1.



(1)

An immersion suit should be fire retardant

True

False

2.



(1)

A tank or compartment is "gas free" when there is an absence of dangerous concentrations of

any combustible liquid

all flammable liquids

flammable or toxic gases

residues from cargo oil

3.



(1)

Ventilation should be stopped about 10 hours before starting the tests.

True

False

4.



(1)

Presence of cargo vapour or inert gas should always be suspected in cargo tanks.

True

False

5.



(1)

What is the typical measuring range for an oxygen analyzer?

10 ppm volume oxygen in air

0 ~ 5% volume oxygen in air

0 ~ 25% volume oxygen in air

0 ~ 100% volume oxygen in air

6.



(1)

Before entering a fuel tank that has been cleaned, it should be checked with an oxygen indicator and a/an

Halide torch

flame safety lamp

Orsat apparatus

combustible gas indicator

7.



(1)

Toxic gases are evolved during the process of putrefaction.

True



False

8.



(1)

During night operations, lighting should be directed towards the helicopter

True



False

9.



(1)

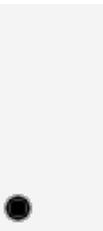
The permit to work system as recommended by the Code of Safe Working Practices for Merchant Seaman has how many sections ?

Two

Three

Four

Five



10.



(1)

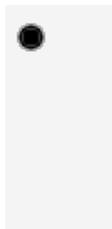
What happens when certain synthetic polymers are vigorously rubbed together and separated subsequently?

Electrical charge separation occurs

Electrical charge accumulation occurs

Electrostatic discharge occurs

None of the above



SET 4

1.



(1)

The hot gases are trapped in the gap between the flanged joints.

True

False



2.



(1)

Resistors can reduce the current flow in the circuit.

True

False

3.



(1)

Intrinsically safe equipment promotes the ignition of explosive mixture.

True

False



4.



(1)

During the ignition of a flammable mixture, high pressure is developed.

True

False

1.



(1)

Intrinsically safe equipment promotes the ignition of explosive mixture.

True

False



2.



(1)

The hot gases are trapped in the gap between the flanged joints.

True

False



3.



(1)

During the ignition of a flammable mixture, high pressure is developed.

True

False

4.



(1)

Resistors can reduce the current flow in the circuit.

True

False

1.



(1)

Where can electrical equipment be classified as exit are used?

In Zones 0, 1 and 2

In Zones 1 and 2

In Zones 0 and 2

In Zones 0 and 1

2.



(1)

Why is the 'maximum surface temperature' identified, for electrical equipment used in hazardous areas onboard LNG carriers?

The limit is on minimum surface temperature on LNG carriers as the cargo is cryogenic

Equipment should operate within these limits to reduce the power and boil-off consumption

Equipment should operate within these limits to prevent the formation of a hot surface

Equipment should operate within these limits to reduce the heat transfer to the cryogenic cargo

3.



(1)

Onboard an LNG carrier, what is the Zone classification of the deck?

Zone E

Zone 1

Zone 2

Zone 0

4.



(1)

Pick the IEC symbol for explosion proof electrical protection?

ex - e

ex - n

ex - d

ex - p



5.



(1)

A radar tank gauge is stamped Eexia IIC T4. What is the maximum surface temperature allowed?

4500C

850C

2000C

1350C



6.



(1)

The location of electrical equipment is often classified by Zones. What does Zone 1 mean?

Flammable material is under control – explosion or fire can never occur

Flammable material is under control – explosion or fire can occur in abnormal conditions

Flammable material is present continuously within the LEL and UEL

Flammable material is present – an explosive mixture can form in normal operations



7.



(1)

What should the Master of an LNG carrier do if the CTS fails?

Use the gauging reports of shore receiving tanks.

Inform your company and receivers. Use manual gauging and tank tables

Inform the terminal and activate ESD button



Suspend cargo operation till CTS is repaired

8.



(1)

Which are the international bodies that provide regulatory standards for electrical equipment certification?

IIEC and CENELEC

IEC and CENELEC

IIEC and ISO

IMO and ISO

9.



(1)

What is the gas group classification of an LNG carrier based on the gas that is likely to be present in the hazardous spaces onboard?

Group IIC

Group IIB

Group I

Group IIA

10.



(1)

How is intrinsic safety achieved for electrical circuits used in hazardous areas?

By limiting the ignition energy and surface temperature that can arise during operation

By limiting the number of equipment used in a space

By increasing mechanical ventilation to the area

By installing machinery which have higher power and thus shorter operation time

1.



(1)

A radar tank gauge is stamped Eexia IIC T4. What is the maximum surface temperature allowed?

4500C

850C

2000C

1350C

2.



(1)

What is the gas group classification of an LNG carrier based on the gas that is likely to be present in the hazardous spaces onboard?

Group IIC

Group IIB

Group I

Group IIA

3.



(1)

Onboard an LNG carrier, what is the Zone classification of the deck?

Zone E

Zone 1

Zone 2

Zone 0

4.



(1)

The location of electrical equipment is often classified by Zones. What does Zone 1 mean?

Flammable material is under control – explosion or fire can never occur

Flammable material is under control – explosion or fire can occur in abnormal conditions

Flammable material is present continuously within the LEL and UEL

Flammable material is present – an explosive mixture can form in normal operations

5.



(1)

What should the Master of an LNG carrier do if the CTS fails?

Use the gauging reports of shore receiving tanks.

Inform your company and receivers. Use manual gauging and tank tables

Inform the terminal and activate ESD button

Suspend cargo operation till CTS is repaired

6.



(1)

Which are the international bodies that provide regulatory standards for electrical equipment certification?

IIEC and CENELEC

IEC and CENELEC

IIEC and ISO

IMO and ISO

7.



(1)

Why is the 'maximum surface temperature' identified, for electrical equipment used in hazardous areas onboard LNG carriers?

The limit is on minimum surface temperature on LNG carriers as the cargo is cryogenic

Equipment should operate within these limits to reduce the power and boil-off consumption

Equipment should operate within these limits to prevent the formation of a hot surface

Equipment should operate within these limits to reduce the heat transfer to the cryogenic cargo

8.



(1)

How is intrinsic safety achieved for electrical circuits used in hazardous areas?

By limiting the ignition energy and surface temperature that can arise during operation

By limiting the number of equipment used in a space

By increasing mechanical ventilation to the area

By installing machinery which have higher power and thus shorter operation time

9.



(1)

Where can electrical equipment be classified as exit are used?

In Zones 0, 1 and 2

In Zones 1 and 2

In Zones 0 and 2

In Zones 0 and 1

10.



(1)

Pick the IEC symbol for explosion proof electrical protection?

ex - e

ex - n

ex - d

ex - p



SET 5

1.



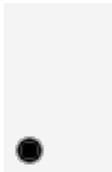
(1)

In cleaning up an oil spill, straw is an example of a

chemical agent

blocker

sorbent



2.



(1)

Heavy fuel oils when spilled are _____.

more harmful to sea life than lighter oils

easier to clean up than lighter refined oils

less harmful to sea life than lighter oils

not a real threat to marine life



3.



(1)

Identify, which one of these regulations had the largest impact in reducing oil spill from ships in the maritime world ?

Segregated ballast tanks, crude oil washing systems, and dedicated clean ballast tanks

Double hulls on tankers

Pumping, piping and discharge arrangements.

Cargo monitor and control system.



4.



(1)

For a vessel approaching a port of reception, what the vessel must check before the transfer of residues from the ship?

Ports and terminals must provide reception facilities

Ports and terminals must have Certificates of Adequacy

Ports must Apply for a Certificate of Adequacy.

Port Reception facility operations procedures

5.



(1)

Which one of the following discharges have the most long-term ecological impact due to pollution?

Water ballast in oil fuel tanks.

Ballast added to cargo tanks.

Discharges of clean and segregated ballast

Machinery space bilges.

6.



(1)

Annex VI prohibits the deliberate emissions of _____ which include halon and chlorofluorocarbons.

Ozone depleting substances

Ozone enhancing substances

Sulphur sensitive substances

7.



(1)

You are preparing to contain an oil spill. You must first receive approval from the coastal authorities prior to _____.

employing a boom

using suction equipment

applying chemical agents

deploying skimmers

8.



(1)

Your vessel is taking on fuel when a small leak develops in the hose. You order the pumping stopped. Before you resume pumping, you should

- notify the terminal superintendent
- place a large drip pan under the leak and plug the scuppers
- repair the hose with a patch
- replace the hose

9.



(1)

If you detect oil in the water around your vessel while discharging fuel, the FIRST thing to do is _____ .

- try to find out where the oil is coming from
- call the Master
- have the pumpman check the discharge piping
- shutdown operations

10.



(1)

Containment and Damage Control: which step is of highest importance for spill/damage control?

- All personnel entering a contaminated space shall wear PPE
- For each pair entering a space, a trained person with appropriate equipment, will be on standby.
- Actions toward controlling the immediate spread of the spill
- Action steps minimizing the impact to the ship and crew.

1.



(1)

What assigns for each new ship a calculable figure that will denote its total emissions of CO2 from combustion of fuel.

- Energy Efficiency Design Index
- Energy Inefficiency Design Index
- SOX Design Index
- VOX Design Index

2.



(1)

When did Annex VI take effect?

May 19, 2005



October 12, 1991

February 25, 1997

July 3, 2015

3.



(1)

The extent of MARPOL compliance is determined by:

Vessel type, size and speed

Vessel flag, type and age

Vessel type, size and crew

Vessel type, size and age



4.



(1)

If you detect oil in the water around your vessel while discharging fuel, the FIRST thing to do is _____ .

try to find out where the oil is coming from

call the Master

have the pumpman check the discharge piping

shutdown operations



5.



(1)

MARPOL applies to:

applies to all ships, oil platforms, barges and private yachts



tankers greater than 150GT and cargo ships greater than 400GT

applies to all ships, oil platforms, barges and private yachts and hydrofoils

applies to all ships, oil platforms, barges and private yachts and hovercrafts

6.



(1)

Containment and Damage Control: which step is of highest importance for spill/damage control?

All personnel entering a contaminated space shall wear PPE

For each pair entering a space, a trained person with appropriate equipment, will be on standby.

Actions toward controlling the immediate spread of the spill

Action steps minimizing the impact to the ship and crew.



7.



(1)

When you have completed bunkering operations, the hoses should be _____.

blown down with inert gas

drained into drip pans or tanks

stowed with their ends open for venting

steam cleaned and flushed with hot water



8.



(1)

Identify, which one of these regulations had the largest impact in reducing oil spill from ships in the maritime world ?

Segregated ballast tanks, crude oil washing systems, and dedicated clean ballast tanks

Double hulls on tankers

Pumping, piping and discharge arrangements.

Cargo monitor and control system.



9.



(1)

Your vessel is taking on fuel when a small leak develops in the hose. You order the pumping stopped. Before you resume pumping, you should

notify the terminal superintendent

place a large drip pan under the leak and plug the scuppers

repair the hose with a patch

replace the hose



10.



(1)

What annex deals with regulations for the prevention of air pollution from ships?

Annex IV

Annex III

Annex I

Annex VI

1.



(1)

Your vessel is taking on fuel when a small leak develops in the hose. You order the pumping stopped. Before you resume pumping, you should

notify the terminal superintendent

place a large drip pan under the leak and plug the scuppers

repair the hose with a patch

replace the hose

2.



(1)

What is the most important regulatory requirement for the master arriving at the lightering position?

Lightering of Oil and Hazardous Material Cargoes Pre-arrival notices.

Reporting of incidents.

Designation of lightering zones.

Factors considered in designating lightering zones.

3.



(1)

Most minor spills of oil products are caused by

equipment failure

human error

major casualties

unforeseeable circumstances

4.



(1)

Containment and Damage Control: which step is of highest importance for spill/damage control?

All personnel entering a contaminated space shall wear PPE

For each pair entering a space, a trained person with appropriate equipment, will be on standby.

Actions toward controlling the immediate spread of the spill

Action steps minimizing the impact to the ship and crew.

5.



(1)

Containment and Damage Control: identify which step is of the highest importance for personal protection?

Don required PPE as determined from the MSDS.

Fight fire (if any), being careful to use firefighting methods compatible with the material involved.

Shut off or otherwise stem the spill at the source.

Contain liquid material using barriers, such as absorbents, rags or other equipment suitable to dam the flow.

6.



(1)

Segregated ballast tanks are required to be fitted on

Every crude oil and new product tanker of 20,000dwt and above

Every crude oil tanker of 20,000dwt and above and every new product tanker of 30,000dwt and above

Every crude oil and new product tanker of 30,000dwt and above

7.



(1)

For a vessel approaching a port of reception, what the vessel must check before the transfer of residues from the ship?

Ports and terminals must provide reception facilities

Ports and terminals must have Certificates of Adequacy

Ports must Apply for a Certificate of Adequacy.

Port Reception facility operations procedures

8.



(1)

What is used to incinerate solid and liquid wastes arising from the operation of the ship?

Incinerator

Oily water separation

ISM Screen

Fire Sprinkler Cleaner

9.



(1)

MARPOL applies to:

applies to all ships, oil platforms, barges and private yachts
tankers greater than 150GT and cargo ships greater than
400GT

applies to all ships, oil platforms, barges and private yachts
and hydrofoils

applies to all ships, oil platforms, barges and private yachts
and hovercrafts

10.



(1)

Oil Pollution Regulations require any transfer, or discharge of oil, or oily mixtures be recorded in the

Pollution Control Record

Bridge log

Oil Record book



Masters log

1.



(1)

What annex deals with regulations for the prevention of air pollution from ships?

Annex IV

Annex III

Annex I

Annex VI



2.



(1)

Segregated ballast tanks are required to be fitted on

Every crude oil and new product tanker of 20,000dwt and above

Every crude oil tanker of 20,000dwt and above and every new product tanker of 30,000dwt and above

Every crude oil and new product tanker of 30,000dwt and above

3.



(1)

The extent of MARPOL compliance is determined by:

Vessel type, size and speed

Vessel flag, type and age

Vessel type, size and crew

Vessel type, size and age

4.



(1)

The Volatile Organic Compound (cargo vapor) Management Plan is required on what type of vessel?

Tank sensors

Container vessels

Ro-ro vessels

Crude Oil Carriers

5.



(1)

Heavy fuel oils when spilled are _____.

more harmful to sea life than lighter oils

easier to clean up than lighter refined oils

less harmful to sea life than lighter oils

not a real threat to marine life

6.



(1)

Containment and Damage Control: identify which step is of the highest importance for personal protection?

Don required PPE as determined from the MSDS.

Fight fire (if any), being careful to use firefighting methods compatible with the material involved.

Shut off or otherwise stem the spill at the source.

Contain liquid material using barriers, such as absorbents, rags or other equipment suitable to dam the flow.

7.



(1)

When you have completed bunkering operations, the hoses should be _____.

blown down with inert gas

drained into drip pans or tanks

stowed with their ends open for venting

steam cleaned and flushed with hot water

8.



(1)

Your vessel is carrying 24,000 barrels (3816 cubic metres) of oil for discharge. The cargo hoses have an inside diameter of eight inches. The container around the loading manifold must hold _____.

three barrels

four barrels

six barrels

eight barrels

9.



(1)

You are preparing to contain an oil spill. You must first receive approval from the coastal authorities prior to _____.

employing a boom

using suction equipment

applying chemical agents

deploying skimmers

10.



(1)

Annex VI prohibits the deliberate emissions of _____ which include halon and chlorofluorocarbons.

Ozone depleting substances



Ozone enhancing substances

Sulphur sensitive substances

1.



(1)

Containment and Damage Control: which step is of highest importance for spill/damage control?

All personnel entering a contaminated space shall wear PPE

For each pair entering a space, a trained person with appropriate equipment, will be on standby.

Actions toward controlling the immediate spread of the spill



Action steps minimizing the impact to the ship and crew.

2.



(1)

Your vessel is carrying 24,000 barrels (3816 cubic metres) of oil for discharge. The cargo hoses have an inside diameter of eight inches. The container around the loading manifold must hold _____.

three barrels



four barrels

six barrels

eight barrels

3.



(1)

Identify, which one of these regulations had the largest impact in reducing oil spill from ships in the maritime world ?

Segregated ballast tanks, crude oil washing systems, and dedicated clean ballast tanks

Double hulls on tankers

Pumping, piping and discharge arrangements.

Cargo monitor and control system.

4.



(1)

It is generally NOT allowed to clean up an oil spill by using _____.

- a boom
- suction equipment
- chemical agents
- skimmers

5.



(1)

In cleaning up an oil spill, straw is an example of a

- chemical agent
- blocker
- sorbent

6.



(1)

What is the most important regulatory requirement for the master arriving at the lightering position?

- Lightering of Oil and Hazardous Material Cargoes Pre-arrival notices.
- Reporting of incidents.
- Designation of lightering zones.
- Factors considered in designating lightering zones.

7.



(1)

The total quantity of oil discharged at sea on new tankers must not exceed:

- 1/15000 of the total quantity of that particular cargo of which the residue formed part
- 1/20000 of the total quantity of that particular cargo of which the residue formed part
- 1/25000 of the total quantity of that particular cargo of which the residue formed part
- 1/30000 of the total quantity of that particular cargo of which the residue formed part

8.



(1)

MARPOL applies to:

applies to all ships, oil platforms, barges and private yachts
tankers greater than 150GT and cargo ships greater than
400GT

applies to all ships, oil platforms, barges and private yachts
and hydrofoils

applies to all ships, oil platforms, barges and private yachts
and hovercrafts

9.



(1)

Your vessel is taking on fuel when a small leak develops in the hose. You
order the pumping stopped. Before you resume pumping, you should

notify the terminal superintendent

place a large drip pan under the leak and plug the scuppers

repair the hose with a patch

replace the hose

10.



(1)

Heavy fuel oils when spilled are _____.

more harmful to sea life than lighter oils

easier to clean up than lighter refined oils

less harmful to sea life than lighter oils

not a real threat to marine life

SET 6

1.



(1)

Capacitance gauge consists of two probes.

True

False

2.



(1)

A starting interlock in the ODME ensures

the monitoring equipment is fully operational before commencing the discharge of the oil effluent at sea

prevents malfunctioning of the system

that an alarm is given off when the system malfunctions

stops discharge of the oil effluent when the oil content exceeds 5 part per million

3.



(1)

A gas venting system on a tanker that has gas lines in each tank connected to a common gas main running the full length of the ship is called:

A gas-main system

A common-main system

A vent-main system

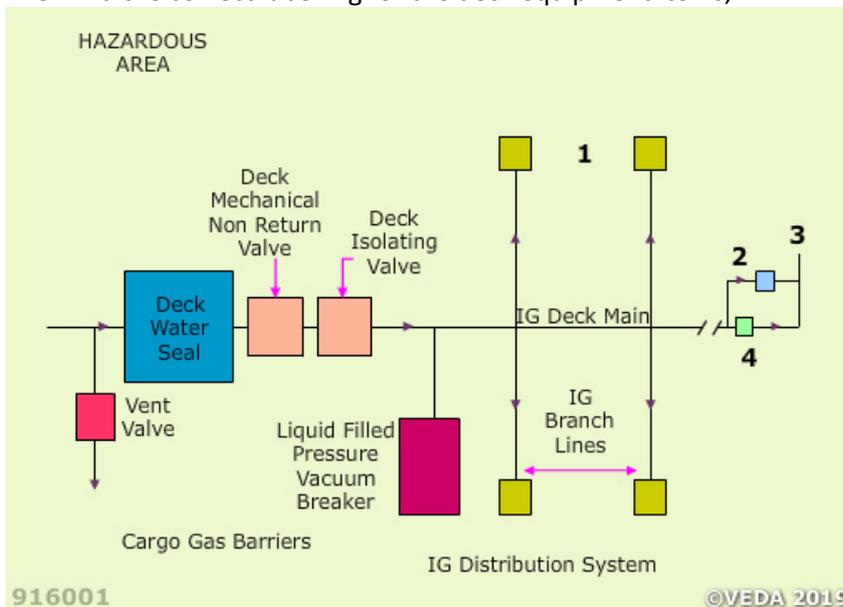
An independent system

4.



(1)

The inert gas is delivered to the cargo tanks by an inert gas deck main line. Find the correct labelling for the deck equipment items,



1-Pressure/Vacuum Valve; 2- Cargo tank valves; 3- Mast Riser; 4-Isolating Valve

1-Mast Riser; 2-Isolating Valve; 3-Cargo tank valves ; 4- Pressure/Vacuum Valve

1-Cargo tank valves; 2- Pressure/Vacuum Valve; 3- Mast Riser; 4-Isolating Valve

1-Isolating Valve; 2- Pressure/Vacuum Valve; 3- Mast Riser;
4-Cargo tank valves

5.



(1)

LNG liquid pressure is the function of liquid density and liquid level.

True



False

6.



(1)

Pneumatically Operating Valve; what is the most critical component for correct valve operation, based on your shipboard experience of running such a system?

Valve orifice

Valve stem

The Diaphragm



The valve springs

7.



(1)

Advantages of using inert gas,pick one that is the main reason for its application,

No explosive mixtures can form in the tank.



Reduces corrosion.

Voyage cleaning of tanks is unnecessary.

Reduces pumping time because of positive pressure in the tanks.

8.



(1)

Which statement about a centrifugal cargo pump is TRUE?

It is a positive displacement pump.

It must have a positive suction.



Increasing rotation speed will decrease discharge pressure.

9.



(1)

The total capacity of the slop tank or tanks should be not less than what percentage of the oil-carrying capacity of the vessel ?

3%

5%

7%

10%

10.



(1)

Cargo system Valves can be categorized in many ways: identify one operation that can be classified as, manual remote,

Local or remote actuation: Local control means the operator is at the valve and controls it directly.

When the valve is located some distance from the operator such as at the bottom of the cargo tank, it is then necessary to install a reach rod for remote actuation.

A reach rod assembly is a series of steel rods coupled to connect the stem of the valve in the tank to a valve operating stand on deck.

In automated cargo systems, the valves are frequently operated using hydraulic or pneumatic motors connected to the stem

1.



(1)

Acidic solutions are formed in cargo tanks of tankers

when sulphur compounds in oil cargoes react with water

when sulphur compounds in oil cargoes react with oxygen

when sulphur compounds in oil cargoes react with hydrocarbon gas

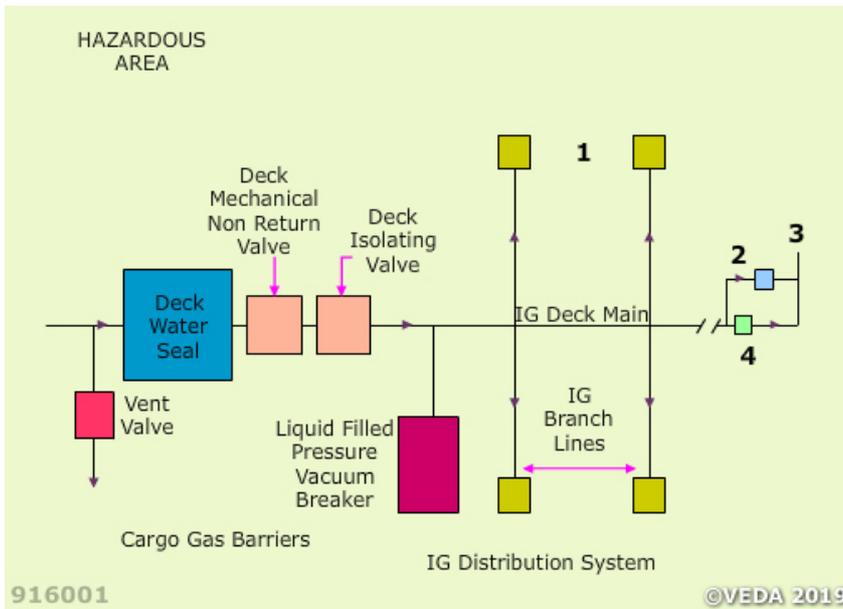
when sulphur compounds in oil cargoes react with chemicals

2.



(1)

Tank level measurement of free water by gauging tape and plumb bob: find the labeling combination that is correct,



1 Water Innage; 2-Water Cut; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Ullage; 4- Water Cut

1- Water Cut; 2- Water Cut; 3- Water Innage ; 4- Water Ullage

3.



(1)

LNG liquid pressure is the function of liquid density and liquid level.

True



False

4.



(1)

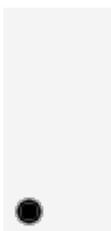
An inert gas generator burns what oil to generate inert gas ?

Crude oil

Heavy oil

Diesel oil

Gas oil



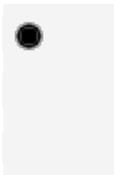
5.



(1)

Float gauges can only record liquid level greater than ___ inches.

Four
five
ten

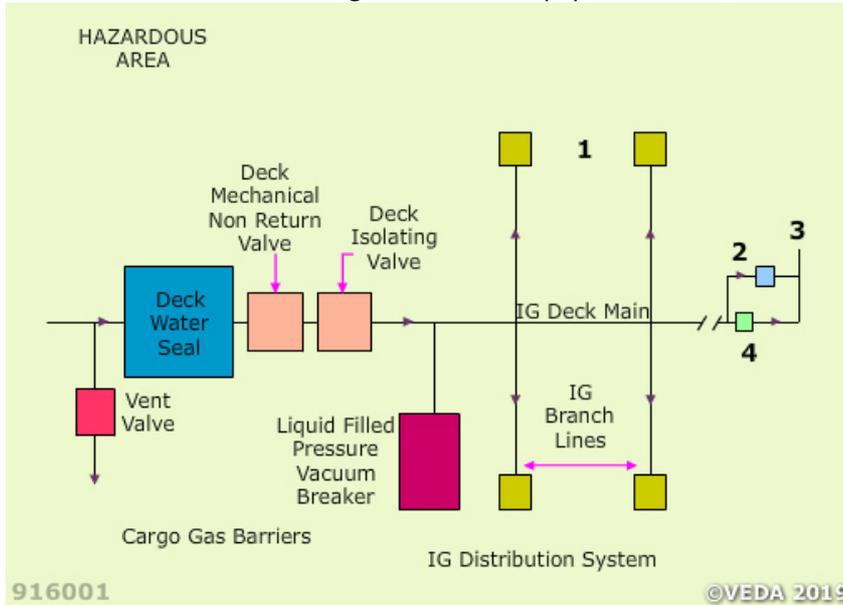


6.



(1)

The inert gas is delivered to the cargo tanks by an inert gas deck main line. Find the correct labelling for the deck equipment items,



1-Pressure/Vacuum Valve; 2- Cargo tank valves; 3- Mast Riser; 4-Isolating Valve

1-Mast Riser; 2-Isolating Valve; 3-Cargo tank valves ; 4- Pressure/Vacuum Valve

1-Cargo tank valves; 2- Pressure/Vacuum Valve; 3- Mast Riser; 4-Isolating Valve

1-Isolating Valve; 2- Pressure/Vacuum Valve; 3- Mast Riser; 4-Cargo tank valves



7.



(1)

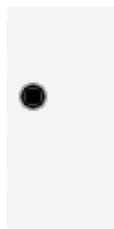
Back flow of inert gas is prevented by:

An isolating valve

The deck water seal

A valve provided in the scrubber

The deck mechanical non-return valve



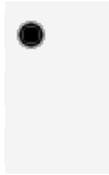
8.



(1)

Continuous exposure of the float to the fluctuation in sea level can damage the ____.

- Tape tensioning device
- diaphragm
- sensors



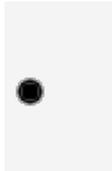
9.



(1)

The float gauge is provided with a ____ valve.

- Ball
- gate
- pressure



10.



(1)

Tank coating requirements developed by IMO are applicable to

- new crude oil tankers of 5000 GRT and above
- new crude oil tankers of 5000 DWT and above
- new crude oil tankers of 500 GRT and above
- new crude oil tankers of 500 DWT and above



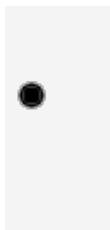
1.



(1)

A deepwell pump is a type of _____.

- screw pump
- centrifugal pump
- eductor
- gear pump



2.



(1)

Bottom washing:

- is done to remove traces of the previous cargo
- will remove heavy wax sediments at the tank bottom
- is not effective when carrying a small quantity of refined products



cannot be done with chemical solvents

3.



(1)

The total capacity of all slop tanks on an oil tanker normally should be

1% of the total oil carrying capacity of ship

2% of the total oil carrying capacity of ship

3% of the total oil carrying capacity of ship

4% of the total oil carrying capacity of ship

4.



(1)

Float gauge is a commonly used device in most of the tankers.

True



False

5.



(1)

An inert gas system is required to be fitted:

On all tankers of above 20,000 tonnes deadweight

On product tankers of above 20,000 tonnes deadweight

On crude oil tankers of above 20,000 tonnes deadweight

On chemical tankers of above 20,000 tonnes deadweight

6.



(1)

Radar gauge is a type of tank gauging equipment.

True



False

7.



(1)

Centrifugal pumps are otherwise known as

Reciprocating pumps

Gravity pumps

Positive displacement pumps

Hydro-dynamic pumps



8.



(1)

A gas venting system on a tanker that has gas lines in each tank connected to a common gas main running the full length of the ship is called:

A gas-main system

A common-main system

A vent-main system

An independent system



9.



(1)

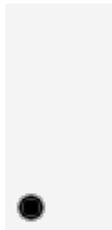
The ring main pipeline system is extensively used on:

VLCCs

Crude oil tankers

Medium range tankers

Product carriers



10.



(1)

Class B fires are caused by

combustible solids

flammable gases

flammable liquids

electricity

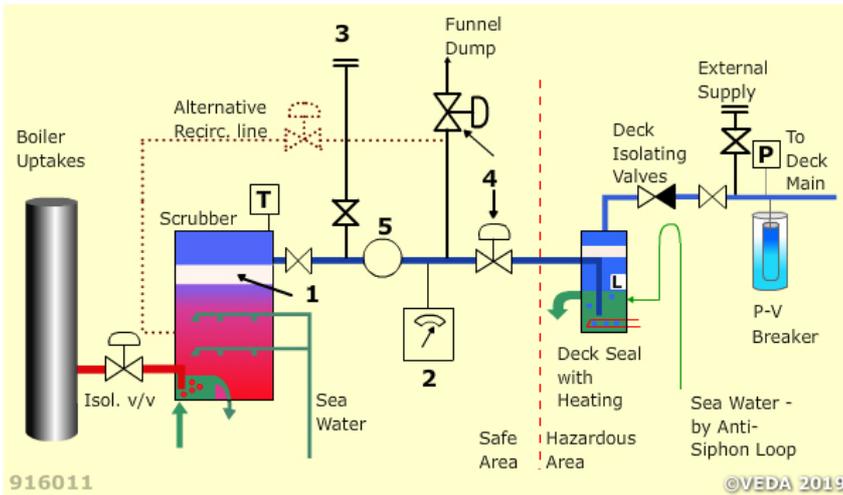


1.



(1)

Tank level measurement of free water by gauging tape and plumb bob: find the labeling combination that is correct,



1 Water Innage; 2-Water Cut; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Ullage; 4- Water Cut

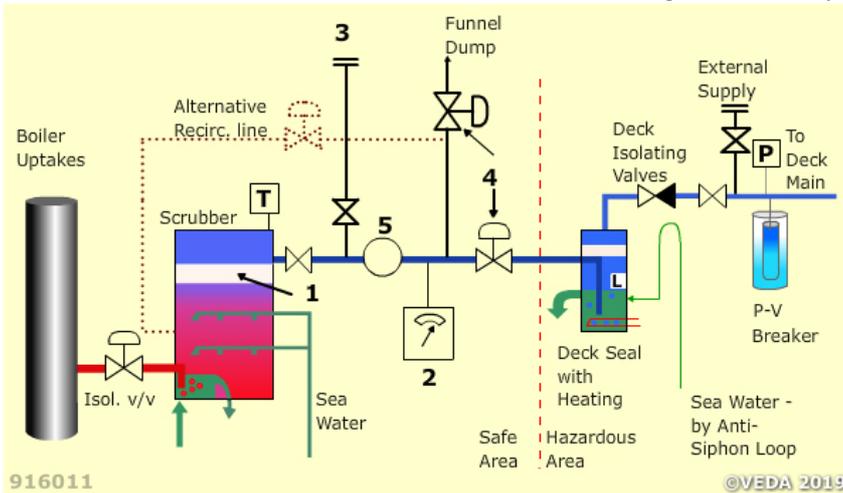
1- Water Cut; 2- Water Cut; 3- Water Innage ; 4- Water Ullage

2.



(1)

Use of Pressure-Vacuum (PV) Relief Valve; label the diagram correctly,



1-IG Main; 2-Deck Isolating Valve ; 3- Vent Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- Vent Main; 3- IG Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- IG Main; 3- Vent Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- IG Main; 3- Vent Main; 4- By-Pass Valve; 5 - Tank Isolating Valve; 6- PV valve

3.



(1)

Bottom washing:

- is done to remove traces of the previous cargo
- will remove heavy wax sediments at the tank bottom
- is not effective when carrying a small quantity of refined products
- cannot be done with chemical solvents

4.



(1)

Cargo tank fill alarm indicator panels:

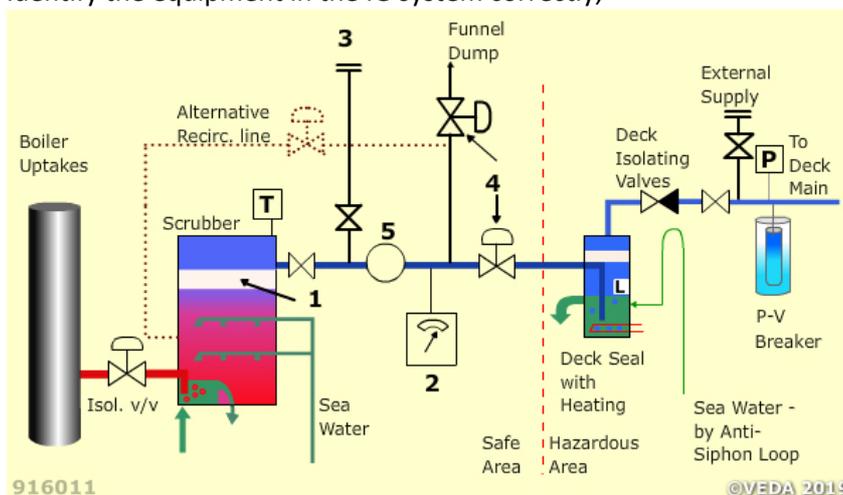
- are normally fitted on the bridge and sometimes on deck
- are normally fitted in the engine control room and sometimes on deck
- are normally fitted on the bridge and sometimes in the engine control room
- are normally fitted in the cargo control room and sometimes on deck

5.



(1)

Identify the equipment in the IG system correctly,



1-O2 Analyzer ; 2-Demister; 3-Air Intake-Gas Freeing; 4-Regulating Valves; 5- Blowers

1- Demister; 2-O2 Analyzer; 3-Air Intake-Gas Freeing; 4-Regulating Valves; 5- Blowers

1- Demister; 2-O2 Analyzer; 3 - Blowers ; 4- Regulating Valves; 5- Air Intake-Gas Freeing

1- Demister; 2-O2 Analyzer; 3-Regulating Valves; 4-Air Intake-Gas Freeing ; 5- Blowers

6.



(1)

Capacitance gauge consists of two probes.

True

False

7.



(1)

A gas venting system on a tanker that has gas lines in each tank connected to a common gas main running the full length of the ship is called:

A gas-main system

A common-main system

A vent-main system

An independent system

8.



(1)

A deepwell pump is a type of _____.

screw pump

centrifugal pump

eductor

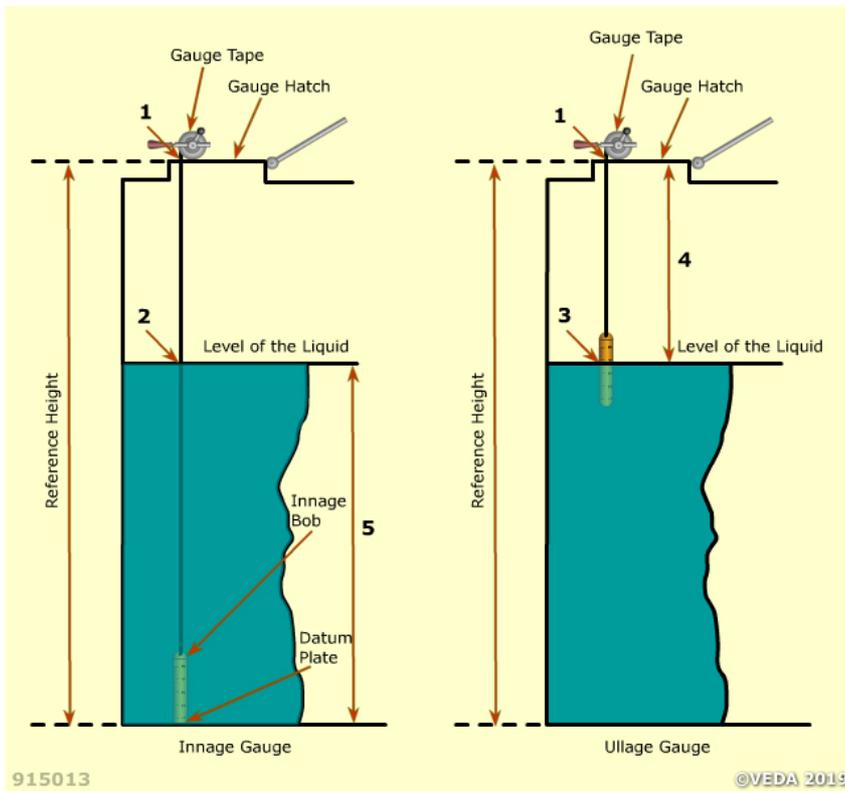
gear pump

9.



(1)

Tank level measurement by gauging tape and plumb bob: find the labeling combination that is correct,



1- Reference Point; 2-Tape Cut; 3-Bob Cut; 4-Ullage; 5- Innage

1- Reference Point; 2-Tape Cut; 3-Bob Cut; 4-Innage; 5- Ullage

1- Bob Cut; 2-Reference Point; 3-Tape Cut; 4-Ullage; 5- Innage

1- Innage; 2-Tape Cut; 3-Bob Cut; 4-Ullage; 5- Reference Point

10.



(1)

Sensors can be fixed horizontally at the required levels for enabling a high level alarm.

Horizontally



vertically

axially

1.



(1)

An inert gas system is required to be fitted:

On all tankers of above 20,000 tonnes deadweight

On product tankers of above 20,000 tonnes deadweight

On crude oil tankers of above 20,000 tonnes deadweight

On chemical tankers of above 20,000 tonnes deadweight

2.



(1)

The liquid content at all levels throughout the depth of the tank can be determined by the capacitance gauge.

True

False

3.



(1)

Sensors can be fixed horizontally at the required levels for enabling a high level alarm.

Horizontally

vertically

axially

4.



(1)

Cargo discharging: find a statement that ensures safe cargo discharging from start to finish,

When the vessel arrives at the discharge port, the inert gas system should be tested and ready for operation in due time for discharge.

Before pumping of cargo oil is started, the inert gas system should be in operation and connected to the deck line, with the pressure control in the "automatic" position.

Cargo discharge should not be commenced until all the conditions have been checked; tanks should be re-pressurized if required

During discharge the oxygen content and pressure of the inert gas in the inert gas main should be continuously recorded as per regulation.

5.



(1)

Automatic shutdown systems independent of operator intervention: how to ensure that it will work correctly?

Express approval for their use is required from both the flag administration and the port state authorities.

Automatic shutdown systems are normally designed to shut the main cargo tank filling valve if the liquid level rises above the maximum level permitted.

Ensure that the activation point is set accurately, and that the operation of the device is checked by simulation whenever the system is recommissioned.

If the ship and shore shutdown circuits are to be linked their operation should be checked before cargo transfer begins; if not, the terminal should be informed of the closing rate of the ship's valves.

6.



(1)

A deepwell pump is a type of _____.

screw pump

centrifugal pump

eductor

gear pump

7.



(1)

Statements on Float Gauges; identify the key statement of importance,

Floats should be secured when at sea, except briefly during measurement of tank contents.

If the float remains unsecured at sea it will almost certainly be damaged due to sloshing of the cargo

Remote and local readings should be compared frequently to determine discrepancies;

Readings may need to be corrected to allow for tape and tank expansion or contraction, and ship trim and heel.

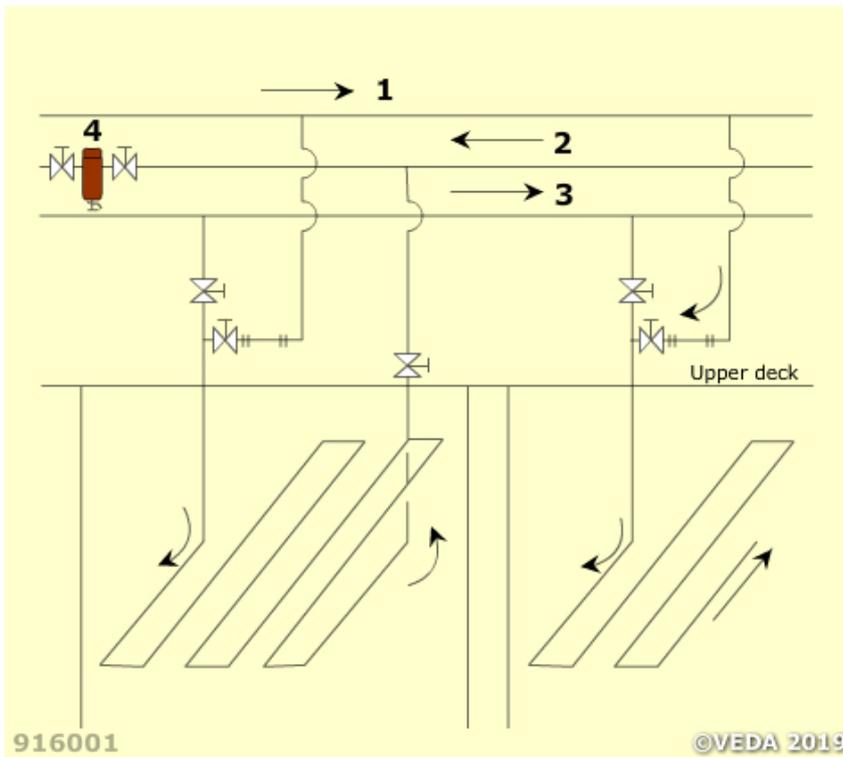
Tables are normally provided for this purpose

8.



(1)

Several types of bobs connected to handheld tapes: Identify those correctly,



1-Innage Bob; 2-Plain Ullage Bob; 3-Extension Outage Bob;
4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Deep-grooved ullaged Bob; 4-Plain Ullage Bob

1-Extension Outage Bob; 2-InnageBob ; 3-Plain Ullage Bob;
4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Plain Ullage Bob;
4-Deep-grooved ullaged Bob

9.



(1)

Float gauges can only record liquid level greater than ___ inches.

Four

five

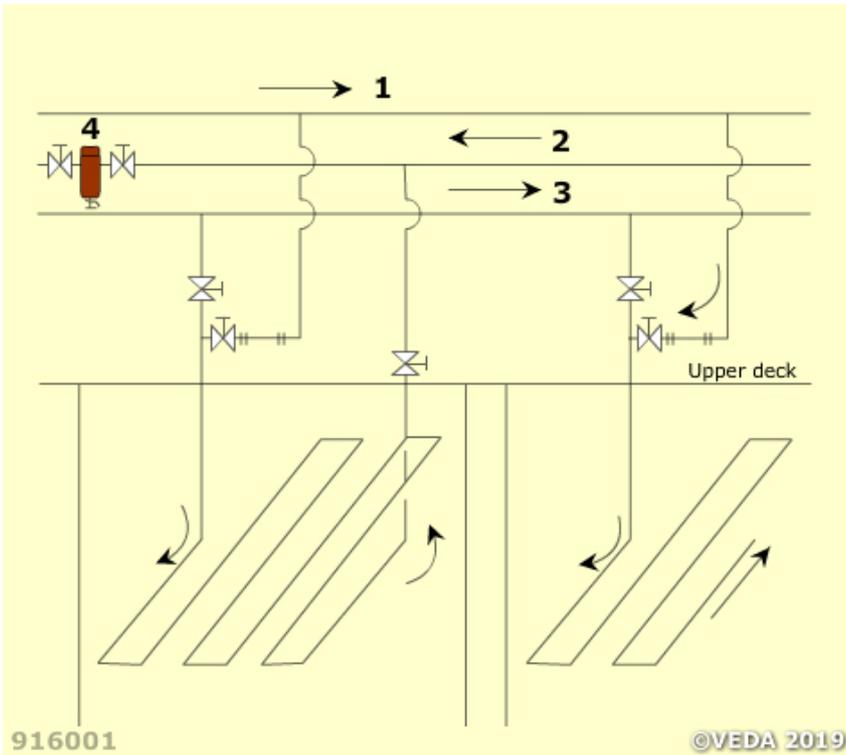
ten

10.



(1)

Example of cargo heating system: identify correct labelling



1- Steam Return Line; 2- Compressed Air Line ; 3- Steam Supply Line; 4- Toxic Gas Detector

1-- Toxic Gas Detector; 2- Steam Return Line; 3- Steam Supply Line; 4- Compressed Air Line

1- Compressed Air Line; 2- Steam Return Line; 3- Steam Supply Line; 4- Toxic Gas Detector

1- Steam Supply Line; 2- Steam Return Line; 3- Compressed Air Line; 4- Toxic Gas Detector

1.



(1)

_____ is passed through the signal lines of the differential pressure gauge.

Inert gas

air

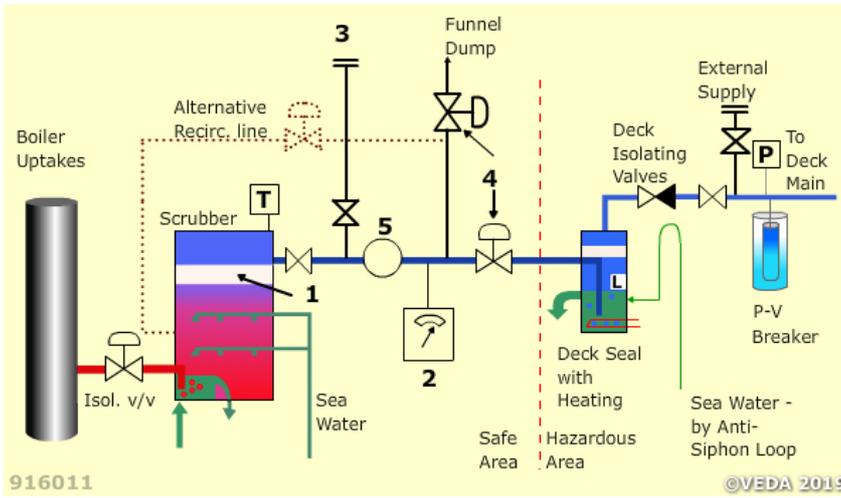
liquid

2.



(1)

Identify the equipment in the IG system correctly,



1-O2 Analyzer ; 2-Demister; 3-Air Intake-Gas Freeing; 4-Regulating Valves; 5- Blowers

1- Demister; 2-O2 Analyzer; 3-Air Intake-Gas Freeing; 4-Regulating Valves; 5- Blowers

1- Demister; 2-O2 Analyzer; 3 - Blowers ; 4- Regulating Valves; 5- Air Intake-Gas Freeing

1- Demister; 2-O2 Analyzer; 3-Regulating Valves; 4-Air Intake-Gas Freeing ; 5- Blowers

3.



(1)

Inerting Operations: During normal operation of oil tankers the following operational modes frequently take place: find an operation that is required after tank cleaning during a ballast voyage and before loading

Inerting of empty tanks

Inerting during loading and simultaneous discharge of ballast

Inerting during loaded sea voyage

Inerting during discharging and ballasting

4.



(1)

The terminal indicates to you that they are going to use a booster pump to assist the discharging operation. You start the discharge and in a few minutes the pressure drops sharply. This could be a result of the

booster pump coming on the line and discharging properly

booster pump failing to start

ship's pump speeding up

booster pump being lined up in the wrong direction

5.



(1)

A restricted tank gauging system

Allows limited amounts of vapour to escape

Does not allow vapour to escape

Uses a float gauge

Does not use an ullage tape

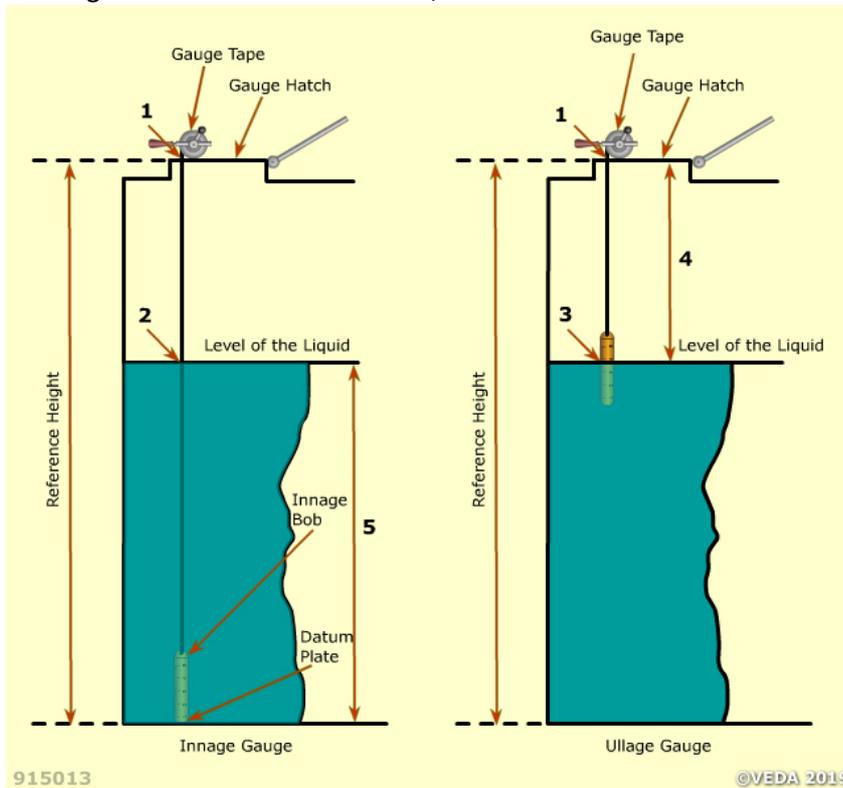


6.



(1)

Tank level measurement by gauging tape and plumb bob: find the labeling combination that is correct,



1- Reference Point; 2-Tape Cut; 3-Bob Cut; 4-Ullage; 5- Innage

1- Reference Point; 2-Tape Cut; 3-Bob Cut; 4-Innage; 5- Ullage

1- Bob Cut; 2-Reference Point; 3-Tape Cut; 4-Ullage; 5- Innage

1- Innage; 2-Tape Cut; 3-Bob Cut; 4-Ullage; 5- Reference Point



7.



(1)

The lowest temperature at which the liquid remains a fluid is called the:

The flow point

The pour point

The melting point

The Liquefaction point

8.



(1)

Statements on Float Gauges; identify the key statement of importance,

Floats should be secured when at sea, except briefly during measurement of tank contents.

If the float remains unsecured at sea it will almost certainly be damaged due to sloshing of the cargo

Remote and local readings should be compared frequently to determine discrepancies;

Readings may need to be corrected to allow for tape and tank expansion or contraction, and ship trim and heel.

Tables are normally provided for this purpose

9.



(1)

The total capacity of the slop tank or tanks should be not less than what percentage of the oil-carrying capacity of the vessel ?

3%

5%

7%

10%

10.



(1)

Devices that release small amount of liquid or vapor while in use are known as _____ devices.

Restricted

detection

hydraulic

SET 7

1.



(1)

An inert gas system installed on a tanker is designed to

aid in the stripping and cleaning of cargo tanks

increase the rate of discharge of cargo

force toxic and explosive fumes from a cargo tank to vent to the outside atmosphere

lower the oxygen levels inside cargo tanks, making explosion nearly impossible



2.



(1)

For the purposes of cargo oil containment, the fixed container under the manifold of an eight-inch loading line must hold a minimum of

three barrels



four barrels

six barrels

eight barrels

3.



(1)

What is the purpose of the relief valve of a cargo pump?

Provides for the removal of vapors

Allows two or more tanks to be filled at the same time

Provides for the emergency shutdown of the pump

Permits the return of cargo to the suction side of the pump

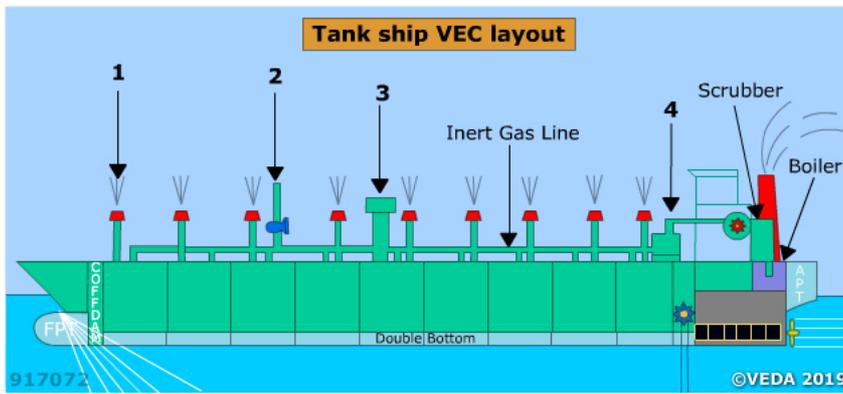


4.



(1)

Identify correct labelling for Tanker VEC



1- P/V Valve; 2- P/V Breaker; 3- Mast Riser; 4 - Deck water seal

1- P/V Valve; 2- P/V Breaker; 3- Deck water seal; 4- Mast Riser

1- Mast Riser; 2- P/V Breaker; 3- P/V Valve; - Deck water seal

1- P/V Valve; 2- Mast Riser; 3- P/V Breaker; 4 - Deck water seal

5.



(1)

A single fitting installed in a pipeline that either blanks off the pipe or allows a full flow passage of a liquid through the pipe is referred to as a _____.

blind flange

pivot coupling

quick-release coupling

spectacle flange

6.



(1)

Hydrocarbon gas normally encountered in petroleum tankers cannot burn in an atmosphere containing oxygen less than

2%

5%

8%

11%

7.



(1)

Who is responsible for ensuring instruments are sent ashore for calibration when required ?

The Company
The Master
The Safety Officer
The Chief Officer

8.



(1)

An on-board monitoring system, using level sensors permanently installed in each vessel compartment, will have a high level alarm set at not more than

90% of compartment capacity
95% of compartment capacity
97% of compartment capacity
99% of compartment capacity

9.



(1)

The volatility of a flammable liquid is indicated by its

ignition temperature
flash point
flammable range
conversion index

10.



(1)

Which action must be taken when an individual cargo tank is closed off from the inert gas system by the tank isolation valve?

The tank must be gas freed.
The tank must be ballasted.
The tank must be vented to the atmosphere.
The bypass valve must also be closed.

1.

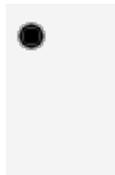


(1)

The purpose of inert gas systems aboard tankers is to

allow sufficient oxygen in the tank to sustain life

- prevent outside air from entering the tank
- provide increase in cargo discharge pressure
- comply with double hull pollution prevention regulations



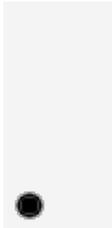
2.



(1)

Before a tank is to be crude oil washed, the oxygen content in the tank must be measured at a position _____.

- immediately above the level of the oil
- at the top of the tank
- in the vent riser
- one meter from the deck



3.



(1)

The explosive range of petroleum vapors mixed with air is

- 0% to 1%
- 1% to 10%
- 10% to 15%
- 12% to 20%



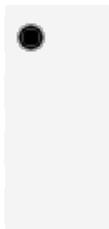
4.



(1)

The (auto) ignition temperature is that temperature at which _____.

- no spark or flame is required to ignite gas or vapor
- a fuel begins to give off explosive vapors
- a fuel if ignited will continue to burn
- a 1% mixture of the fuel with air will explode



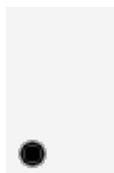
5.



(1)

In reference to accidental oil pollution, the most critical time during bunkering is when

- you first start to receive fuel
- hoses are being blown down
- final topping off is occurring



hoses are being disconnected

6.



(1)

Which characteristic is an advantage of a butterfly valve as compared to a gate valve?

Precise control over cargo flow

Quick operation

No resistance to cargo flow when open

Less maintenance required



7.



(1)

Which of the following is not an exception provided under MARPOL, Annex-1, regarding the discharge of oil or oily mixture into the sea?

Discharge for the purpose of securing safety of a ship

Discharge for the purpose of saving life at sea

Discharge resulting due to damage to the ship because of Master's fault even if the Master/Owner of the ship has taken all reasonable precautions to prevent/minimize discharge

Discharge resulting due to damage to the ship not because of Master's fault, but because of a third party's fault and action awaited by Master from that third party to prevent /minimize discharge



8.



(1)

Hydrocarbon gas normally encountered in petroleum tankers cannot burn in an atmosphere containing oxygen less than

2%

5%

8%

11%



9.



(1)

While using a combustible gas indicator, if the hydrocarbon content of the atmosphere exceeds the U.E.L., the needle of the indicator will

remain at zero without moving

move to the maximum reading and stay there

move halfway up the scale

move to the maximum reading and immediately return to zero

10.



(1)

In the 'flow through' method of ballast water exchange:

Ballast equal to approximately two times the tank capacity must be pumped through the tank

Ballast equal to approximately three times the tank capacity must be pumped through the tank

Ballast equal to approximately four times the tank capacity must be pumped through the tank

Ballast equal to approximately five times the tank capacity must be pumped through the tank

1.



(1)

The preferred type of pollution control for oil spills on the water is(are)

straw

booms

skimmers

chemical dispersants

2.



(1)

Which operation may cause the pressure in an inert tank to fall below the prescribed limits?

Loading

Discharging

Crude oil washing

Steaming tanks

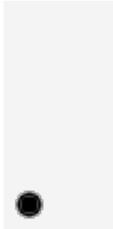
3.



(1)

The most likely location for a liquid cargo fire to occur on a tanker would be

- in the midships house
- at the main deck manifold
- at the vent header
- in the pumproom

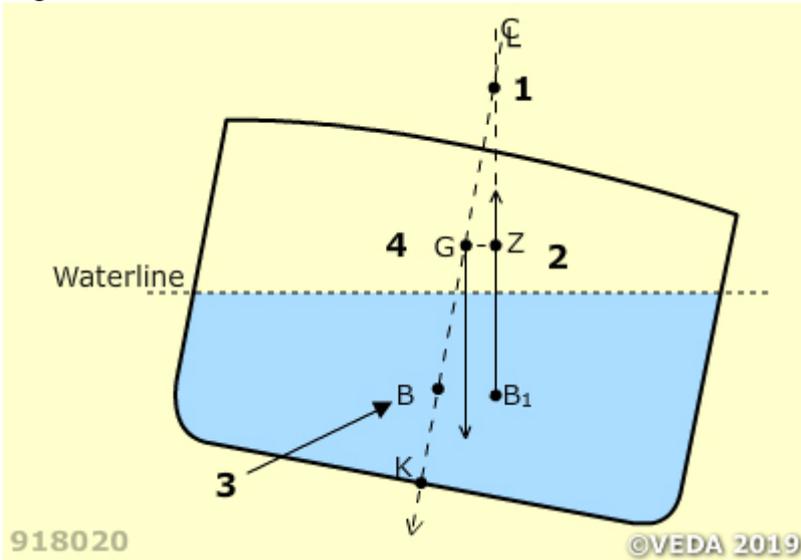


4.



(1)

Identify the correct labeling, when the tanker has heeled to a small angle.



1- Metacenter; 2- GZ- Righting Lever; 3-Center of Gravity; 4- Center of Buoyancy

1- Center of Gravity; 2- GZ- Righting Lever; 3-Center of Buoyancy; 4- Metacenter

1- Metacenter; 2- GZ-Shift of Buoyancy; 3-Center of Buoyancy; 4- Center of Gravity

1- Metacenter; 2- GZ- Righting Lever; 3-Center of Buoyancy; 4- Center of Gravity



5.



(1)

Each ship having an inert gas system must have a portable instrument to measure concentrations of hydrocarbon vapor in inert atmospheres and also to measure

- nitrogen
- oxygen
- carbon dioxide
- water vapor



6.



(1)

Working instructions specifying the manner in which the ship is to be loaded and ballasted to avoid unacceptable stresses in the vessel's structure is required for tankers:

Greater than 50 metres in length

Greater than 75 meters in length

Greater than 100 meters in length

Greater than 150 meters in length

7.



(1)

A self-contained breathing apparatus is used to

make underwater repairs to barges

determine if the air in a tank is safe for men

enter areas that may contain dangerous fumes or lack oxygen

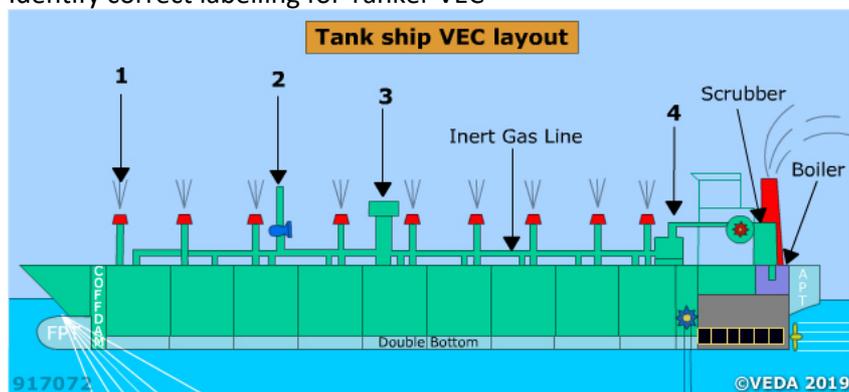
resuscitate an unconscious person

8.



(1)

Identify correct labelling for Tanker VEC



1- P/V Valve; 2- P/V Breaker; 3- Mast Riser; 4 - Deck water seal

1- P/V Valve; 2- P/V Breaker; 3- Deck water seal; 4- Mast Riser

1- Mast Riser; 2- P/V Breaker; 3- P/V Valve; - Deck water seal

1- P/V Valve; 2- Mast Riser; 3- P/V Breaker; 4 - Deck water seal

9.



(1)

A combustible gas indicator will operate correctly ONLY when the

hydrocarbon content of the atmosphere is less than the U.E.L.

atmosphere is deficient in oxygen

compartment to be tested is free of CO₂

10.



(1)

Part A of the the ISGOTT Ship/Shore Safety Check-List provides operational procedures for:

Transfer of bulk liquids, physical checks

Transfer of bulk liquids – elements to be verified verbally

Additional considerations for Bulk Liquid Chemicals

Additional considerations for Bulk Liquefied Gases

1.



(1)

The approval period for a shipboard Oil Pollution Emergency Plan expires after

two years

three years

four years

five years

2.



(1)

Which of the listed functions is the purpose of a gas scrubber in an inert gas generation system?

Cools the inert gas.

Maintains the oxygen content at 5% by volume.

Bleeds off static electricity in the inert gas.

Maintains flow to the water seal on the gas main.

3.



(1)

With an increase in temperature the volume of flammable and combustible liquids_____.

- expands
- contracts
- remains constant
- remains constant if pressure remains constant

4.



(1)

The standard unit of liquid volume used in the petroleum industry, as well as the tanker industry, is a _____.

- barrel
- drum
- gallon
- liter

5.



(1)

Combustible gas indicators operate by drawing an air sample into the instrument

- over an electrically heated platinum filament
- where it is mixed with nitrogen
- where it is ignited by a sparking device
- where its specific gravity is measured

6.



(1)

Each ship having an inert gas system must have a portable instrument to measure concentrations of hydrocarbon vapor in inert atmospheres and also to measure

- nitrogen
- oxygen
- carbon dioxide
- water vapor

7.



(1)

As required by Reg.31 of Annex 1 of Marpol the ODMCS should be provided with a recording device for _____ recording the discharge in litres per nautical mile and total quantity discharged. This discharge should be kept onboard at least for a period of _____

Intermittent, 1 year

Continuous, 1 year

Intermittent, 3 years

Continuous, 3 years

8.



(1)

Which is the most accurate instrument for measuring the amount of oxygen in the atmosphere of a confined space?

Combustible gas indicator

Oxygen indicator

Flame safety lamp

9.



(1)

After each reading of an oxygen indicator, the instrument should be purged with

CO2

fresh air

the tested compartment's air

water

10.



(1)

The maneuvering vessel normally berths on which side during STS operations ?

Any side to

Port side to

Starboard side to

As instructed by the mother vessel

SET 8

1.



(1)

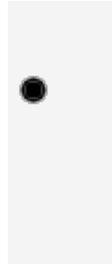
When the cofferdam to be purged to check the leakage and remove the leaked oil?

Before starting the cargo operation

Before starting the cargo operation and after the cargo operation is completed

During the cargo operation

After the cargo operation is completed

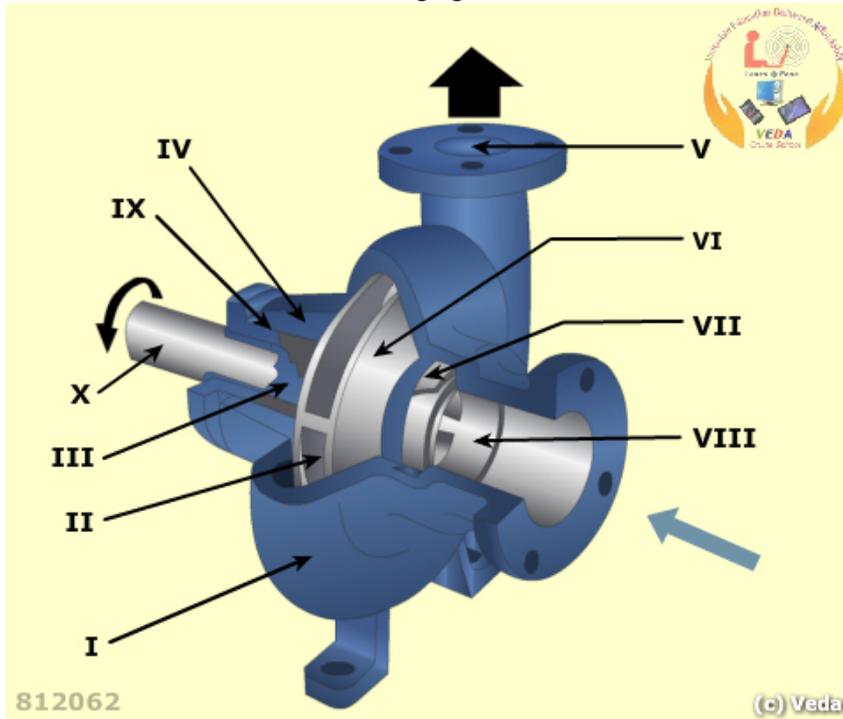


2.



(1)

What does "I" stand for in the image given below?



Eye (Suction)

Shaft

Impeller

Diffuser

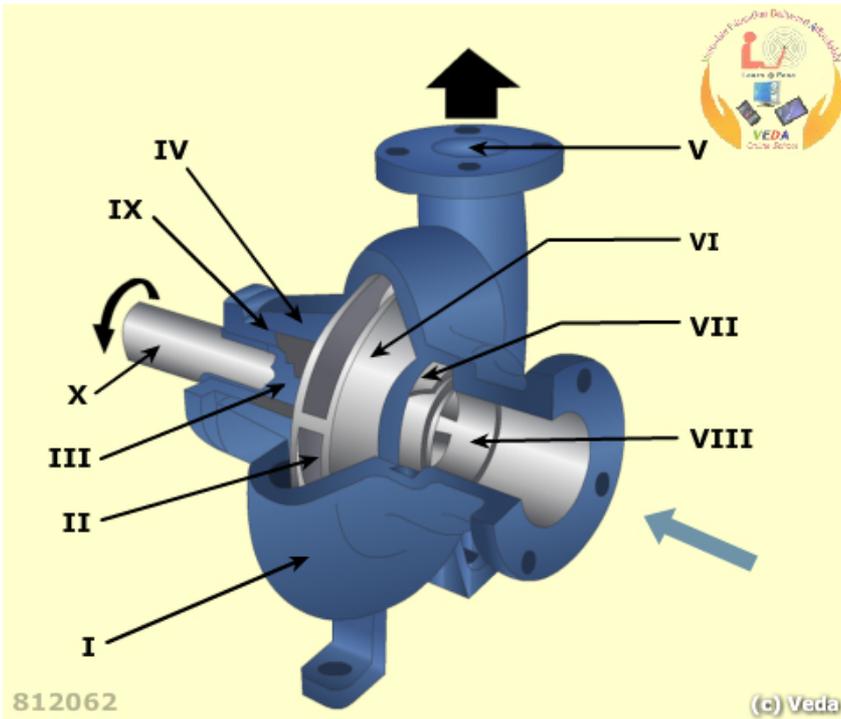


3.



(1)

The area indicated by the number "III" is known as the _____.



Speed Torque Control Valve

Cofferdam Purging

Local Control Valve

Cargo Purging Connection

4.



(1)

How the Framo pump has almost eliminated cavitation for free flowing liquids?

Volute casing is designed in such a way, that its smoothness avoids cavitation

The backwards curved vanes eliminate the cavitation

The hydrofoil design of the curved vanes, eliminate cavitation

Since the suction pipe is eliminated, cavitation is also eliminated for liquids with free flow

5.



(1)

State if the following is True or False?

After fixing the snap on hydraulic couplings of portable Framo, secure it with locking ring—only then the arrangement is safe.

True

False

6.



(1)

Select the correct statement.

Pressure type vacuum valves can prevent Backflow.

Dynamic pressure is a function of the fluid velocity and its density.

The water reservoir of a self-priming pump may be at the back of the impeller.

Stripping pumps are not of the self-priming type.



7.



(1)

How portable pumps are used?

Potable pumps are used in parallel with the main Framo pump to discharge the tank in a short time

When main pump is not working, portable pumps are used to discharge the liquid cargo to the terminal

Potable pumps are used in series with the main Framo pump to discharge the tank with large pressure.

When main pump is not working, the portable pump is used to transfer the cargo from this tank to another empty tank, where the main pump is working

When main pump is not working, the portable pump is used to transfer the cargo from this tank to another tank, having the same cargo, where the main pump is working

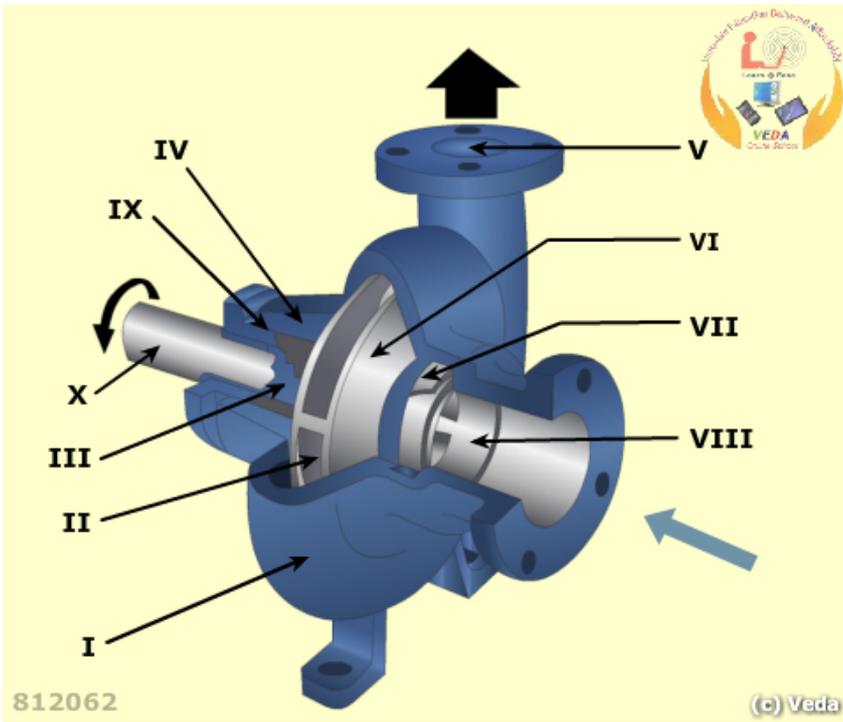


8.

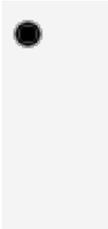


(1)

What does "II" indicate in the below diagram?



Eye (Suction)



Shaft

Impeller

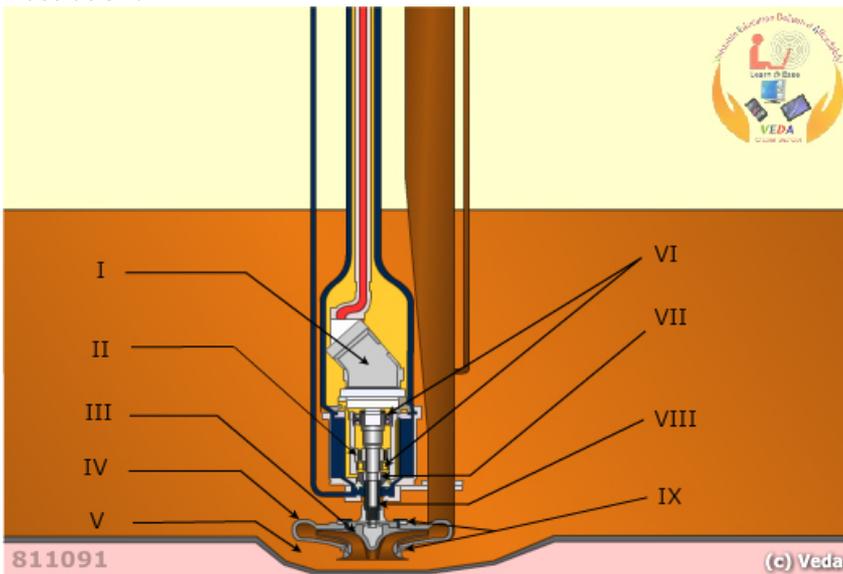
Diffuser

9.



(1)

Which number represents the Hydraulic Motor in the below illustration?



I



II

III

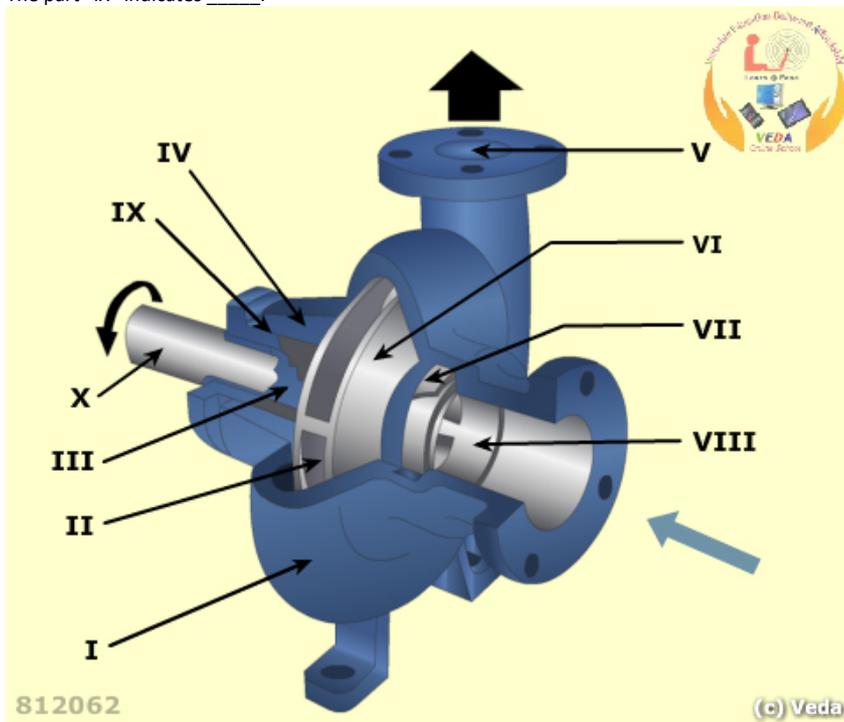
IV

10.



(1)

The part "IX" indicates _____.

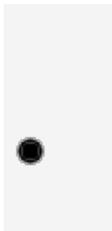


Stuffing Box

Shaft Sleeve

Packing

Casing



1.



(1)

Why a two way valve is provided in the air or inert gas line provided to check the leakage of oil in the cofferdam?

One is for the normally closed position and the other is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position and the other is for checking the leakage of cargo oil in the pump side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the third one is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the



third one is for checking the leakage of hydraulic oil in the motor side

2.



(1)

How the Framo pump has almost eliminated cavitation for free flowing liquids?

Volute casing is designed in such a way, that its smoothness avoids cavitation

The backwards curved vanes eliminate the cavitation

The hydrofoil design of the curved vanes, eliminate cavitation

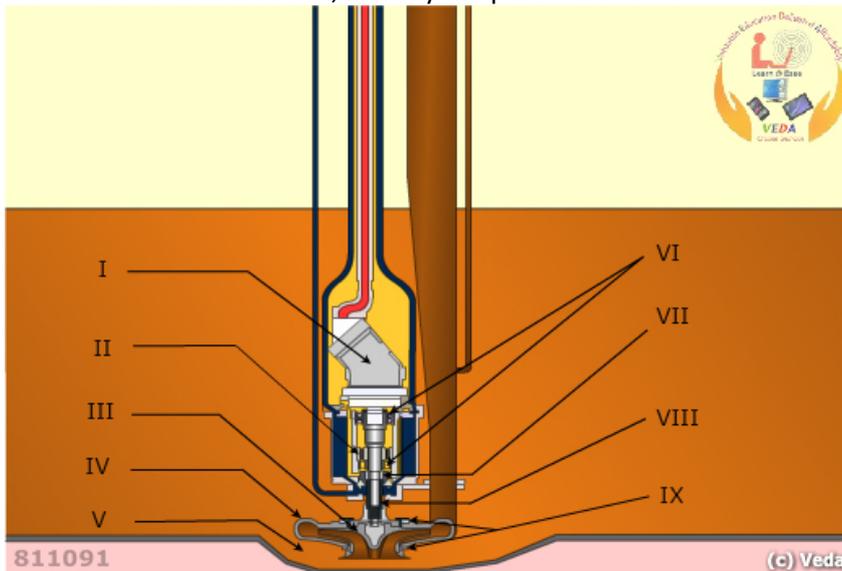
Since the suction pipe is eliminated, cavitation is also eliminated for liquids with free flow

3.



(1)

From the below illustration, identify the part marked - "IV".



Hydraulic Motor

Volute Casing

Impeller

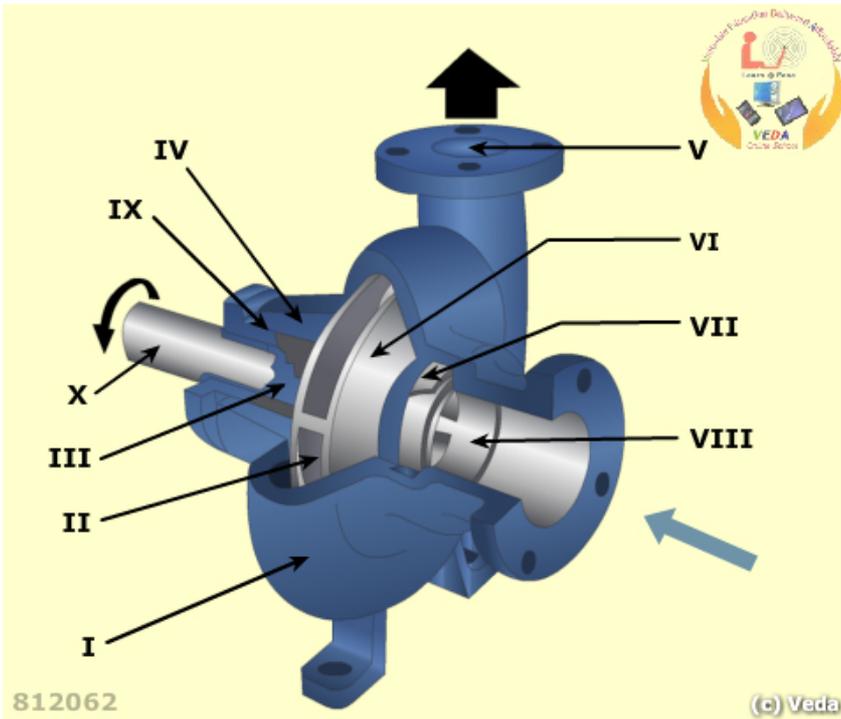
Anti-rotation Brake

4.



(1)

What does item "1" refer to the below illustration?



Local Control Valve

Cargo Purging Connection

Speed Torque Control Valve

Exhaust Trap



5.



(1)

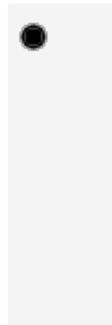
How vacuum drain is done in Framo pumps?

Pump has a different vacuum line which is connected to the cargo tank well; vacuum pump is used to suck the oil out to make the well dry

Vacuum is created in the stripping line to pump the cargo out to make the well dry

Vacuum drain is used to check leakage in pump's cofferdam

vacuum drain is part of the pump casing

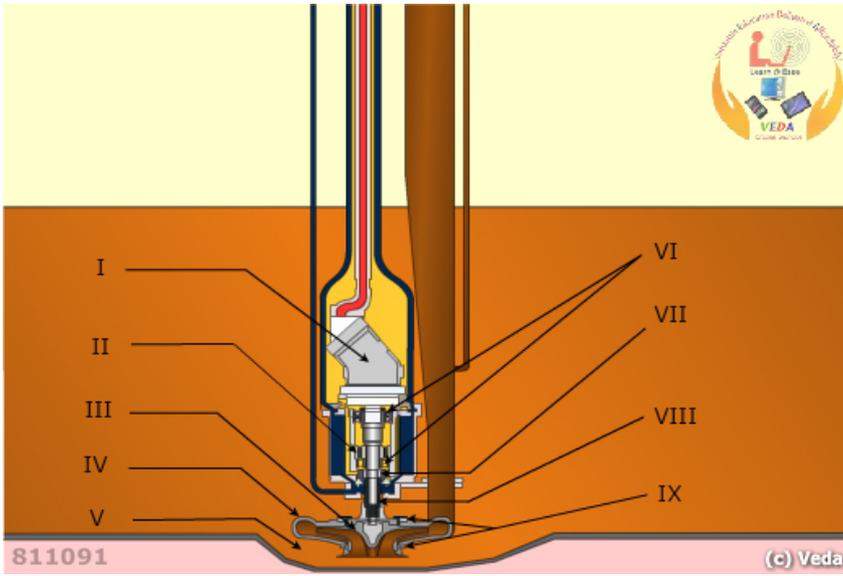


6.

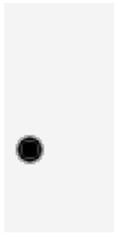


(1)

What does "V" indicate in the below illustration?



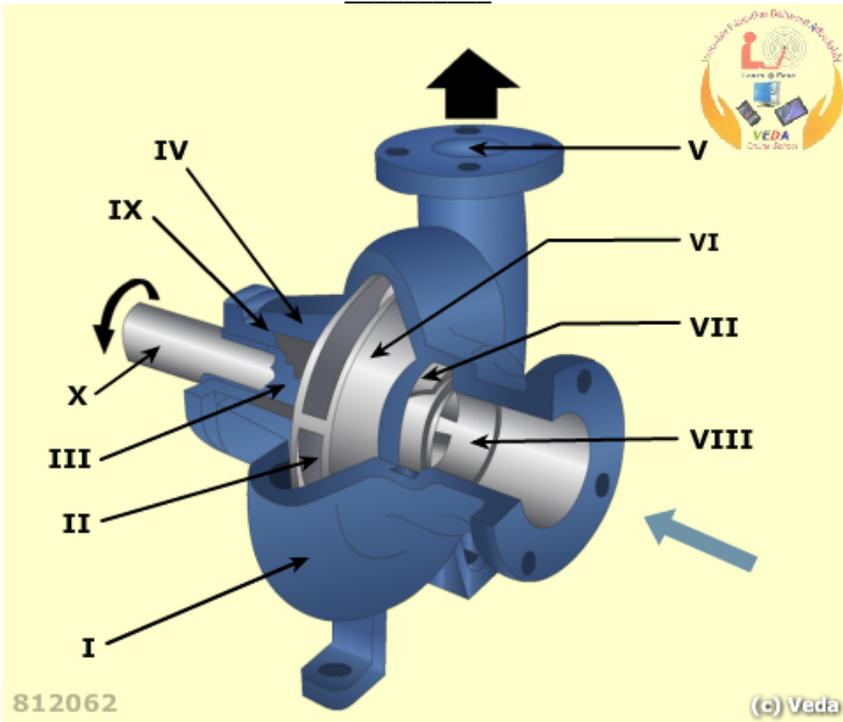
- Bearings
- Mechanical Oil Seal
- Suction Well
- Sleeve



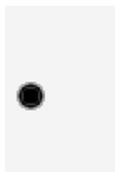
7.

 (1)

The number "10" indicates a _____.



- Top Plate
- Stripping Valve
- Resilient Mounting



8.



(1)

Select the correct statement.

Pressure type vacuum valves can prevent Backflow.

Dynamic pressure is a function of the fluid velocity and its density.

The water reservoir of a self-priming pump may be at the back of the impeller.

Stripping pumps are not of the self-priming type.

9.



(1)

Why the cargo pump in the Framo cannot be overloaded?

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the flow is always kept constant

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pump runs at the optimum speed

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, when the pump over speeds, the flow of oil is reduced

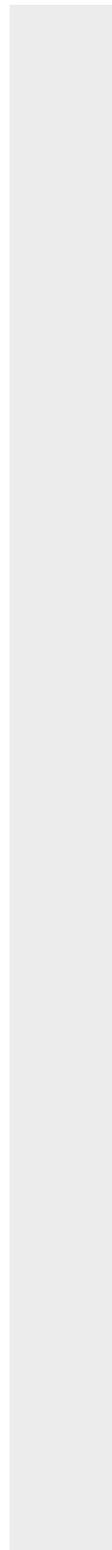
The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pressure can run the pump at 75% of the capacity

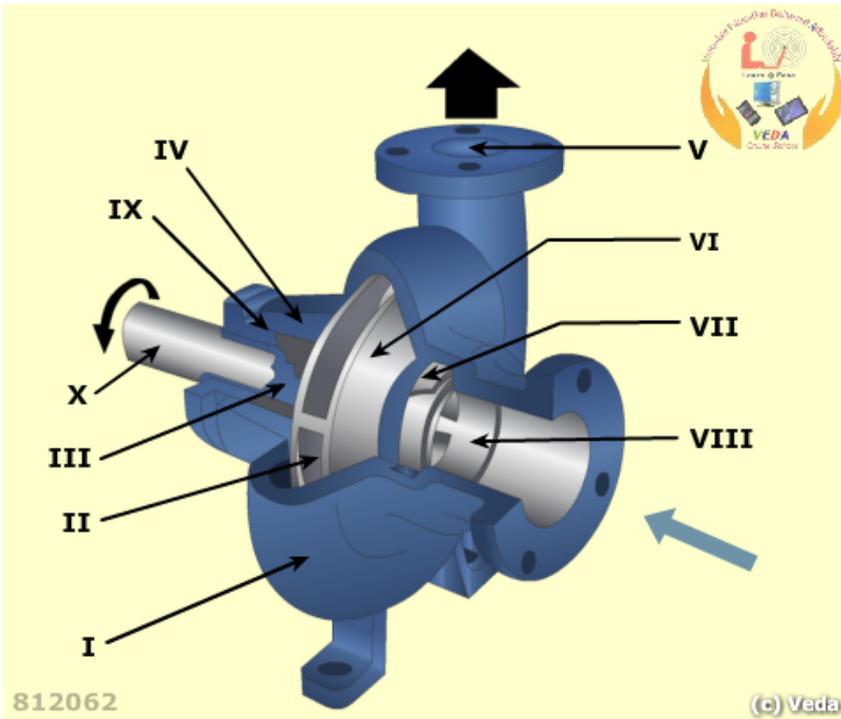
10.



(1)

What does figure "V" represent?





Vane

Eye of impeller

Discharge nozzle

None of the above

1.



(1)

State if the following is True or False?

After fixing the snap on hydraulic couplings of portable Framo, secure it with locking ring—only then the arrangement is safe.

True

False

2.



(1)

Normally how much hydraulic oil is required to run the Framo portable pump?

360 litres per min

250 litres per min

140 litres per min

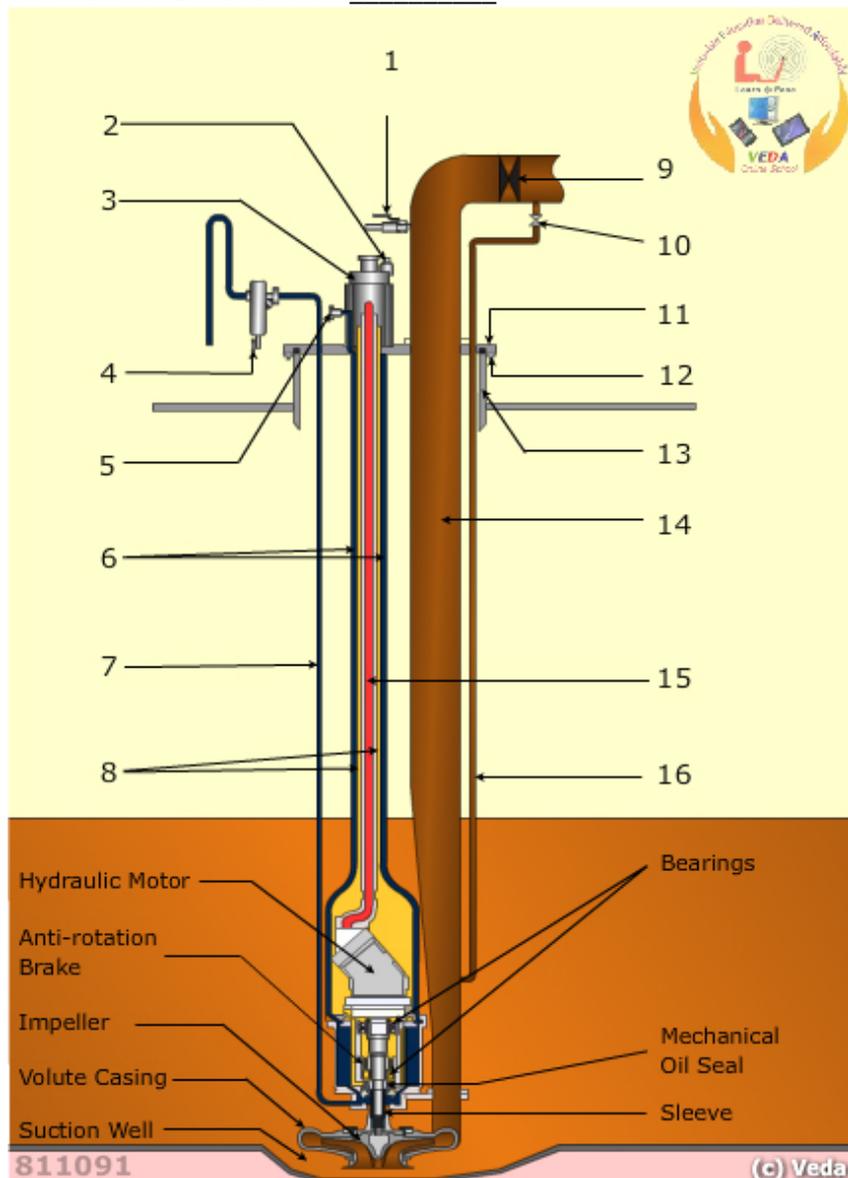
90 litres per min

3.



(1)

The number "10" indicates a _____.

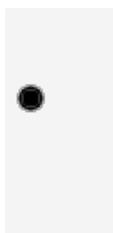


Top Plate

Stripping Valve

Resilient Mounting

Deck Trunk



4.

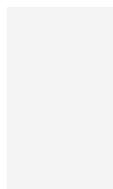


(1)

Select the correct point regarding the operation of the portable pumps?

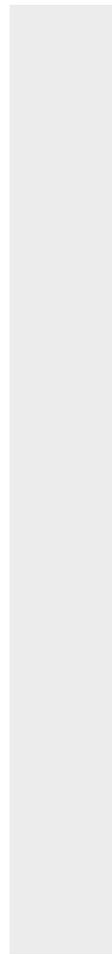
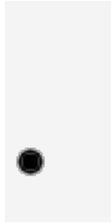
Before using portable pump, rig the pump on the deck and while pumping, lower the hose in the tank

When the liquid cargo level goes down, lower the hose accordingly, keeping the rigged pump on the deck



Make sure that the portable pump is completely submerged and lowered till the bottom of the tank and then start the pumping operation

Ensure that only the lower half of the pump is submerged and is lowered as the cargo level falls.



5.



(1)

What is the pressure of the hydraulic oil in the return side after running the hydraulic motor?

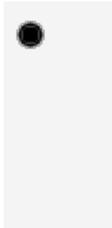
Around 3 Bar



Around 10 bar

Around 15 bar

Above 15 bar

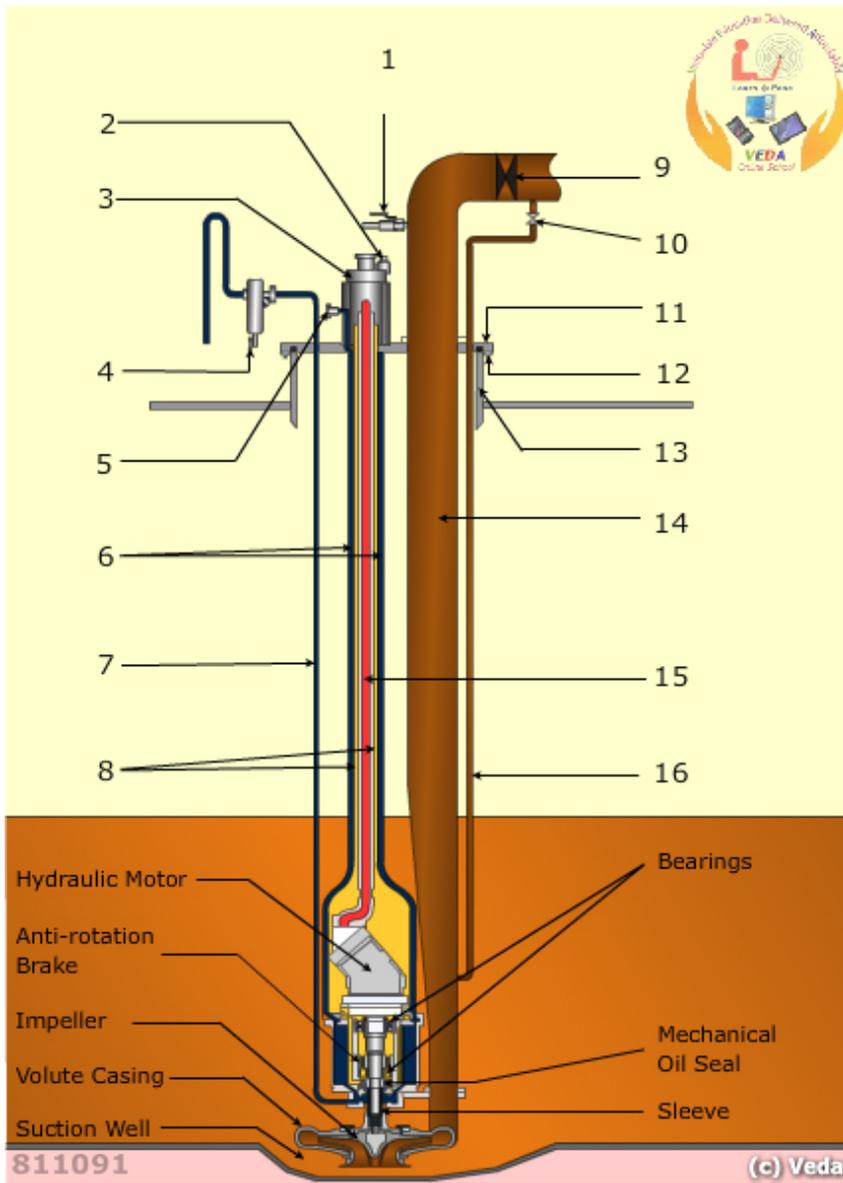


6.



(1)

What does "V" indicate in the below diagram?

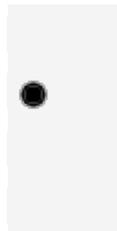


Speed Torque Control Valve

Cofferdam Purging

Local Control Valve

Cofferdam Check Pipe

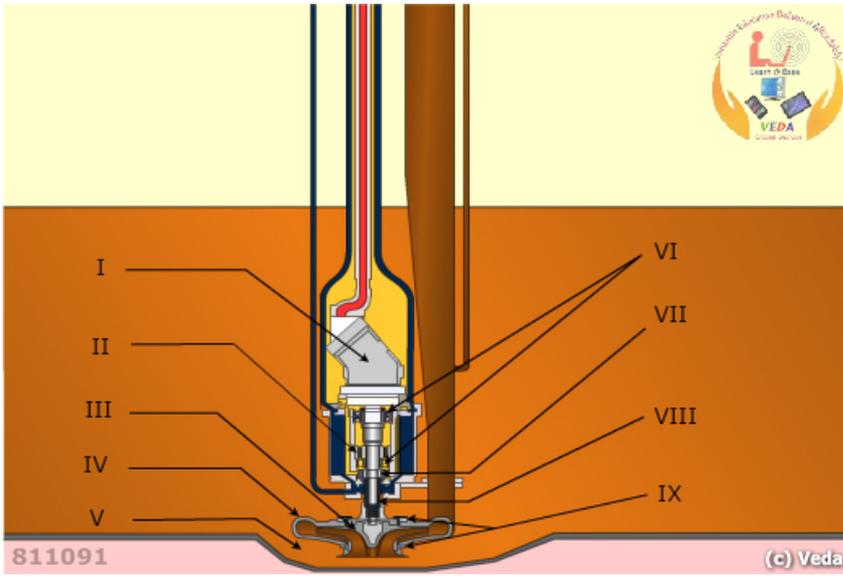


7.

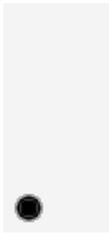


(1)

What does figure "VII" represent?



- Hydraulic Motor
- Sleeve
- Wear rings
- Mechanical Oil Seal



8.



(1)

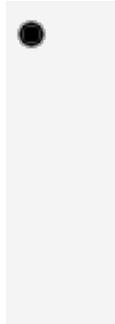
How vacuum drain is done in Framo pumps?

Pump has a different vacuum line which is connected to the cargo tank well; vacuum pump is used to suck the oil out to make the well dry

Vacuum is created in the stripping line to pump the cargo out to make the well dry

Vacuum drain is used to check leakage in pump's cofferdam

vacuum drain is part of the pump casing

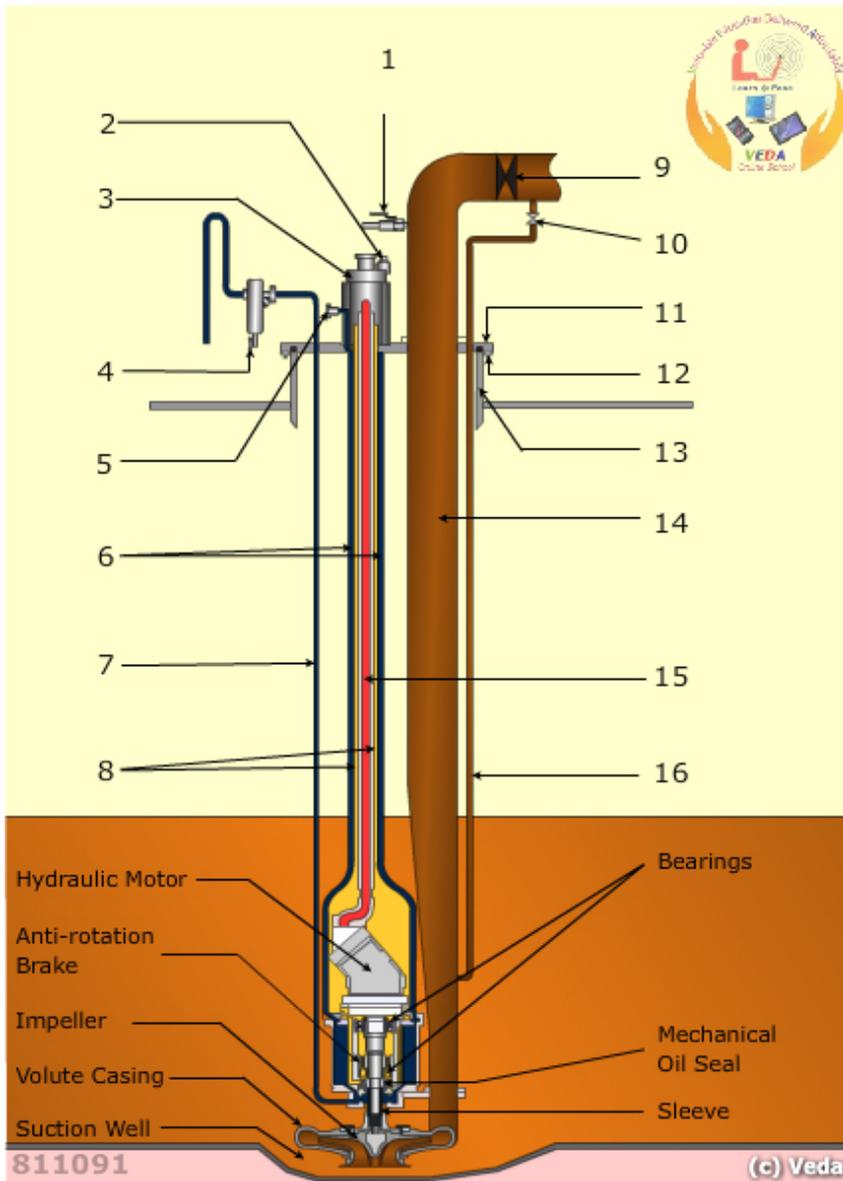


9.



(1)

The area indicated by the number "III" is known as the _____.



Speed Torque Control Valve

Cofferdam Purging

Local Control Valve

Cargo Purging Connection

10.



(1)

Normally what is the discharge capacity of Framo portable pumps?

150 cubic meter per hour

100 cubic meter per hour

70 cubic meter per hour

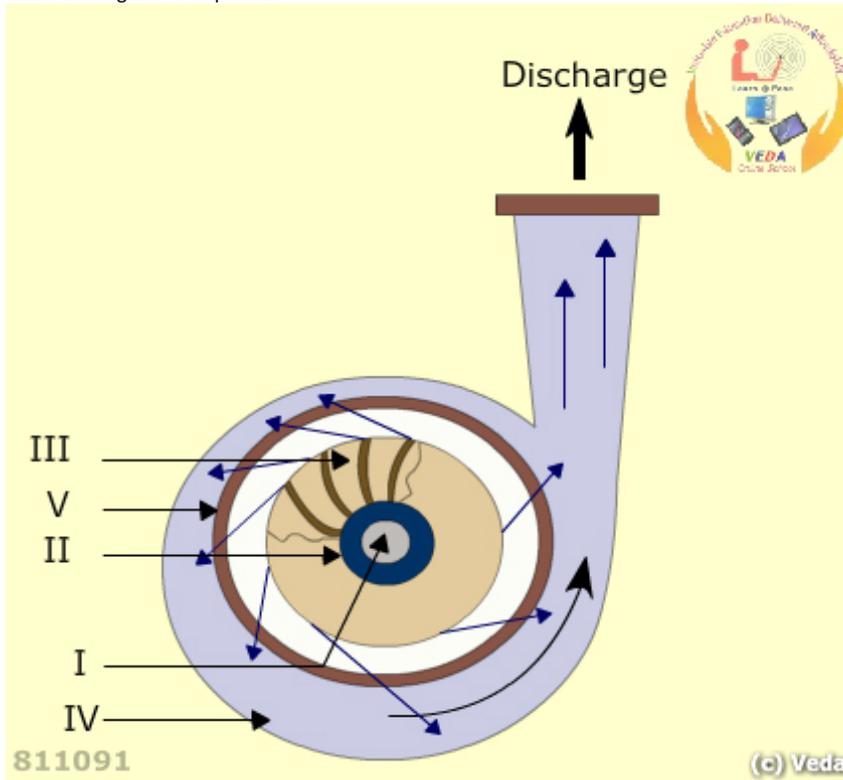
200 cubic meter per hour

1.



(1)

What does figure "V" represent?

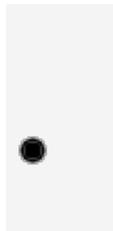


Vane

Eye of impeller

Discharge nozzle

None of the above



2.



(1)

Why a two way valve is provided in the air or inert gas line provided to check the leakage of oil in the cofferdam?

One is for the normally closed position and the other is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position and the other is for checking the leakage of cargo oil in the pump side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the third one is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the third one is for checking the leakage of hydraulic oil in the motor side

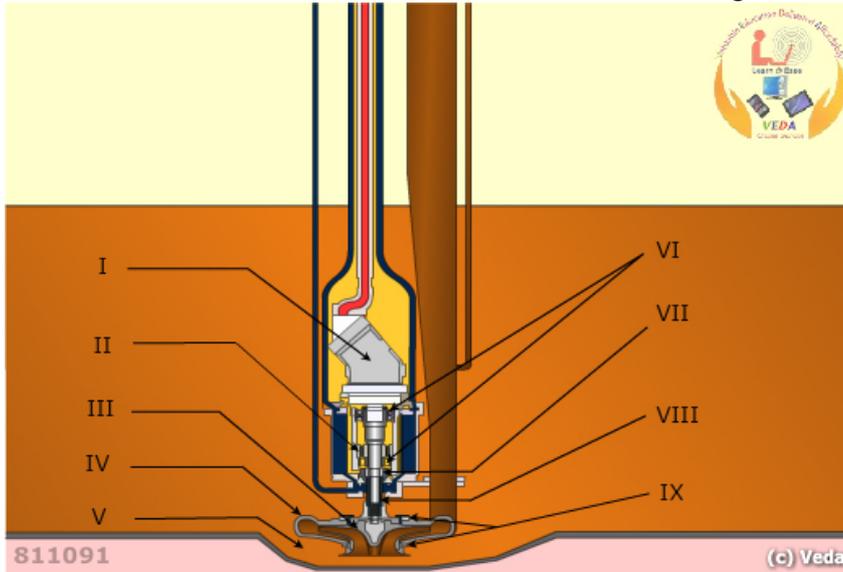


3.



(1)

What is the function of the item marked "II" in the below diagram?



- Impeller
- Hydraulic Motor
- Anti-rotation Brake
- Suction Well

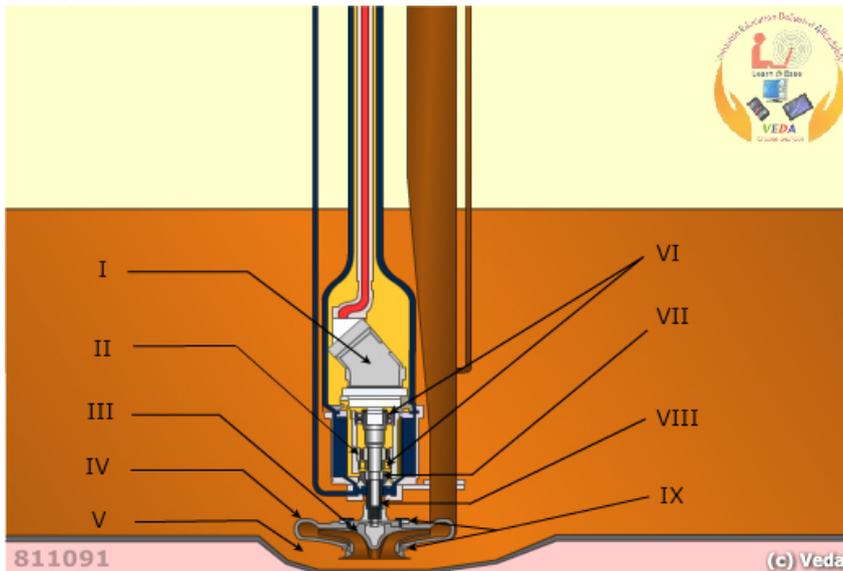


4.

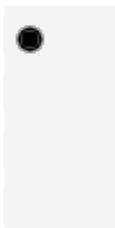


(1)

Which number represents the Hydraulic Motor in the below illustration?



- I
- II
- III
- IV

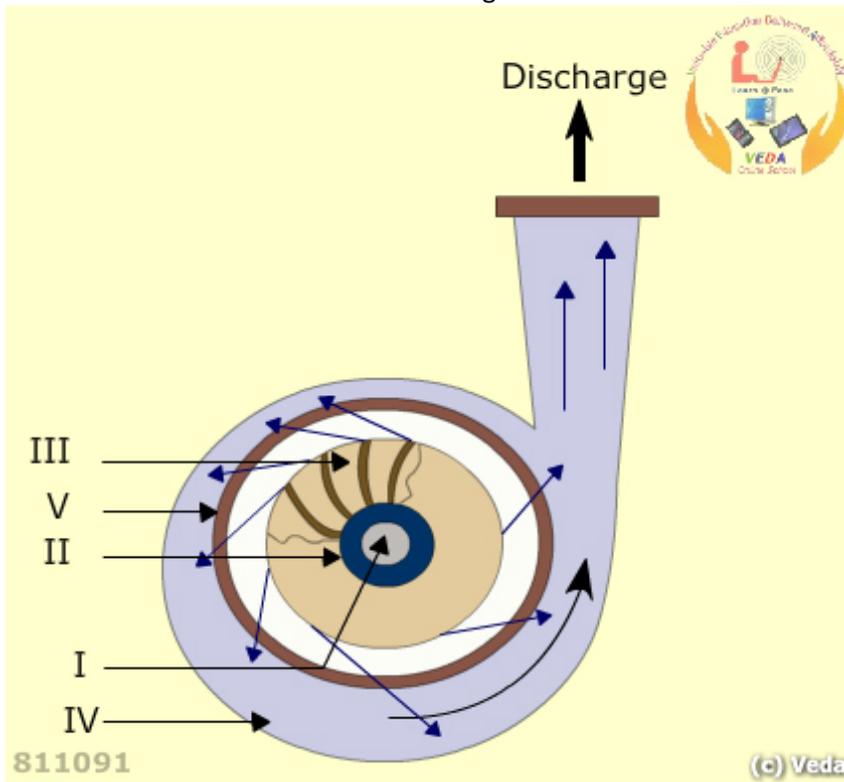


5.



(1)

What does "II" indicate in the below diagram?



Eye (Suction)

Shaft

Impeller

Diffuser

6.



(1)

In a centrifugal pump:

The discharge side has a negative pressure.

The fluid moves in a direction opposite to the impeller.

The fluid moves in the same direction as the impeller.

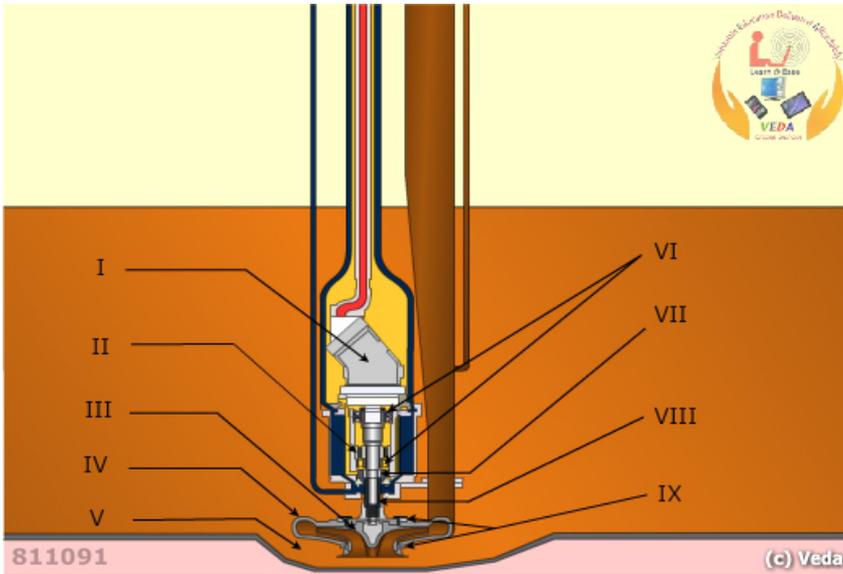
The width of the discharge pipeline decreases outwards.

7.



(1)

What does "V" indicate in the below illustration?

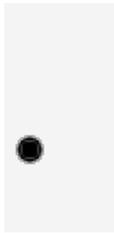


Bearings

Mechanical Oil Seal

Suction Well

Sleeve



8.



(1)

Normally what is the discharge capacity of Framo portable pumps?

150 cubic meter per hour

100 cubic meter per hour

70 cubic meter per hour

200 cubic meter per hour



9.



(1)

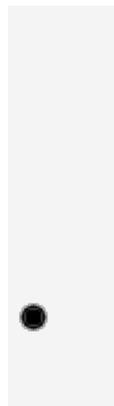
How portable pumps are used?

Potable pumps are used in parallel with the main Framo pump to discharge the tank in a short time

When main pump is not working, portable pumps are used to discharge the liquid cargo to the terminal

Potable pumps are used in series with the main Framo pump to discharge the tank with large pressure.

When main pump is not working, the portable pump is used to transfer the cargo from this tank to another empty tank, where the main pump is working



When main pump is not working, the portable pump is used to transfer the cargo from this tank to another tank, having the same cargo, where the main pump is working

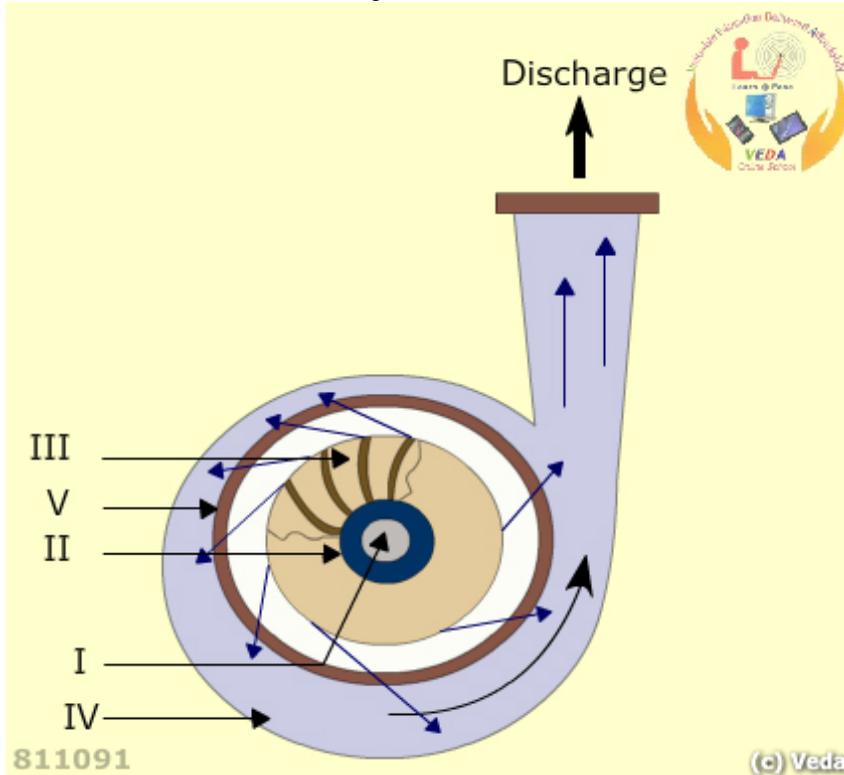


10.



(1)

What does "VIII" indicate in the below diagram?

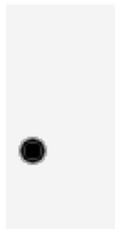


Impeller

Discharge Nozzle

Eye of Impeller

None of the above



1.



(1)

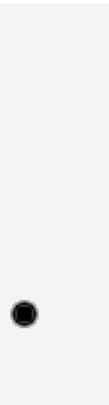
How portable pumps are used?

Potable pumps are used in parallel with the main Framo pump to discharge the tank in a short time

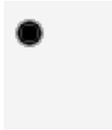
When main pump is not working, portable pumps are used to discharge the liquid cargo to the terminal

Potable pumps are used in series with the main Framo pump to discharge the tank with large pressure.

When main pump is not working, the portable pump is used to transfer the cargo from this tank to another empty tank, where the main pump is working



When main pump is not working, the portable pump is used to transfer the cargo from this tank to another tank, having the same cargo, where the main pump is working



2.



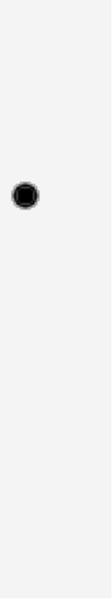
(1)

How purging and seal monitoring is done?

Air or inert gas pipe connected to the line, the two way valve which remains closed is moved to hydraulic oil side and air or inert gas is opened and if there is any leak, it is purged out and the quantity is measured.

Air or inert gas pipe connected to the line, the two way valve is moved to hydraulic oil side and air or inert gas is opened and if there is any leak, it is purged out and the quantity is measured, then the two way valve is moved to the cargo oil side and the air or inert gas is opened and if there is any leak, it is purged out and the quantity is measured

Air or inert gas pipe connected to the line, the two way valve is moved to cargo oil side and air or inert gas is opened and if there is any leak, it is purged out and the quantity is measured.

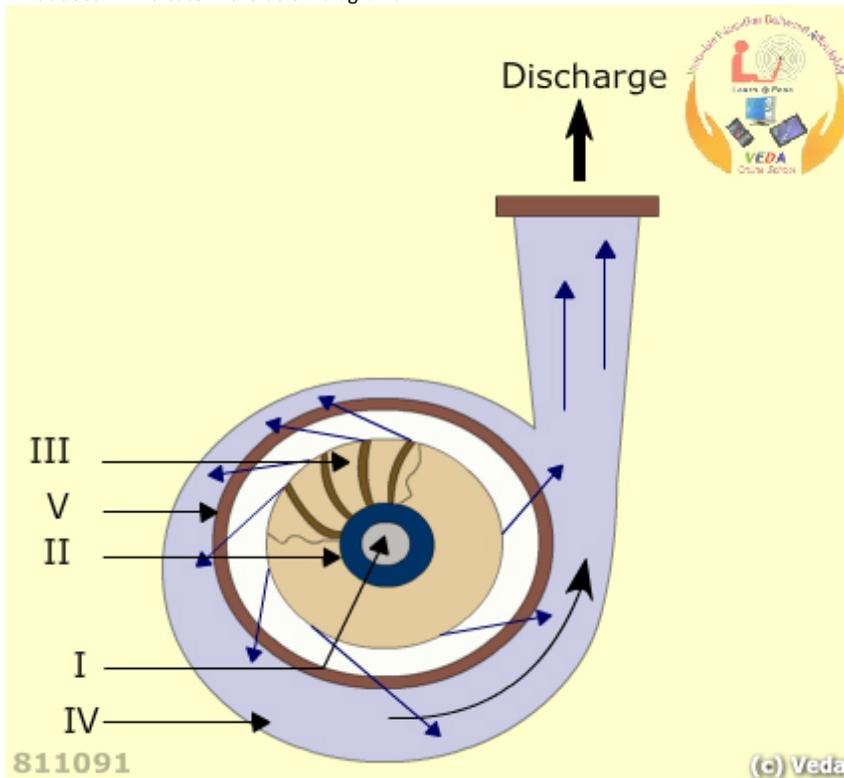


3.

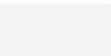


(1)

What does "I" indicate in the below diagram?



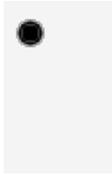
Shaft Sleeve



Casing

Impeller

Vane



4.



(1)

Select the correct statement.

Pressure type vacuum valves can prevent Backflow.

Dynamic pressure is a function of the fluid velocity and its density.

The water reservoir of a self-priming pump may be at the back of the impeller.

Stripping pumps are not of the self-priming type.



5.



(1)

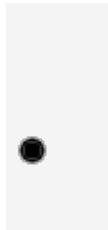
Where is cofferdam in Framo pumps?

On the cargo pump side of the seal

On the hydraulic motor side of the seal

On both pump and motor side of the seal

Not on the pump end or the motor end



6.



(1)

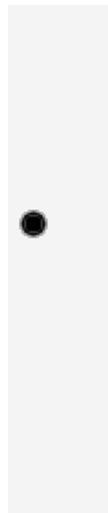
Why a two way valve is provided in the air or inert gas line provided to check the leakage of oil in the cofferdam?

One is for the normally closed position and the other is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position and the other is for checking the leakage of cargo oil in the pump side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the third one is for checking the leakage of hydraulic oil in the motor side

One is for the normally closed position, the other is for checking the leakage of cargo oil in the pump side and the third one is for checking the leakage of hydraulic oil in the motor side

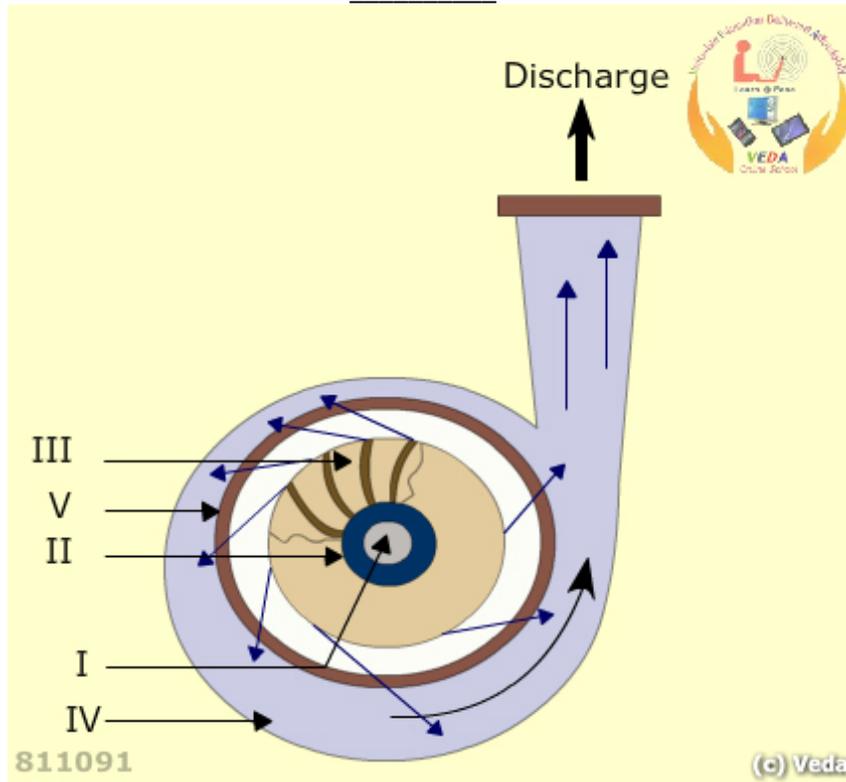


7.



(1)

The number "10" indicates a _____.

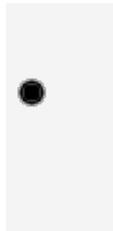


Top Plate

Stripping Valve

Resilient Mounting

Deck Trunk

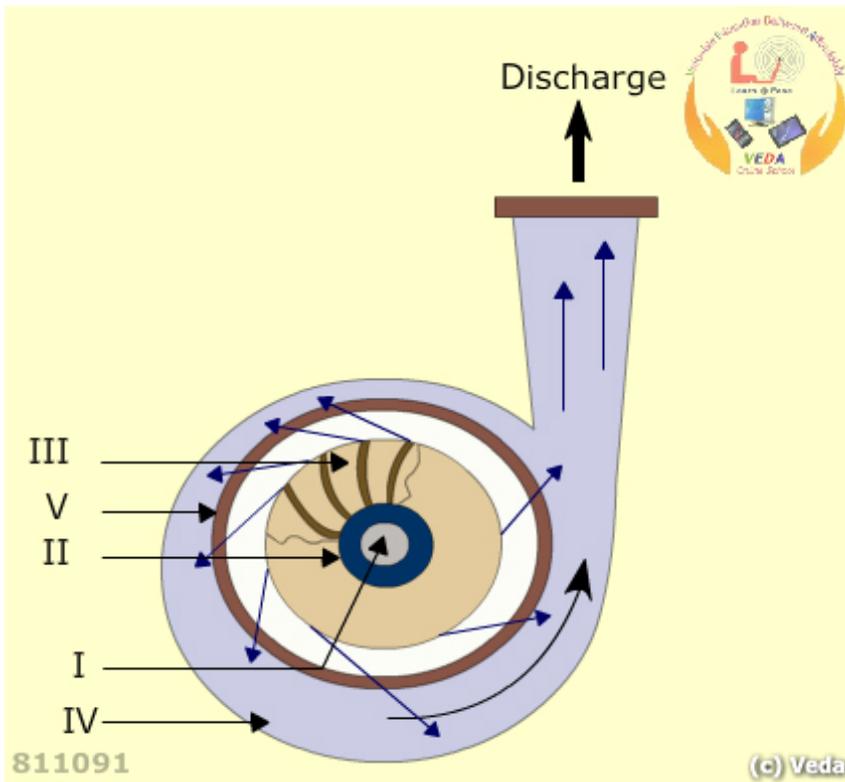


8.



(1)

What does "II" indicate in the below diagram?



Eye (Suction)

Shaft

Impeller

Diffuser

9.



(1)

State if the following is True or False?

After fixing the snap on hydraulic couplings of portable Framo, secure it with locking ring—only then the arrangement is safe.

True

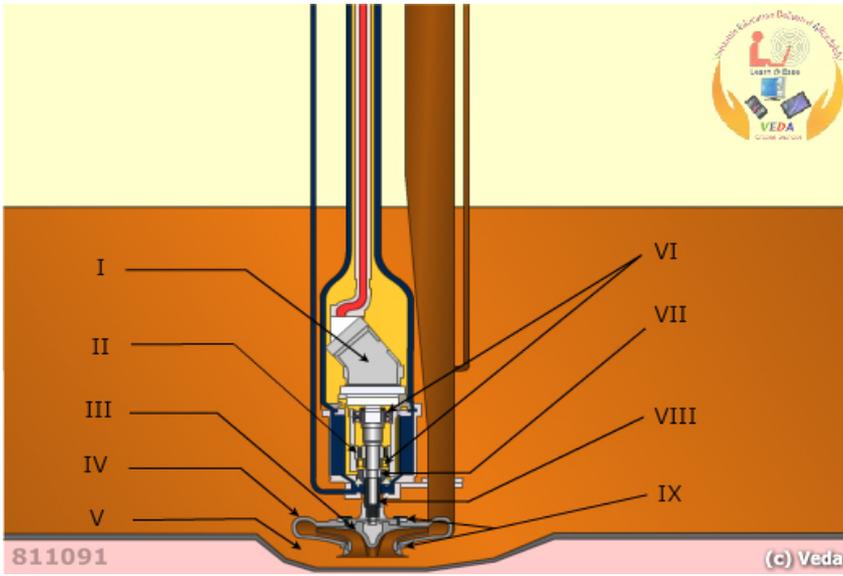
False

10.



(1)

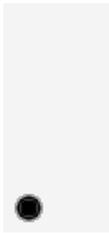
What does figure "VII" represent?



811091

(c) Veda

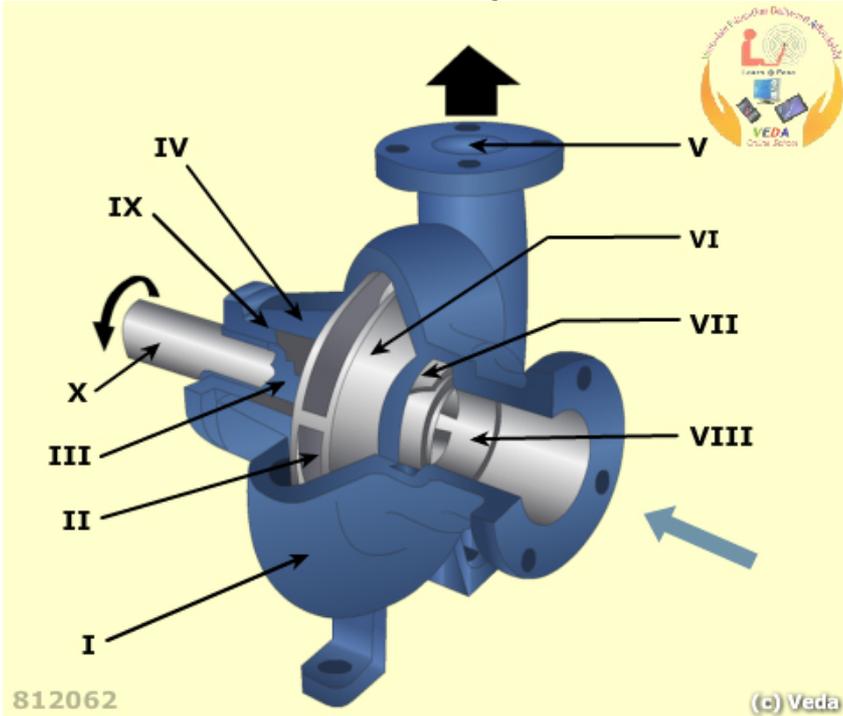
- Hydraulic Motor
- Sleeve
- Wear rings
- Mechanical Oil Seal



1.

 (1)

What does "V" indicate in the below diagram?



812062

(c) Veda

- Speed Torque Control Valve
- Cofferdam Purging
- Local Control Valve



Cofferdam Check Pipe

2.



(1)

Bernoulli's principle states that:

pressure (P) x height (H) is a constant

height (H) x velocity (V) is a constant

pressure (P) x velocity (V) is a constant

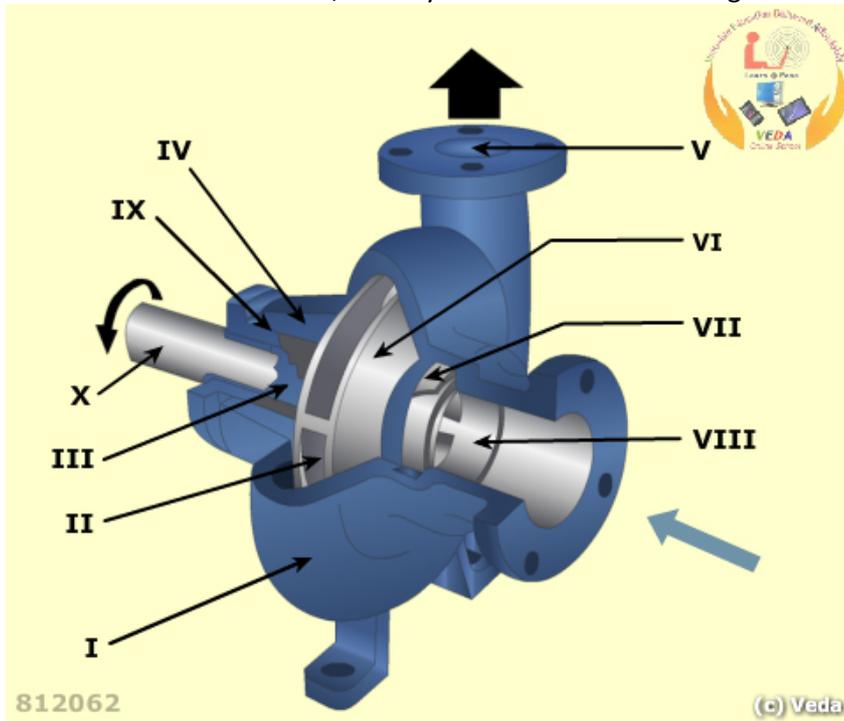
pressure (P) x density (D) is a constant

3.



(1)

From the below illustration, identify the name of the marking "14".



Resilient Mounting

Deck Trunk

Cargo Pipe

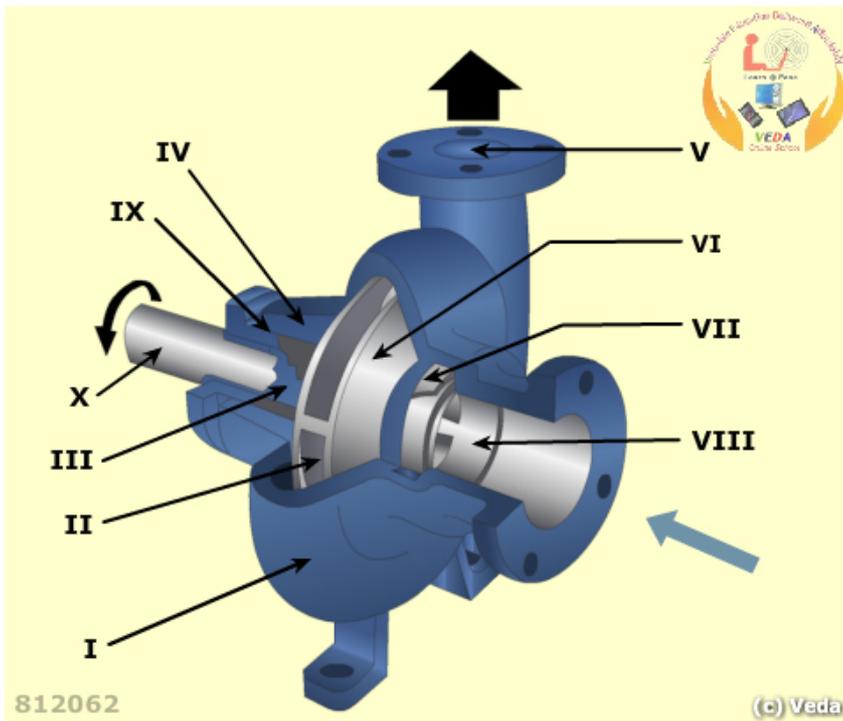
Hydraulic Pressure Pipe

4.



(1)

From the below illustration, identify the name of the marking "V".



Diffuser

Shaft

Eye (Suction)

Impeller

5.



(1)

Normally how much hydraulic oil is required to run the Framo portable pump?

360 litres per min

250 litres per min

140 litres per min

90 litres per min

6.



(1)

What is the pressure of the hydraulic oil in the return side after running the hydraulic motor?

Around 3 Bar

Around 10 bar

Around 15 bar

Above 15 bar

7.



(1)

Normally what is the discharge capacity of Framo portable pumps?

150 cubic meter per hour

100 cubic meter per hour

70 cubic meter per hour

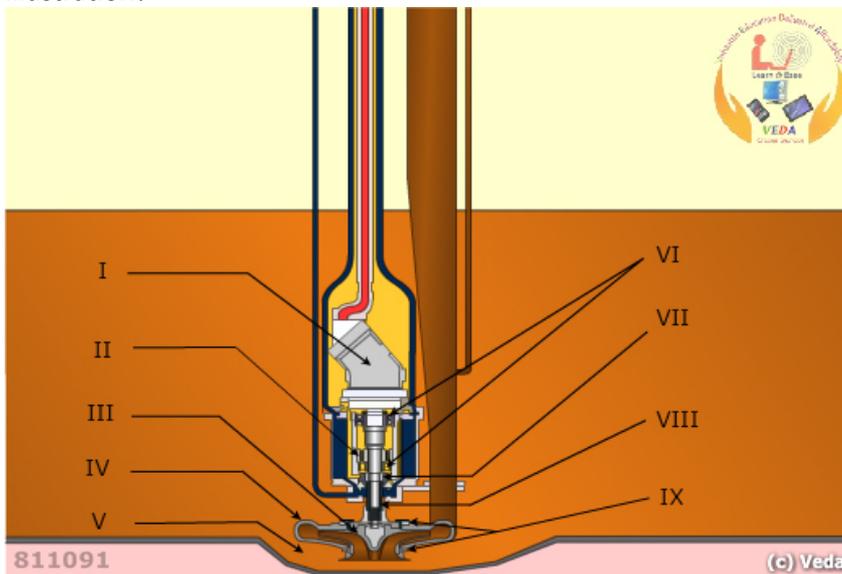
200 cubic meter per hour

8.



(1)

Which number represents the Hydraulic Motor in the below illustration?



I

II

III

IV

9.



(1)

How the speed of the portable pump can be varied?

Portable pump speed cannot be varied

Using the flow control valve of the main cargo pump

By varying the speed of the feed pump

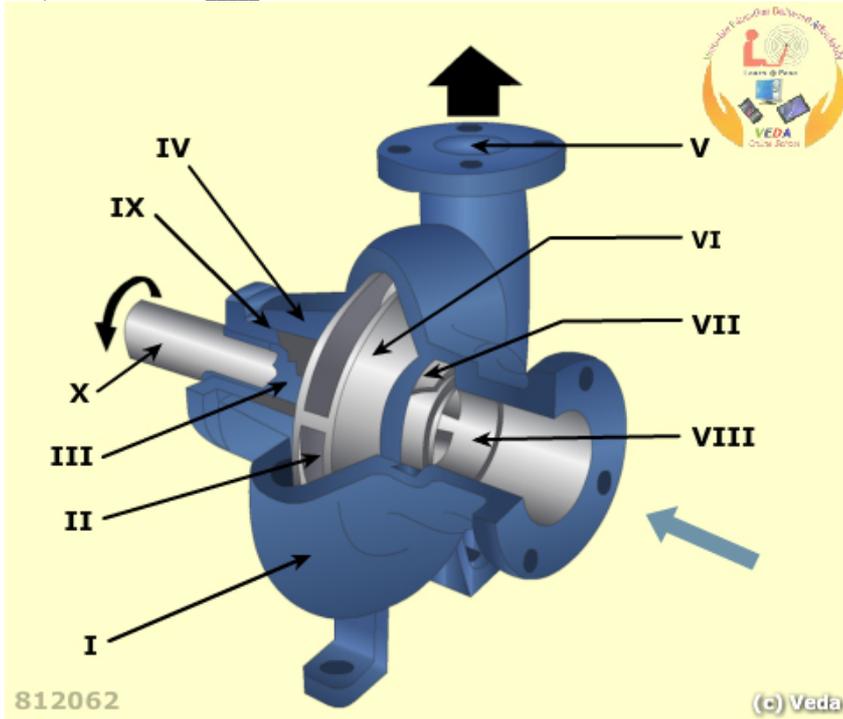
The portable pump is always rigged with its own flow control valve which is used for speed variation

10.



(1)

The part "IX" indicates _____.

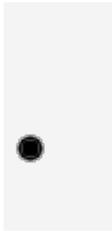


Stuffing Box

Shaft Sleeve

Packing

Casing

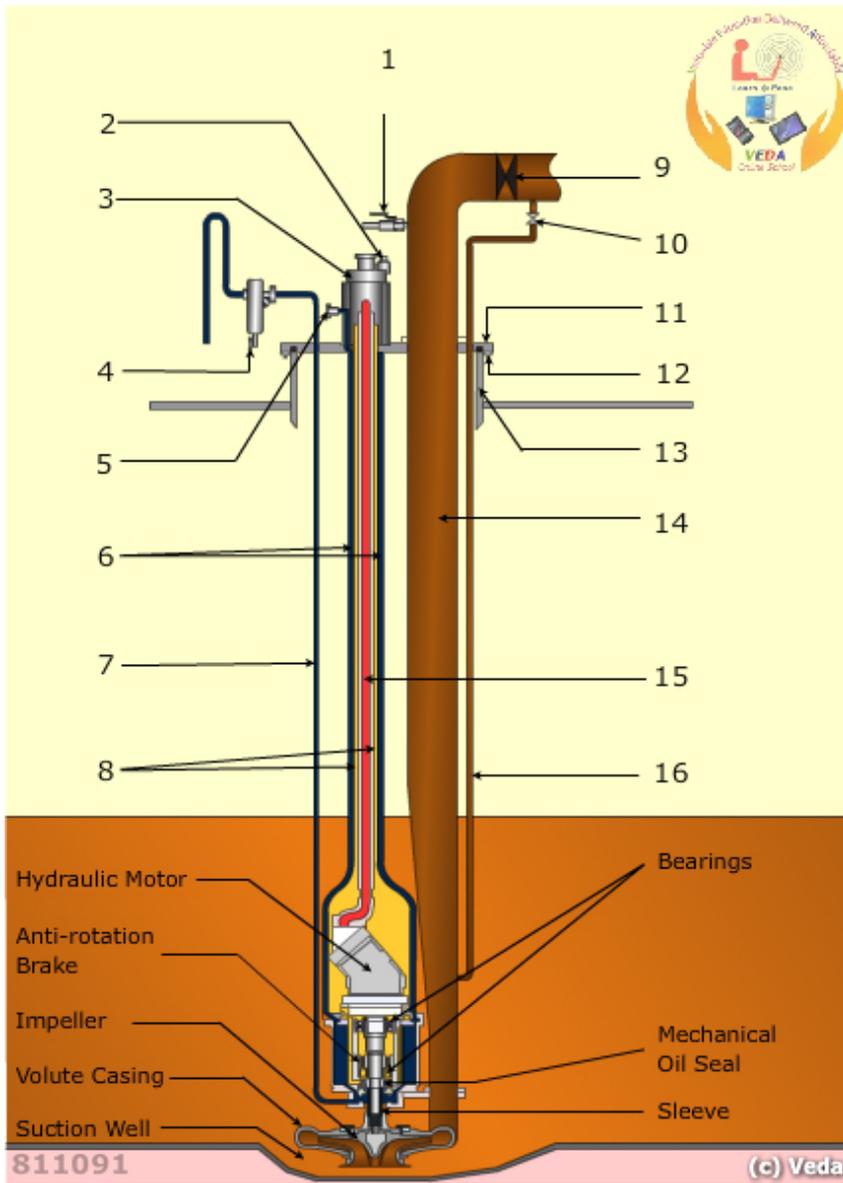


1.



(1)

What does "I" indicate in the below diagram?

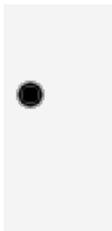


Shaft Sleeve

Casing

Impeller

Vane

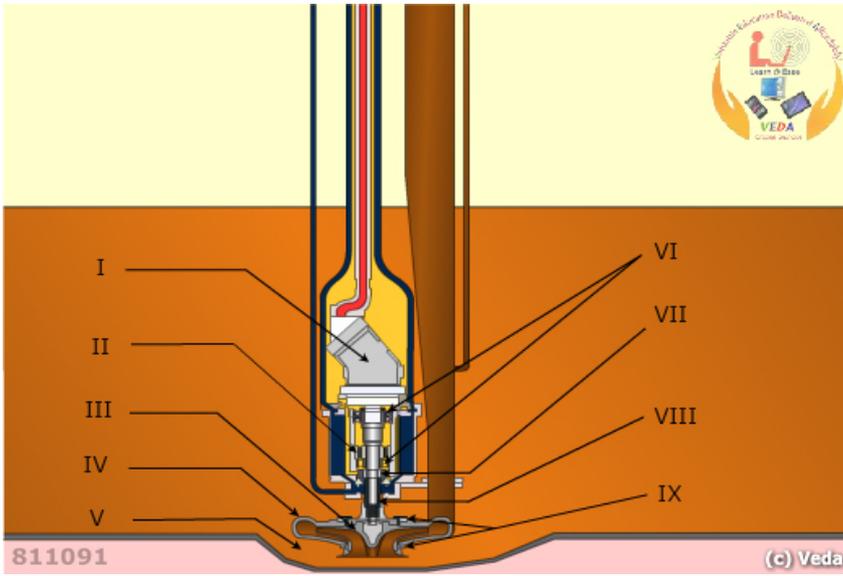


2.

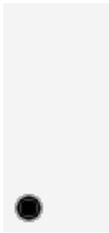


(1)

What does figure "VII" represent?



- Hydraulic Motor
- Sleeve
- Wear rings
- Mechanical Oil Seal

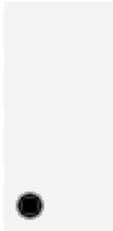


3.

 (1)

What kind of pumps can move extremely thick fluids like sludge without clogging ?

- Rotary vane pumps
- Reciprocating pumps
- Deep well pumps
- Screw pumps



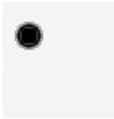
4.

 (1)

State if the following is True or False?

After fixing the snap on hydraulic couplings of portable Framo, secure it with locking ring—only then the arrangement is safe.

- True
- False

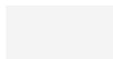


5.

 (1)

Select the correct statement.

Pressure type vacuum valves can prevent Backflow.



Dynamic pressure is a function of the fluid velocity and its density.

The water reservoir of a self-priming pump may be at the back of the impeller.

Stripping pumps are not of the self-priming type.

6.



(1)

What is the pressure of the hydraulic oil in the inlet side for running the hydraulic motor?

Around 50 Bar

Around 170 bar

Around 100 bar

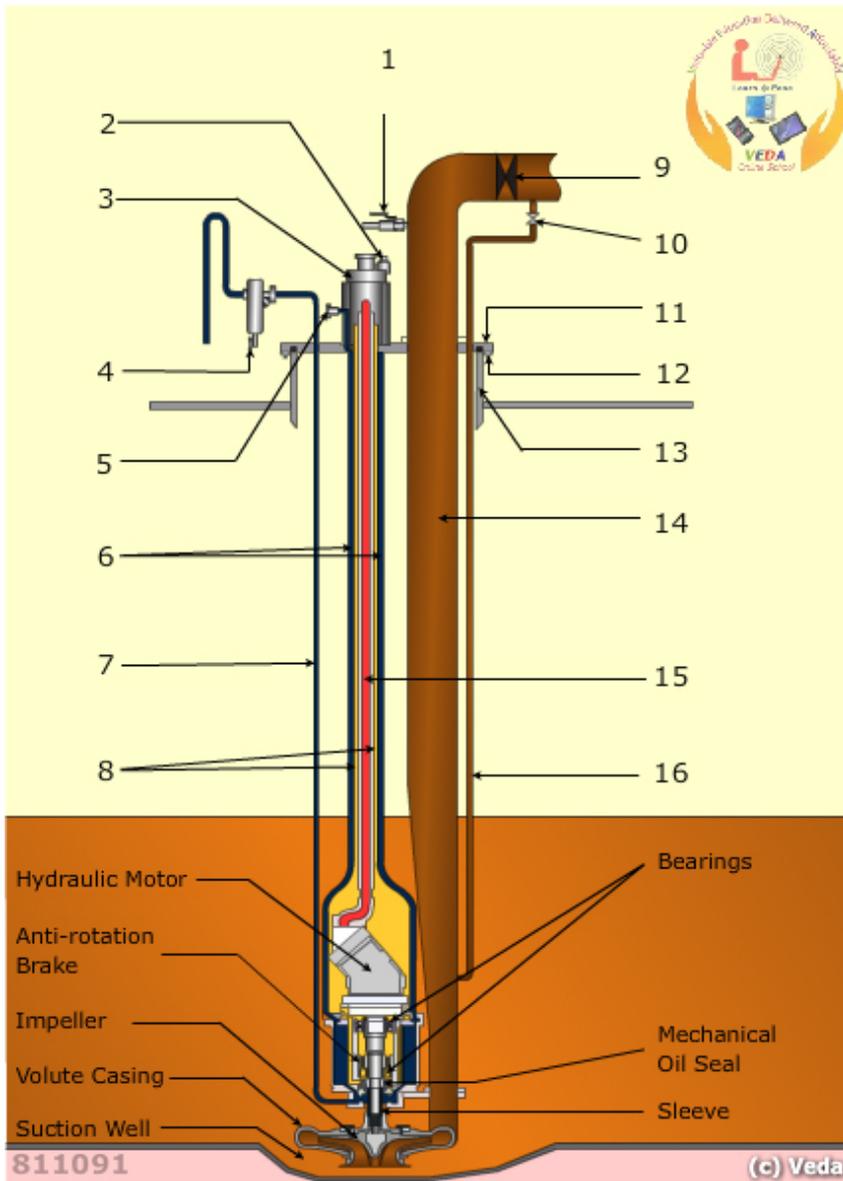
Around 25 bar

7.



(1)

What does "V" indicate in the below diagram?

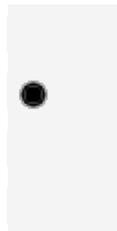


Speed Torque Control Valve

Cofferdam Purging

Local Control Valve

Cofferdam Check Pipe



8.



(1)

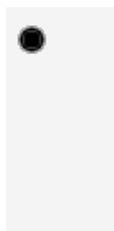
The reciprocating pump creates a suction effect when there is a

decrease in pressure

increase in pressure

no change in pressure

decrease or an increase in pressure

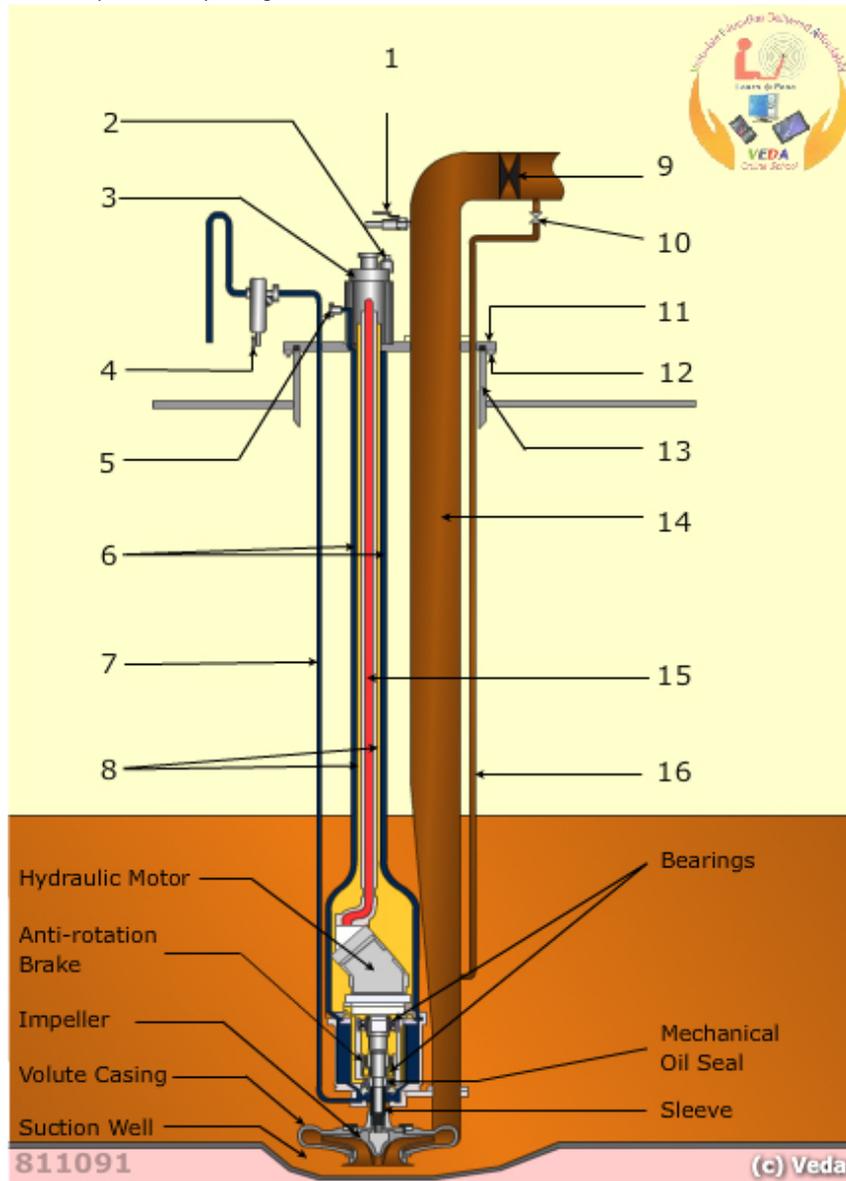


9.



(1)

What is represented by the figure "VI" in the illustration?

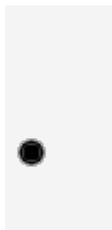


Eye of impeller

Shaft

Impeller

Casing

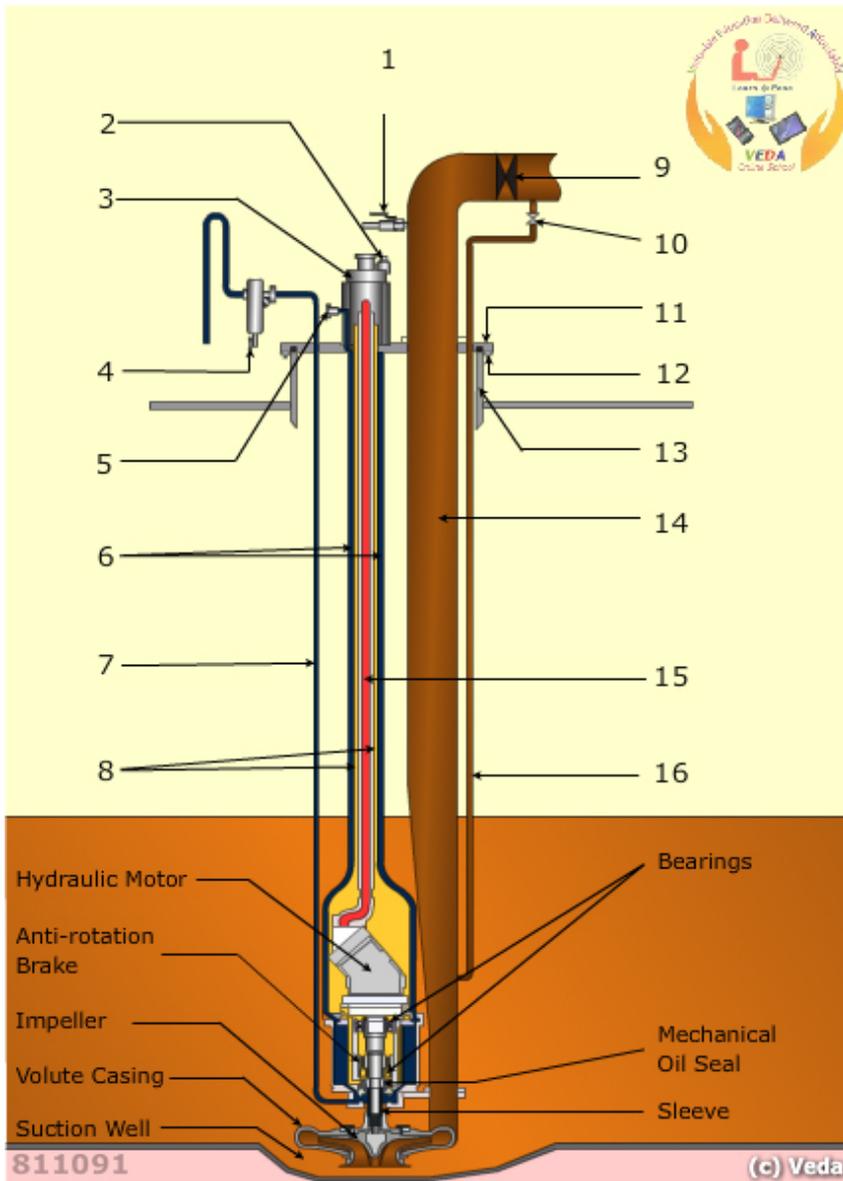


10.



(1)

What does "X" indicate in the below diagram?

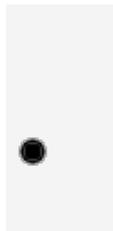


Shaft Sleeve

Casing

Shaft

None of the above



SET 9

1.



(1)

What happens within the hull girder due to the development of bending moment due to stresses on hull are the following: find a statement that provides structural strength to the hull girder

A bending stress is developed at every transverse section of the hull.

The universal expression for bending stress is: bending stress = (bending moment)/(section modulus)

Maximum bending moment at the midship means that the bending stress at the midships will be the maximum, and hence the deciding factor for the design.

The bending stress at the midship is kept within safe limits by designing the midship section with a sufficient section modulus.

2.



(1)

When doing an enclosed space rescue, the person in charge must coordinate the rescue:

From inside the space

From the Bridge

From outside the space

From the Engine Control Room

3.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.

A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

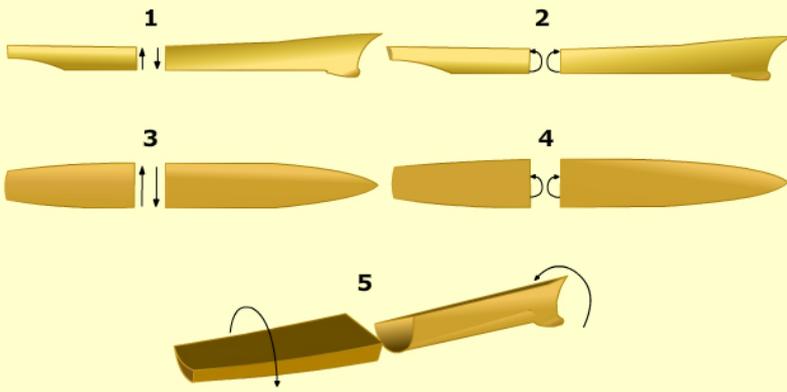
4.



(1)

Identify the correct labelling selections in the ESD system

Nature of Hull Girder Loads



916091

6 -Optical Fiber Cable ; 5-Mooring Line; 4-PERC; 3- Mooring Hook

3 -Optical Fiber Cable ; 4-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 3-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 5-Mooring Line; 3-PERC; 6- Mooring Hook

5.



(1)

Control of Entry into Enclosed Spaces; identify the most important statement which is a key measure to safe entry

Prior to entry into an enclosed space, a risk assessment should be completed to identify the potential hazards and to determine the safeguards to be adopted.

The safe working practice should be documented and approved by the responsible officer before being countersigned by the master, who confirms that the practice is safe and in compliance with the ship's Safety Management System.

The permit, or other enabling document, should be sighted and completed by the person entering the space, prior to entry.

The controls required for safe entry vary with the task being performed and the potential hazards identified during the risk assessment.

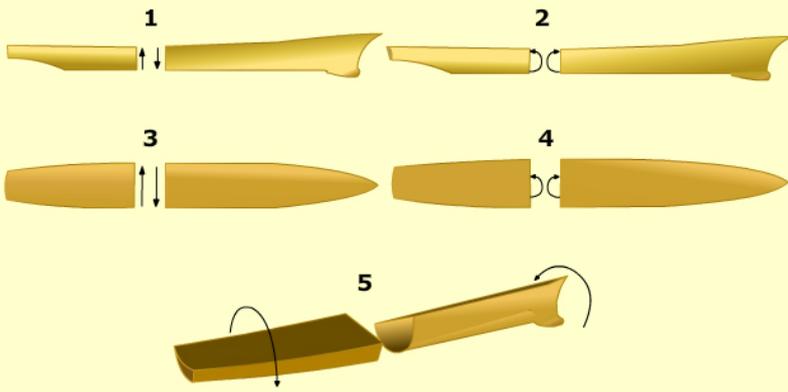
6.



(1)

Nature of hull girder loads; identify correctly,

Nature of Hull Girder Loads



916091

1- Vertical Bending Moment; 2-Vertical Shear Stress; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Bending Moment; 4- Horizontal Shear Force 5- Torsional Moment

1-Torsional Moment; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Vertical Shear Stress

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

7.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

8.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention

9.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors



A discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

High level of oil residues in overboard discharge

10.



(1)

While in port, if a fire occurs on board ship, support available from the shore includes the following; which one, in your opinion, makes the most important distinction for a shipboard fire?

Assistance from the fire brigade – experienced manpower and firefighting equipment.



Medical services of shore hospitals including ambulances with stretchers and paramedics in attendance, helicopters, etc.

Transportation for evacuating personnel from ship that are non-essential for firefighting.

Catering services where ship's resources are restricted by the fire.

1.



(1)

Typical Locations for High Sensitivity to Fatigue Failure The following areas are considered to be prone to fatigue failure on double hull oil tankers: which one is the most common

Side shell area below the load and ballast waterlines. These areas are subjected to the highest cycle loading through the ship's life due to the passage of waves along the side of the ship.



Deck plating at connection to primary supporting members.

Connection between transverse bulkheads to the upper and lower bulkhead stools.

Connection between lower hopper sloping plating and inner bottom plating.

2.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

3.



(1)

What happens within the hull girder due to the development of bending moment due to stresses on hull are the following: find a statement that provides structural strength to the hull girder

A bending stress is developed at every transverse section of the hull.

The universal expression for bending stress is: bending stress = (bending moment)/(section modulus)

Maximum bending moment at the midship means that the bending stress at the midships will be the maximum, and hence the deciding factor for the design.

The bending stress at the midship is kept within safe limits by designing the midship section with a sufficient section modulus.

4.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors

A discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

High level of oil residues in overboard discharge

5.



(1)

While in port, if a fire occurs on board ship, support available from the shore includes the following; which one, in your opinion, makes the most important distinction for a shipboard fire?

Assistance from the fire brigade – experienced manpower and firefighting equipment.

Medical services of shore hospitals including ambulances with stretchers and paramedics in attendance, helicopters, etc.

Transportation for evacuating personnel from ship that are non-essential for firefighting.

Catering services where ship's resources are restricted by the fire.

6.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention



7.



(1)

Safeguards for Enclosed Space Entry; Before allowing access to the space, the responsible officer should ensure, amongst other things, that: identify the most important of all the elements

The personal protective equipment to be used by people entering the enclosed space must be prescribed.



Approved safety torches.

Approved UHF radio.

Personal gas detector or an area gas detector and alarm.

8.



(1)

In case of a collision, the following, amongst other steps are considered as a general plan of action; which one will be a priority in case of an underwater hull damage?

Assessing possible pollution due to rupture of fuel and or cargo (oil or chemical) tanks;



Taking corrective action to minimize the quantum of pollution; reporting the incident.

Assembling the emergency party.

Preparing for or implementing fire-fighting measures (in the event of a fire).

9.



(1)

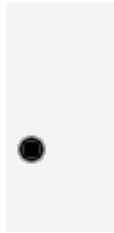
When doing an enclosed space rescue, the person in charge must coordinate the rescue:

From inside the space

From the Bridge

From outside the space

From the Engine Control Room



10.



(1)

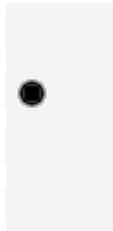
The Medical First Aid Guide is published by the:

International Maritime Organisation

World Health Organisation

United Nations

International Labour Organisation

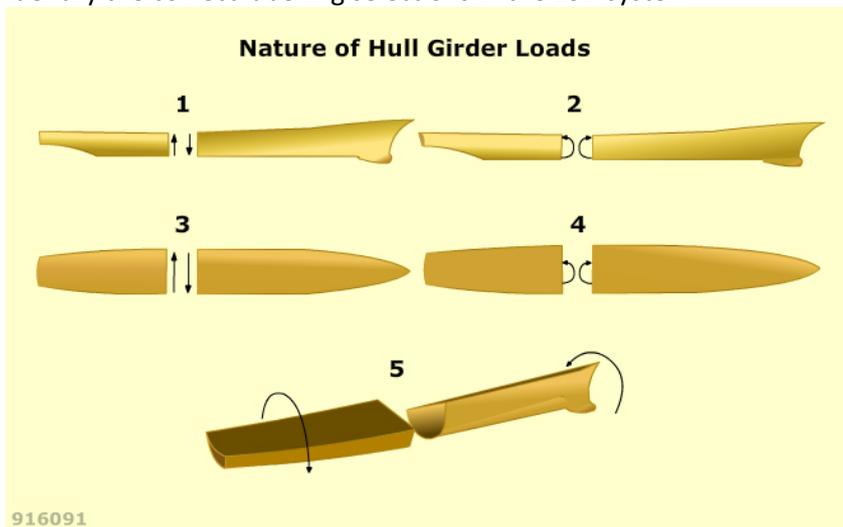


1.



(1)

Identify the correct labelling selections in the ESD system

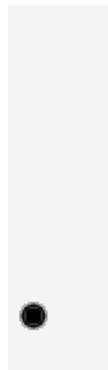


6 -Optical Fiber Cable ; 5-Mooring Line; 4-PERC; 3- Mooring Hook

3 -Optical Fiber Cable ; 4-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 3-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 5-Mooring Line; 3-PERC; 6- Mooring Hook



2.



(1)

Find a statement that in your opinion, is the most critical in a grounding incident?

Grounding can cause loss of human life.

Grounding can cause harmful environmental impact, especially in the case where large tanker ships are involved.

Grounding can cause financial consequences to local communities close to the accident.

Grounding can cause financial consequences to ship-owners, due to ship loss or penalties.

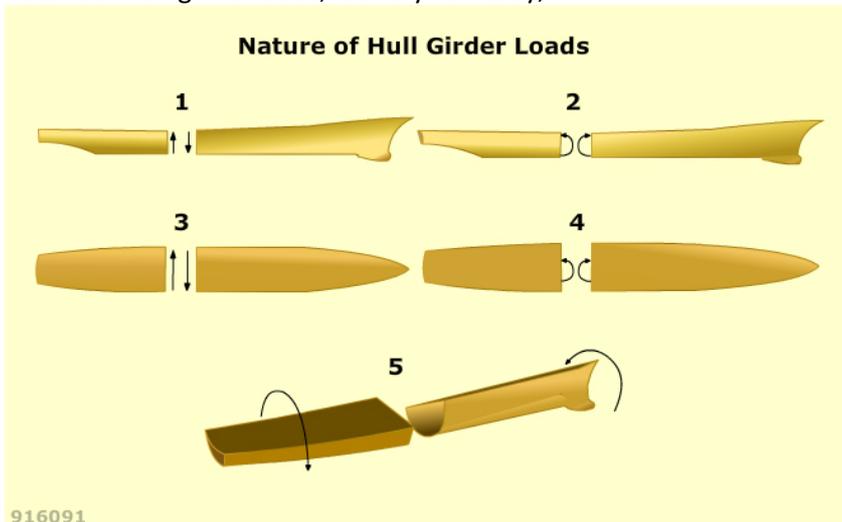


3.



(1)

Nature of hull girder loads; identify correctly,



1- Vertical Bending Moment; 2-Vertical Shear Stress; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Bending Moment; 4- Horizontal Shear Force 5- Torsional Moment

1-Torsional Moment; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Vertical Shear Stress

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment



4.



(1)

While in port, if a fire occurs on board ship, support available from the shore includes the following; which one, in your opinion, makes the most important distinction for a shipboard fire?

Assistance from the fire brigade – experienced manpower and firefighting equipment.

Medical services of shore hospitals including ambulances with stretchers and paramedics in attendance, helicopters, etc.

Transportation for evacuating personnel from ship that are non-essential for firefighting.

Catering services where ship's resources are restricted by the fire.

5.



(1)

Control of Entry into Enclosed Spaces; identify the most important statement which is a key measure to safe entry

Prior to entry into an enclosed space, a risk assessment should be completed to identify the potential hazards and to determine the safeguards to be adopted.

The safe working practice should be documented and approved by the responsible officer before being countersigned by the master, who confirms that the practice is safe and in compliance with the ship's Safety Management System.

The permit, or other enabling document, should be sighted and completed by the person entering the space, prior to entry.

The controls required for safe entry vary with the task being performed and the potential hazards identified during the risk assessment.

6.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

7.



(1)

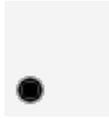
The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention

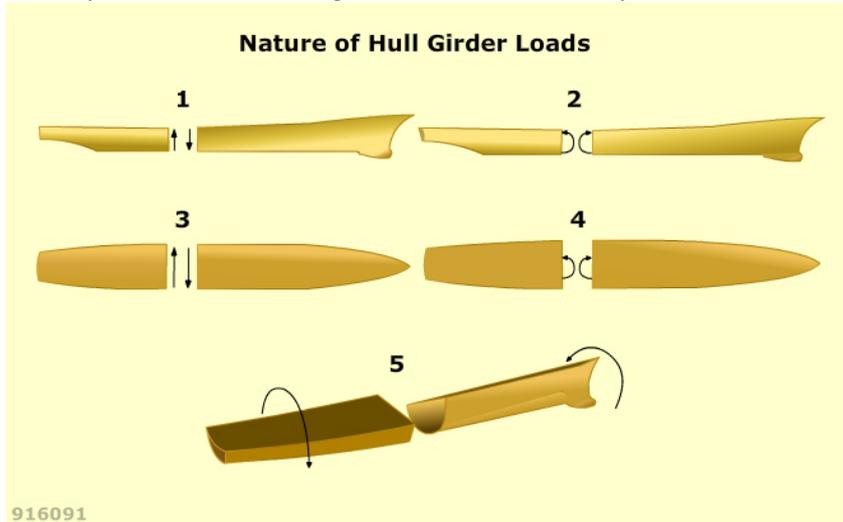


8.



(1)

Identify the correct labelling selections in the ESD system



1 - PERC ; 2-ESD Valve; 3- Detection for ship movement; 4- Optical Fiber Cable

1-Detection for ship movement; 2- PERC; 3 - ESD Valve ; 4- Optical Fiber Cable

1-Detection for ship movement; 2-ESD Valve; 3-PERC; 4- Optical Fiber Cable

1-Optical Fiber Cable ; 2-ESD Valve; 3-PERC; 4- Detection for ship movement



9.



(1)

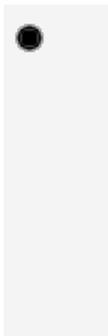
In case of a collision, the following, amongst other steps are considered as a general plan of action; which one will be a priority in case of an underwater hull damage?

Assessing possible pollution due to rupture of fuel and or cargo (oil or chemical) tanks;

Taking corrective action to minimize the quantum of pollution; reporting the incident.

Assembling the emergency party.

Preparing for or implementing fire-fighting measures (in the event of a fire).



10.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.



A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

1.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors



A discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

High level of oil residues in overboard discharge

2.



(1)

When doing an enclosed space rescue, the person in charge must coordinate the rescue:

From inside the space

From the Bridge

From outside the space



From the Engine Control Room

3.



(1)

The Medical First Aid Guide is published by the:

International Maritime Organisation

World Health Organisation



4.



(1)

Control of Entry into Enclosed Spaces; identify the most important statement which is a key measure to safe entry

Prior to entry into an enclosed space, a risk assessment should be completed to identify the potential hazards and to determine the safeguards to be adopted.

The safe working practice should be documented and approved by the responsible officer before being countersigned by the master, who confirms that the practice is safe and in compliance with the ship's Safety Management System.

The permit, or other enabling document, should be sighted and completed by the person entering the space, prior to entry.

The controls required for safe entry vary with the task being performed and the potential hazards identified during the risk assessment.

5.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

6.



(1)

Safeguards for Enclosed Space Entry; Before allowing access to the space, the responsible officer should ensure, amongst other things, that: identify the most important of all the elements

A rescue harness, complete with lifeline, is ready for immediate use at the entrance to the space.

Fully charged safety torch is ready for immediate use at the entrance to the space.

A responsible member of the crew is in constant attendance outside the enclosed space, in the immediate vicinity of the entrance and in direct contact with a responsible officer.

These persons should be trained in the actions to be taken in the event of an emergency.

7.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.



A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

8.



(1)

Typical Locations for High Sensitivity to Fatigue Failure The following areas are considered to be prone to fatigue failure on double hull oil tankers: which one is the most common

Side shell area below the load and ballast waterlines. These areas are subjected to the highest cycle loading through the ship's life due to the passage of waves along the side of the ship.



Deck plating at connection to primary supporting members.

Connection between transverse bulkheads to the upper and lower bulkhead stools.

Connection between lower hopper sloping plating and inner bottom plating.

9.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention



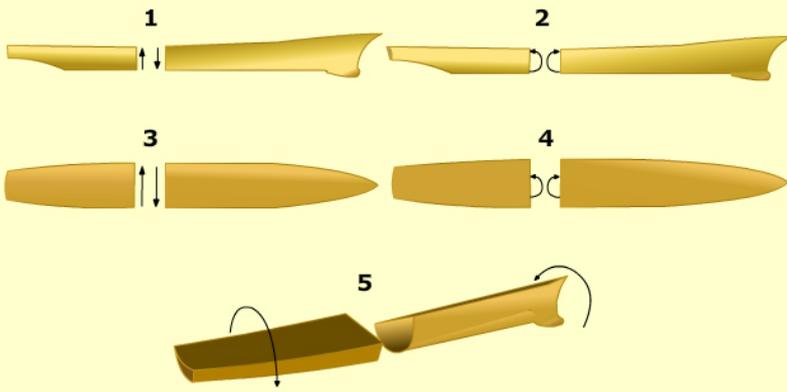
10.



(1)

Nature of hull girder loads; identify correctly,

Nature of Hull Girder Loads



916091

1- Vertical Bending Moment; 2-Vertical Shear Stress; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Bending Moment; 4- Horizontal Shear Force 5- Torsional Moment

1-Torsional Moment; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Vertical Shear Stress

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

1.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.

A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

2.



(1)

Typical Locations for High Sensitivity to Fatigue Failure The following areas are considered to be prone to fatigue failure on double hull oil tankers: which one is the most common

Side shell area below the load and ballast waterlines. These areas are subjected to the highest cycle loading through the ship's life due to the passage of waves along the side of the ship.

Deck plating at connection to primary supporting members.

Connection between transverse bulkheads to the upper and lower bulkhead stools.

Connection between lower hopper sloping plating and inner bottom plating.

3.



(1)

What happens within the hull girder due to the development of bending moment due to stresses on hull are the following: find a statement that provides structural strength to the hull girder

A bending stress is developed at every transverse section of the hull.

The universal expression for bending stress is: bending stress = (bending moment)/(section modulus)

Maximum bending moment at the midship means that the bending stress at the midships will be the maximum, and hence the deciding factor for the design.

The bending stress at the midship is kept within safe limits by designing the midship section with a sufficient section modulus.

4.



(1)

When doing an enclosed space rescue, the person in charge must coordinate the rescue:

From inside the space

From the Bridge

From outside the space

From the Engine Control Room

5.



(1)

Find a statement that in your opinion, is the most critical in a grounding incident?

Grounding can cause loss of human life.

Grounding can cause harmful environmental impact, especially in the case where large tanker ships are involved.

Grounding can cause financial consequences to local communities close to the accident.

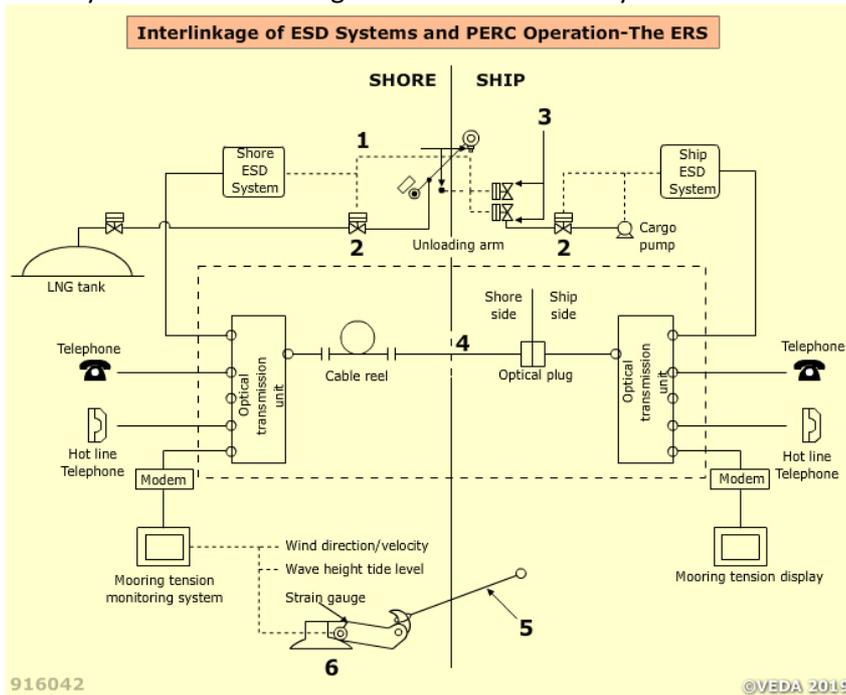
Grounding can cause financial consequences to ship-owners, due to ship loss or penalties.

6.



(1)

Identify the correct labelling selections in the ESD system



6 -Optical Fiber Cable ; 5-Mooring Line; 4-PERC; 3- Mooring Hook

3 -Optical Fiber Cable ; 4-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 3-Mooring Line; 5-PERC; 6- Mooring Hook

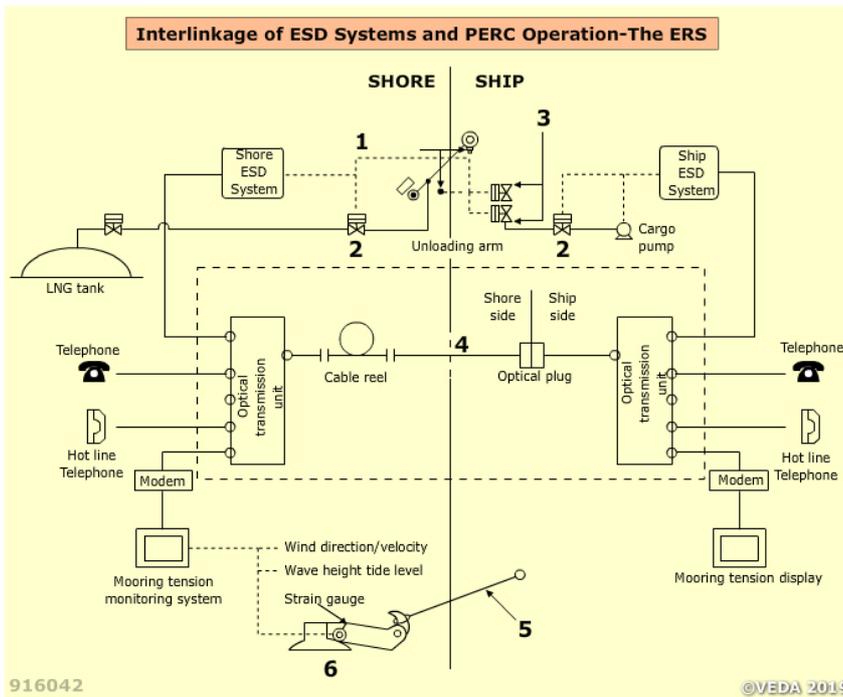
4 -Optical Fiber Cable ; 5-Mooring Line; 3-PERC; 6- Mooring Hook

7.



(1)

Identify the correct labelling selections in the ESD system



1 - PERC ; 2-ESD Valve; 3- Detection for ship movement; 4- Optical Fiber Cable

1-Detection for ship movement; 2- PERC; 3 - ESD Valve ; 4- Optical Fiber Cable

1-Detection for ship movement; 2-ESD Valve; 3-PERC; 4- Optical Fiber Cable

1-Optical Fiber Cable ; 2-ESD Valve; 3-PERC; 4- Detection for ship movement

8.



(1)

In case of a collision, the following, amongst other steps are considered as a general plan of action; which one will be a priority in case of an underwater hull damage?

Assessing possible pollution due to rupture of fuel and or cargo (oil or chemical) tanks;

Taking corrective action to minimize the quantum of pollution; reporting the incident.

Assembling the emergency party.

Preparing for or implementing fire-fighting measures (in the event of a fire).

9.



(1)

Safeguards for Enclosed Space Entry; Before allowing access to the space, the responsible officer should ensure, amongst other things, that: identify the most important of all the elements

A rescue harness, complete with lifeline, is ready for immediate use at the entrance to the space.

Fully charged safety torch is ready for immediate use at the entrance to the space.

A responsible member of the crew is in constant attendance outside the enclosed space, in the immediate vicinity of the entrance and in direct contact with a responsible officer.

These persons should be trained in the actions to be taken in the event of an emergency.

10.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention

1.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

2.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors

A discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

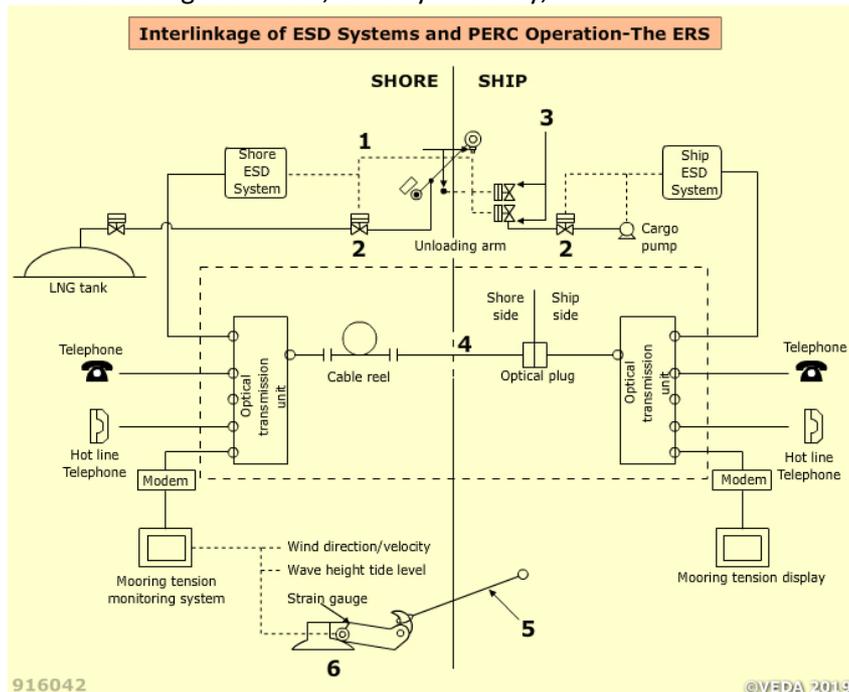
High level of oil residues in overboard discharge

3.



(1)

Nature of hull girder loads; identify correctly,



1- Vertical Bending Moment; 2-Vertical Shear Stress; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Bending Moment; 4- Horizontal Shear Force 5- Torsional Moment

1-Torsional Moment; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Vertical Shear Stress

1- Vertical Shear Stress; 2- Vertical Bending Moment; 3- Horizontal Shear Force; 4- Horizontal Bending Moment; 5- Torsional Moment

4.



(1)

Safeguards for Enclosed Space Entry; Before allowing access to the space, the responsible officer should ensure, amongst other things, that: identify the most important of all the elements

A rescue harness, complete with lifeline, is ready for immediate use at the entrance to the space.

Fully charged safety torch is ready for immediate use at the entrance to the space.

A responsible member of the crew is in constant attendance outside the enclosed space, in the immediate vicinity of the entrance and in direct contact with a responsible officer.

These persons should be trained in the actions to be taken in the event of an emergency.

5.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention



6.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.



A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

7.



(1)

Typical Locations for High Sensitivity to Fatigue Failure The following areas are considered to be prone to fatigue failure on double hull oil tankers: which one is the most common

Side shell area below the load and ballast waterlines. These areas are subjected to the highest cycle loading through the ship's life due to the passage of waves along the side of the ship.



Deck plating at connection to primary supporting members.

Connection between transverse bulkheads to the upper and lower bulkhead stools.

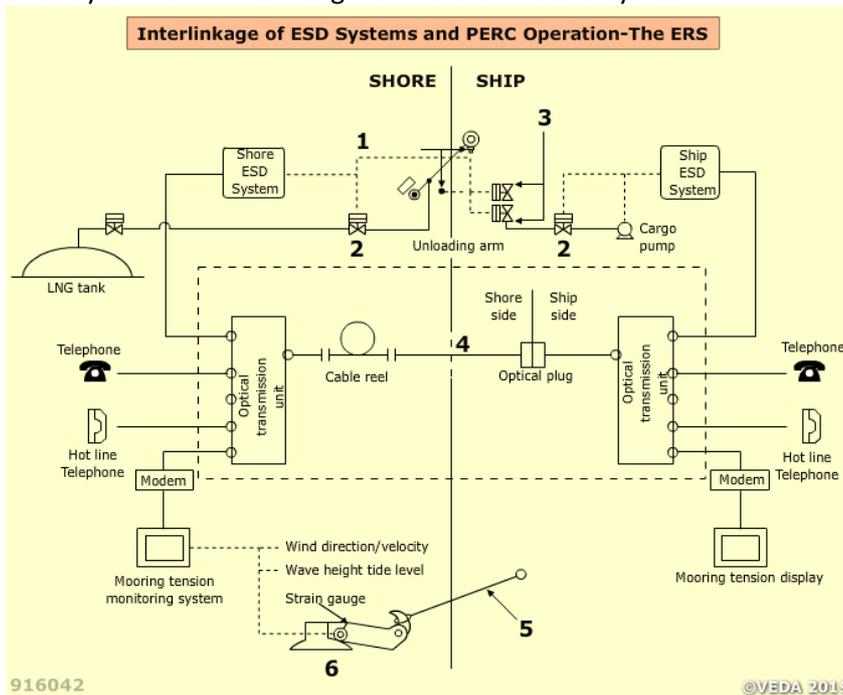
Connection between lower hopper sloping plating and inner bottom plating.

8.



(1)

Identify the correct labelling selections in the ESD system



6 -Optical Fiber Cable ; 5-Mooring Line; 4-PERC; 3- Mooring Hook

3 -Optical Fiber Cable ; 4-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 3-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 5-Mooring Line; 3-PERC; 6- Mooring Hook

9.



(1)

When doing an enclosed space rescue, the person in charge must coordinate the rescue:

From inside the space

From the Bridge

From outside the space

From the Engine Control Room

10.



(1)

Control of Entry into Enclosed Spaces; identify the most important statement which is a key measure to safe entry

Prior to entry into an enclosed space, a risk assessment should be completed to identify the potential hazards and to determine the safeguards to be adopted.

The safe working practice should be documented and approved by the responsible officer before being countersigned by the master, who confirms that the practice is safe and in compliance with the ship's Safety Management System.

The permit, or other enabling document, should be sighted and completed by the person entering the space, prior to entry.

The controls required for safe entry vary with the task being performed and the potential hazards identified during the risk assessment.

SET 10

1.



(1)

How the air for combustion is supplied to the boiler?

Forced draft fan supplies the air for combustion to the boiler

Air for combustion flows due to the natural draft of the boiler

The rotary cup rotates at a high speed

2.



(1)

Statements on Boiler: identify a statement that supports the use of a watertube boiler with a superheater in many tanker vessels?

The boiler on a tanker vessel is equally important as the main propulsion engines

On a large oil tanker, the fuel consumption in the boiler could be as high as 2/3rd of the engines.

Without having steam at superheated condition, you may not be able to operate the cargo pump turbines efficiently and safely

Without having steam, you may not be able to maintain the oil temperatures correctly within the cargo tanks for discharging.

3.



(1)

What is normally seen through the inspection hole inside the boiler furnace while firing?

Furnace refractory

Flame condition

Boiler Smoke



4.



(1)

Scum blowing of boiler is meant for draining the boiler water from

Bottom

Top

Middle



5.



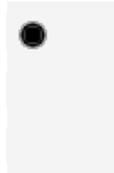
(1)

The air valve on the boiler top shall be kept

Open for a while during raising steam from cold

Closed while shut down of boiler for maintenance

Forced draft fan speed



6.



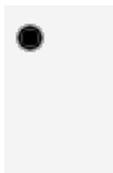
(1)

To which controller first low signal selector passes the master signal on low steam demand?

Fuel controller

Air controller

Forced draft fan speed



7.



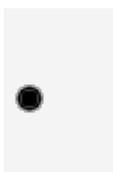
(1)

To which controller first high signal selector passes the master signal on high steam demand?

Fuel controller

Air controller

flame control

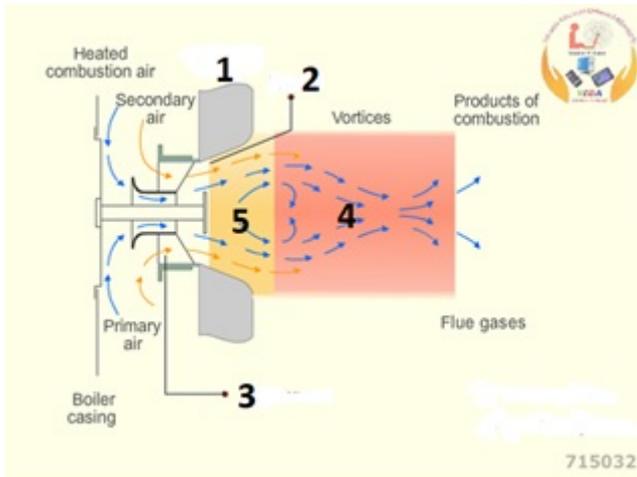


8.



(1)

In burner combustion, find the correct labelling statement



1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Swirl Vane; 3 -Throat; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Primary Flame; 5- Secondary Flame

1- Primary Flame; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Refractory Wall

9.



(1)

Master signal is generated by computing relay based on requirement of

Fuel

Air

Steam

10.



(1)

Why rotary cup burner does not require high pressure fuel supply for atomisation?

The rotary cup rotates at a high speed

The nozzle rotates at a high speed

Air controller

1.



(1)

How the air for combustion is supplied to the boiler?

Forced draft fan supplies the air for combustion to the boiler



Air for combustion flows due to the natural draft of the boiler

The rotary cup rotates at a high speed

2.



(1)

Statements on Boiler: identify a statement that supports the use of a watertube boiler with a superheater in many tanker vessels?

The boiler on a tanker vessel is equally important as the main propulsion engines

On a large oil tanker, the fuel consumption in the boiler could be as high as 2/3rd of the engines.

Without having steam at superheated condition, you may not be able to operate the cargo pump turbines efficiently and safely

Without having steam, you may not be able to maintain the oil temperatures correctly within the cargo tanks for discharging.



3.



(1)

What is normally seen through the inspection hole inside the boiler furnace while firing?

Furnace refractory

Flame condition

Boiler Smoke



4.



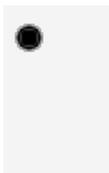
(1)

Why rotary cup burner does not require high pressure fuel supply for atomisation?

The rotary cup rotates at a high speed

The nozzle rotates at a high speed

Air controller



5.



(1)

Statements on Boiler: identify a statement that supports the use of a high capacity watertube boiler in most motor tanker vessels?

The boiler on a tanker vessel is equally important as the main propulsion engines

On a large oil tanker, the fuel consumption in the boiler could be as high as 2/3rd of the engines.

Without having steam at superheated condition, you may not be able to operate the cargo pump turbines efficiently and safely

Without having steam, you may not be able to maintain the oil temperatures correctly within the cargo tanks for discharging.

6.



(1)

Scum blowing of boiler is meant for draining the boiler water from

Bottom

Top

Middle

7.



(1)

Periodic blow down of boiler water is based on

Boiler water tests

Boiler smoke

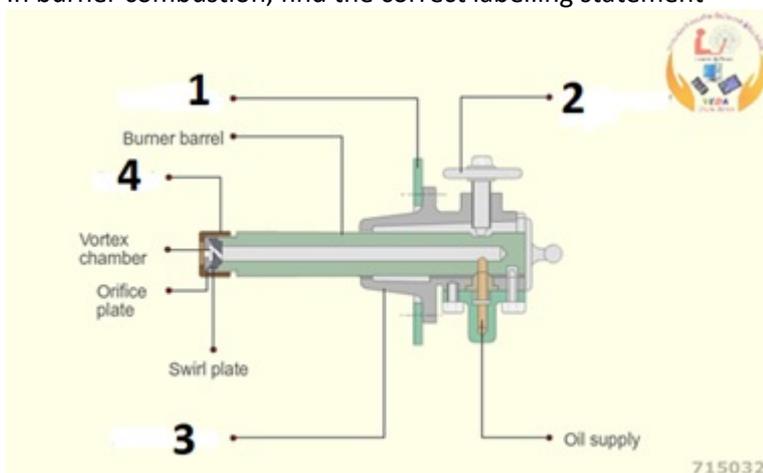
Flame Control

8.



(1)

In burner combustion, find the correct labelling statement



1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Swirl Vane; 3 -Throat; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Primary Flame; 5- Secondary Flame

1- Primary Flame; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Refractory Wall

9.



(1)

To which controller first low signal selector passes the master signal on low steam demand?

Fuel controller

Air controller

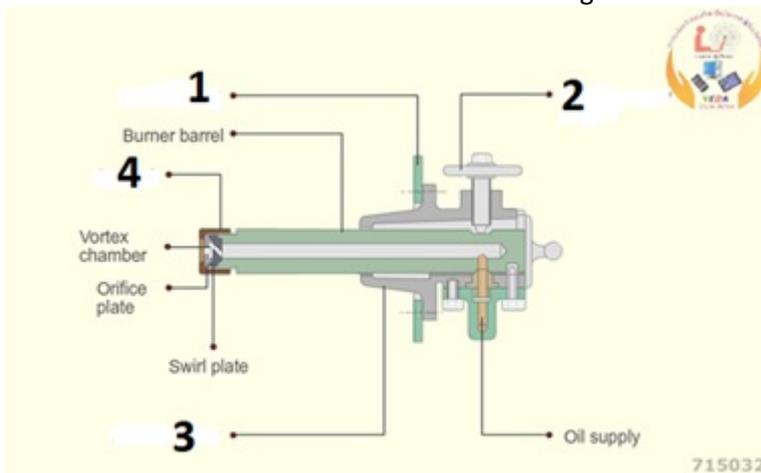
Forced draft fan speed

10.



(1)

For Pressure Jet Burner: find the correct labelling



1-Boiler Casing; 2-Locking Screw; 3-Burner Carrier; 4- Cap Nut

1-Locking Screw; 2-Boiler Casing; 3-Burner Carrier; 4- Cap Nut

1-Boiler Casing; 2-Locking Screw; 3- Cap Nut; 4- Burner Carrier

1-Burner Carrier; 2-Boiler Casing;3-Locking Screw; 4- Cap Nut

1.



(1)

Blowing through a water level gauge in a boiler on board is carried out

Once in a week

Every day

Once in a month

2.



(1)

Master signal is generated by computing relay based on requirement of

Fuel

Air

Steam

3.



(1)

Periodic blow down of boiler water is based on

Boiler water tests

Boiler smoke

Flame Control

4.



(1)

To which controller first low signal selector passes the master signal on low steam demand?

Fuel controller

Air controller

Forced draft fan speed

5.



(1)

The air valve on the boiler top shall be kept

Open for a while during raising steam from cold

Closed while shut down of boiler for maintenance

Forced draft fan speed

6.



(1)

To which controller first high signal selector passes the master signal on high steam demand?

Fuel controller

Air controller

flame control

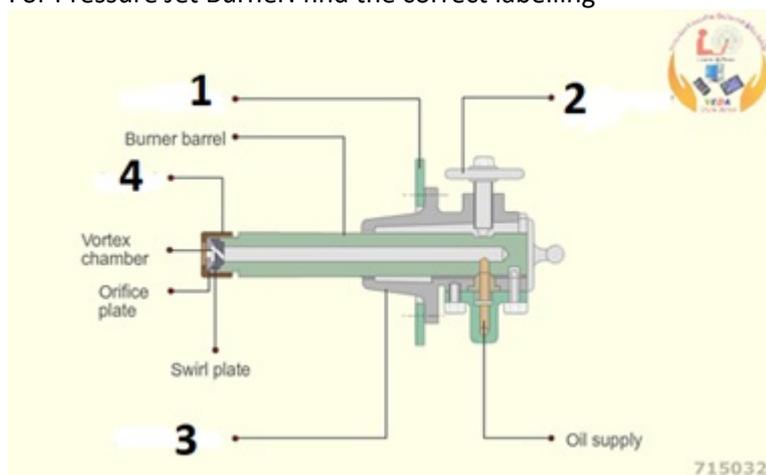


7.



(1)

For Pressure Jet Burner: find the correct labelling

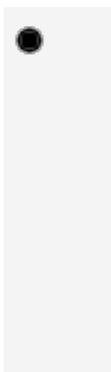


1-Boiler Casing; 2-Locking Screw; 3-Burner Carrier; 4- Cap Nut

1-Locking Screw; 2-Boiler Casing; 3-Burner Carrier; 4- Cap Nut

1-Boiler Casing; 2-Locking Screw; 3- Cap Nut; 4- Burner Carrier

1-Burner Carrier; 2-Boiler Casing; 3-Locking Screw; 4- Cap Nut



8.



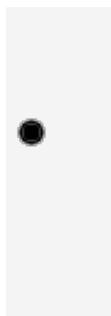
(1)

Statements on Boiler: identify a statement that supports the use of a high capacity watertube boiler in most motor tanker vessels?

The boiler on a tanker vessel is equally important as the main propulsion engines

On a large oil tanker, the fuel consumption in the boiler could be as high as 2/3rd of the engines.

Without having steam at superheated condition, you may not be able to operate the cargo pump turbines efficiently and safely



Without having steam, you may not be able to maintain the oil temperatures correctly within the cargo tanks for discharging.

9.



(1)

How the air for combustion is supplied to the boiler?

Forced draft fan supplies the air for combustion to the boiler

Air for combustion flows due to the natural draft of the boiler

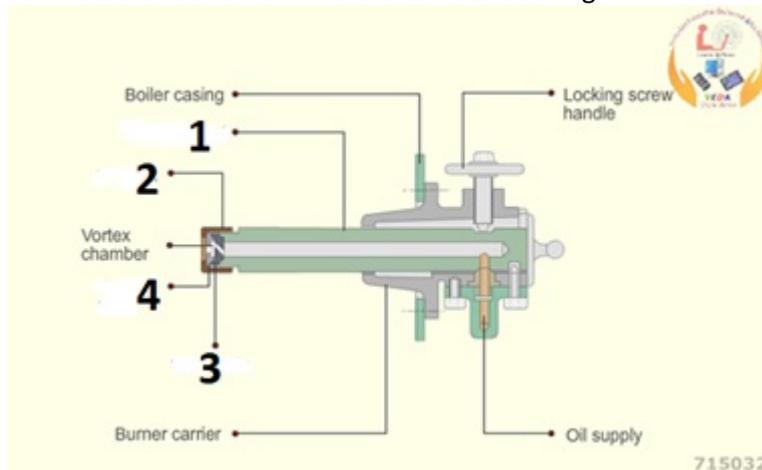
The rotary cup rotates at a high speed

10.



(1)

For Pressure Jet Burner: find the correct labelling



1-Cap Nut ; 2- Burner Barrel; 3- Swirl Plate; 4- Orifice Plate

1- Burner Barrel; 2- Cap Nut; 3- Swirl Plate; 4- Orifice Plate

1- Burner Barrel; 2- Cap Nut; 3-Orifice Plate; 4- Swirl Plate

1- Burner Barrel; 2- Swirl Plate; 3-Cap Nut; 4- Orifice Plate

1.



(1)

How the air for combustion is supplied to the boiler?

Forced draft fan supplies the air for combustion to the boiler

Air for combustion flows due to the natural draft of the boiler

The rotary cup rotates at a high speed

2.



(1)

What is normally seen through the inspection hole inside the boiler furnace while firing?

Furnace refractory

Flame condition

Boiler Smoke



3.



(1)

To which controller first high signal selector passes the master signal on high steam demand?

Fuel controller

Air controller

flame control



4.



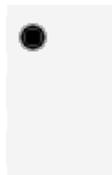
(1)

The air valve on the boiler top shall be kept

Open for a while during raising steam from cold

Closed while shut down of boiler for maintenance

Forced draft fan speed



5.



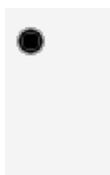
(1)

Periodic blow down of boiler water is based on

Boiler water tests

Boiler smoke

Flame Control



6.



(1)

Why rotary cup burner does not require high pressure fuel supply for atomisation?

The rotary cup rotates at a high speed

The nozzle rotates at a high speed



Air controller

7.



(1)

Blowing through a water level gauge in a boiler on board is carried out

Once in a week

Every day

Once in a month



8.



(1)

Scum blowing of boiler is meant for draining the boiler water from

Bottom

Top

Middle



9.



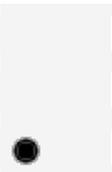
(1)

Master signal is generated by computing relay based on requirement of

Fuel

Air

Steam

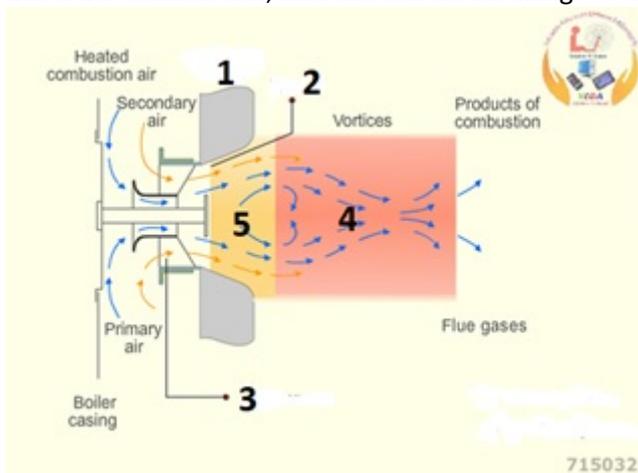


10.



(1)

In burner combustion, find the correct labelling statement

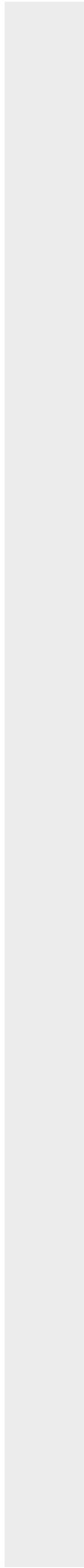
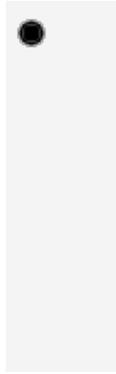


1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Swirl Vane; 3 -Throat; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Primary Flame; 5- Secondary Flame

1- Primary Flame; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Refractory Wall



1.



(1)

What is normally seen through the inspection hole inside the boiler furnace while firing?

Furnace refractory

Flame condition

Boiler Smoke



2.



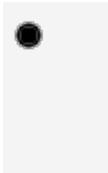
(1)

Periodic blow down of boiler water is based on

Boiler water tests

Boiler smoke

Flame Control



3.



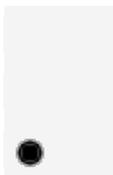
(1)

Master signal is generated by computing relay based on requirement of

Fuel

Air

Steam



4.



(1)

Scum blowing of boiler is meant for draining the boiler water from

Bottom

Top

Middle



5.



(1)

To which controller first high signal selector passes the master signal on high steam demand?

Fuel controller

Air controller

flame control

6.



(1)

How the air for combustion is supplied to the boiler?

Forced draft fan supplies the air for combustion to the boiler

Air for combustion flows due to the natural draft of the boiler

The rotary cup rotates at a high speed

7.



(1)

To which controller first low signal selector passes the master signal on low steam demand?

Fuel controller

Air controller

Forced draft fan speed

8.



(1)

Statements on Boiler: identify a statement that supports the use of a watertube boiler with a superheater in many tanker vessels?

The boiler on a tanker vessel is equally important as the main propulsion engines

On a large oil tanker, the fuel consumption in the boiler could be as high as 2/3rd of the engines.

Without having steam at superheated condition, you may not be able to operate the cargo pump turbines efficiently and safely

Without having steam, you may not be able to maintain the oil temperatures correctly within the cargo tanks for discharging.

9.



(1)

By which adjustment does the air flow controller regulates the air flow?

Forced draft fan speed

Damper movement

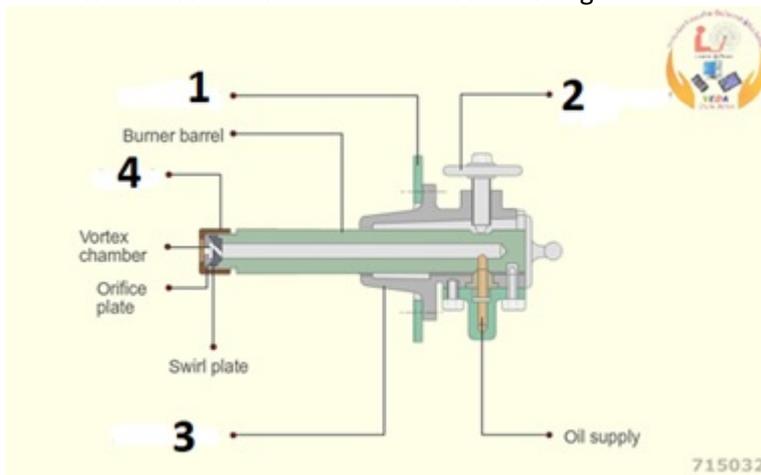
Boiler water test

10.



(1)

For Pressure Jet Burner: find the correct labelling



1-Boiler Casing; 2-Locking Screw; 3-Burner Carrier; 4- Cap Nut

1-Locking Screw; 2-Boiler Casing; 3-Burner Carrier; 4- Cap Nut

1-Boiler Casing; 2-Locking Screw; 3- Cap Nut; 4- Burner Carrier

1-Burner Carrier; 2-Boiler Casing; 3-Locking Screw; 4- Cap Nut

1.



(1)

Scum blowing of boiler is meant for draining the boiler water from

Bottom

Top

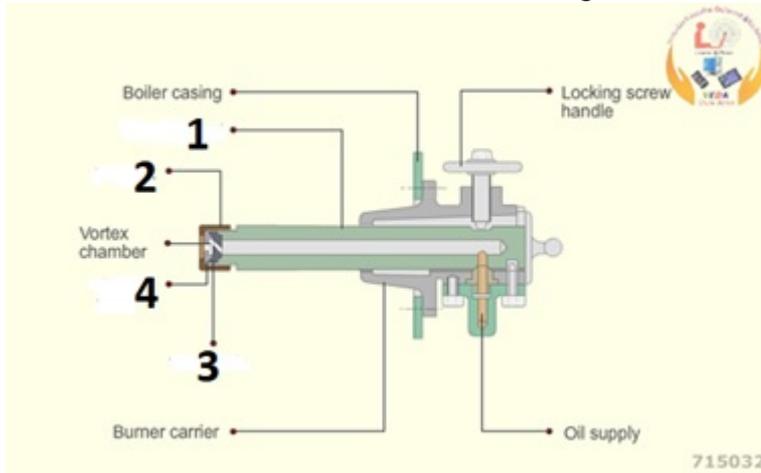
Middle

2.



(1)

For Pressure Jet Burner: find the correct labelling



1-Cap Nut ; 2- Burner Barrel; 3- Swirl Plate; 4- Orifice Plate

1- Burner Barrel; 2- Cap Nut; 3- Swirl Plate; 4- Orifice Plate

1- Burner Barrel; 2- Cap Nut; 3-Orifice Plate; 4- Swirl Plate

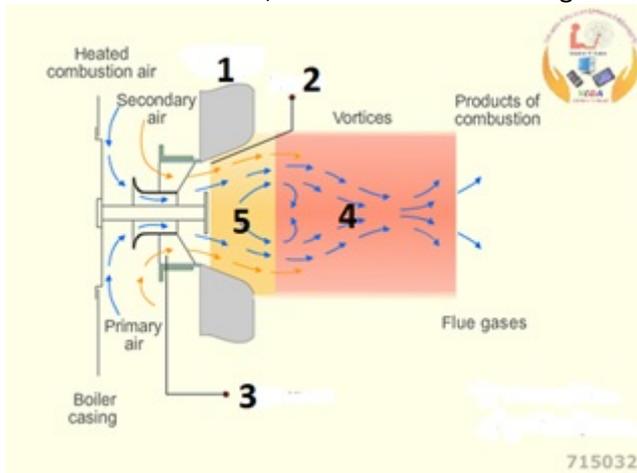
1- Burner Barrel; 2- Swirl Plate; 3-Cap Nut; 4- Orifice Plate

3.



(1)

In burner combustion, find the correct labelling statement



1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Swirl Vane; 3 -Throat; 4- Secondary Flame; 5- Primary Flame

1-Refractory Wall; 2- Throat; 3-Swirl Vane; 4- Primary Flame; 5- Secondary Flame

1- Primary Flame; 2- Throat; 3-Swirl Vane; 4- Secondary Flame; 5- Refractory Wall

4.



(1)

The air valve on the boiler top shall be kept

Open for a while during raising steam from cold

Closed while shut down of boiler for maintenance

Forced draft fan speed



5.



(1)

Blowing through a water level gauge in a boiler on board is carried out

Once in a week

Every day

Once in a month



6.



(1)

To which controller first low signal selector passes the master signal on low steam demand?

Fuel controller

Air controller

Forced draft fan speed



7.



(1)

What is normally seen through the inspection hole inside the boiler furnace while firing?

Furnace refractory

Flame condition

Boiler Smoke



8.



(1)

By which adjustment does the air flow controller regulates the air flow?

Forced draft fan speed

Damper movement

Boiler water test



9.



(1)

To which controller first high signal selector passes the master signal on high steam demand?

Fuel controller

Air controller

flame control

10.



(1)

Periodic blow down of boiler water is based on

Boiler water tests

Boiler smoke

Flame Control

SET 11

1.



(1)

Which function is NOT provided by the scrubber of an inert gas system?

Cools the inert gas.

Removes particulate matter like soot.

Maintains gas pressure in the tanks.

Removes chemical impurities from the gas.

2.



(1)

Introducing inert gas into a tank already inert with the object of further reducing the oxygen or hydrocarbon content to prevent combustion if air enters the tank is called

purging

gas freeing

gas dispersion

bonding

3.



(1)

All tanker over 40,000tons dead weight are required to have

Fixed fire fighting system

Inert gas system

Cargo tank protection system



4.



(1)

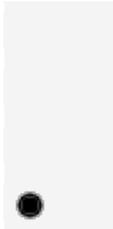
Typically nitrogen contained in inert gas generated from boiler flue gas, at the scrubber outlet is

50%

60%

70%

83%



5.



(1)

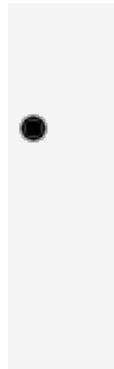
Which statement about inert gas pressures in a cargo tank is TRUE?

The pressures of the inert gas in the tank may create excessive pressure at the pump while discharging.

Gas pressures should be maintained at the highest permissible level throughout the discharging process.

High gas pressures may cause pyrophoric oxidation in the tank.

High gas pressures may cause loss of suction when stripping.



6.



(1)

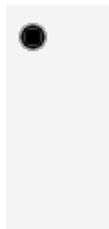
The purpose of the deck seal in an inert gas system is to prevent

flammable vapors from entering machinery space

flue gas escaping to atmosphere

inert gas escaping to atmosphere

air entering inert gas system



7.



(1)

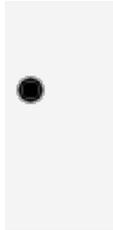
After the initial cleaning of flue gas in an inert gas system the gas is passed through what device for final cleaning?

Scrubber

Demister

Deck water seal

Final filter



8.



(1)

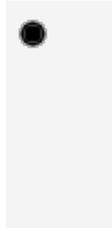
Which of the listed functions is the purpose of a gas scrubber in an inert gas generation system?

Cools the inert gas.

Maintains the oxygen content at 5% by volume.

Bleeds off static electricity in the inert gas.

Maintains flow to the water seal on the gas main.

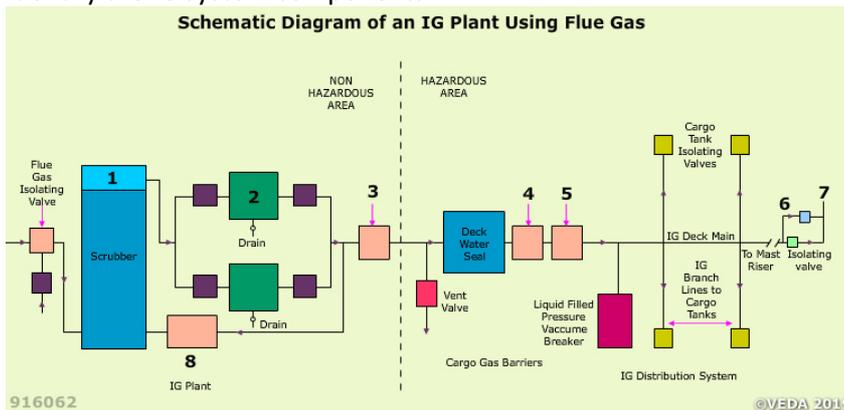


9.



(1)

Identify the IG system components

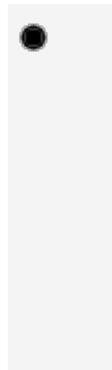


1- Demister; 2-Blower; 3-Pressure Regulating Valve; 8- Recirculating Valve

1- Recirculating Valve; 2-Blower; 3-Pressure Regulating Valve; 8- Demister

1- Demister; 2-Blower; 3-Recirculating Valve; 8- Pressure Regulating Valve

1- Blower; 2-Demister; 3-Pressure Regulating Valve; 8- Recirculating Valve



10.



(1)

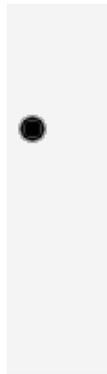
The "flammable limits" of an atmosphere are the

two temperatures between which an atmosphere will self ignite

upper and lower percentage of vapor concentrations in an atmosphere which will burn if an ignition source is present

upper and lower pressures between which an atmosphere will not burn

two temperatures between which an atmosphere will burn if an ignition source is present



1.



(1)

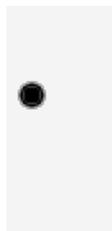
Which method is used to supply inert gas from a flue gas system to the cargo tanks?

Exhaust gas pressure from the stack

High capacity fan

Inert gas compressor

Natural aspiration



2.



(1)

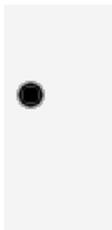
Which operation may cause the pressure in an inert tank to fall below the prescribed limits?

Loading

Discharging

Crude oil washing

Steaming tanks



3.



(1)

What is the major function of the deck water seal in an inert gas system?

Relieves excessive pressures from the system.

Isolates hazardous areas from nonhazardous areas.

Prevents the flow of inert gas into closed or isolated tanks.

Removes any leftover water or soot after the gas has been scrubbed.



4.



(1)

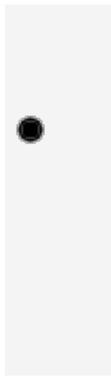
The "flammable limits" of an atmosphere are the

two temperatures between which an atmosphere will self ignite

upper and lower percentage of vapor concentrations in an atmosphere which will burn if an ignition source is present

upper and lower pressures between which an atmosphere will not burn

two temperatures between which an atmosphere will burn if an ignition source is present



5.



(1)

Inert gas systems must be capable of delivering inert gas with an oxygen content by volume in the inert gas main of not more than

2%

5%

8%

11%



6.



(1)

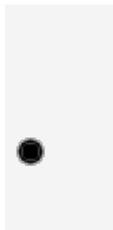
On a hydrocarbon flammability chart the line which extends from 0% to 21.8% oxygen, lying tangent to the flammability range, is called the

minimum oxygen content line

critical displacement line

critical dilution line

upper threshold limit

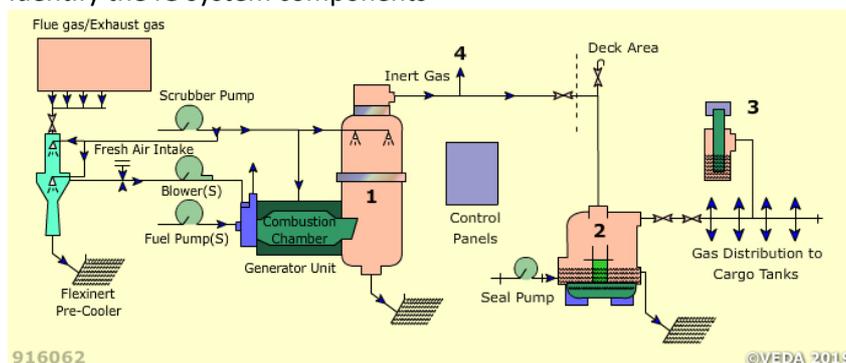


7.



(1)

Identify the IG system components



916062

©VEDA 2019

1-Scrubber; 2- Pressure/Vacuum breaker; 3-Deck Water Seal; 4-Atm. Vent

1-Scrubber; 2-Deck Water Seal; 3-Atm. Vent; 4- Pressure/Vacuum breaker

1-Deck Water Seal; 2-Scrubber; 3-Pressure/Vacuum breaker; 4-Atm. Vent

1-Scrubber; 2-Deck Water Seal; 3-Pressure/Vacuum breaker; 4-Atm. Vent

8.



(1)

The component in an inert gas system used for cleaning the gas of solid and sulfur combustion products, while simultaneously cooling the inert gas, is called the

filter

cooler

scrubber

purifier

9.



(1)

Inert gas systems must be capable of maintaining inert gas with an oxygen content by volume in the cargo tanks of not more than

2%

5%

8%

11%

10.



(1)

All tanker over 40,000tons dead weight are required to have

Fixed fire fighting system

Inert gas system

Cargo tank protection system

1.



(1)

Which operation may cause the pressure in an inert tank to fall below the prescribed limits?

- Loading
- Discharging
- Crude oil washing
- Steaming tanks



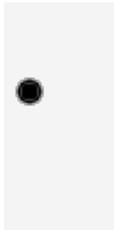
2.



(1)

After the initial cleaning of flue gas in an inert gas system the gas is passed through what device for final cleaning?

- Scrubber
- Demister
- Deck water seal
- Final filter



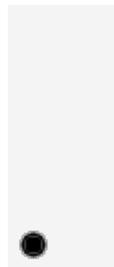
3.



(1)

You are discharging cargo and the inert gas system is in operation to inert the tanks. The pressure in a tank being discharged starts to drop below the allowable limit. What action should you take?

- Cut in another IG fan to increase gas flow.
- Open the pressure control valve until the pressure increases.
- Open the tank isolation valve to the fully open position.
- Reduce the pumping rate.

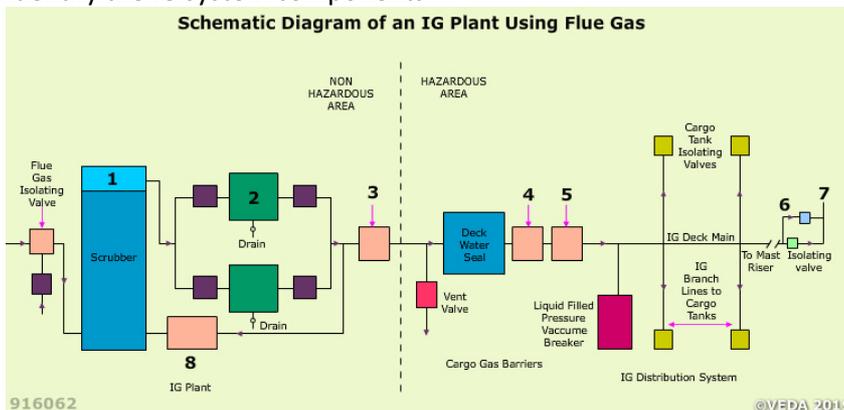


4.



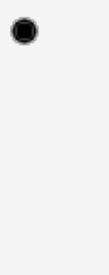
(1)

Identify the IG system components



- 4-Deck Mechanical NR valve;
- 5-PV Valve;
- 6-Deck Isolating Valve;
- 7- Mast Riser

4-Deck Mechanical NR valve;5-Deck Isolating Valve; 6-PV Valve;7- Mast Riser



4-Deck Mechanical NR valve;5-Deck Isolating Valve;6-Mast Riser;7- PV Valve

4-Deck Isolating Valve;5-Deck Mechanical NR valve; 6-PV Valve; 7- Mast Riser

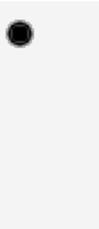
5.



(1)

The purpose of the deck seal in an inert gas system is to prevent

flammable vapors from entering machinery space



flue gas escaping to atmosphere

inert gas escaping to atmosphere

air entering inert gas system

6.



(1)

The fresh air intake of the inert gas system

prevents the flue gas from falling below an oxygen content of 3%

allows the inert gas piping to be used for gas freeing the tanks

opens when there is excessive vacuum on the deck water seal

enables outside air to mix with and to cool the hot flue gasses



7.



(1)

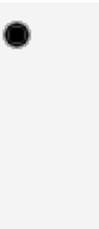
Which of the listed functions is the purpose of a gas scrubber in an inert gas generation system?

Cools the inert gas.

Maintains the oxygen content at 5% by volume.

Bleeds off static electricity in the inert gas.

Maintains flow to the water seal on the gas main.



8.



(1)

What is the maximum oxygen content below which flaming combustion will no longer occur?

- 1%
- 10%
- 15%
- 21%



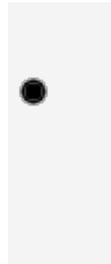
9.



(1)

What is the major function of the deck water seal in an inert gas system?

- Relieves excessive pressures from the system.
- Isolates hazardous areas from nonhazardous areas.
- Prevents the flow of inert gas into closed or isolated tanks.
- Removes any leftover water or soot after the gas has been scrubbed.



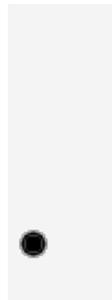
10.



(1)

An inert gas system installed on a tanker is designed to

- aid in the stripping and cleaning of cargo tanks
- increase the rate of discharge of cargo
- force toxic and explosive fumes from a cargo tank to vent to the outside atmosphere
- lower the oxygen levels inside cargo tanks, making explosion nearly impossible

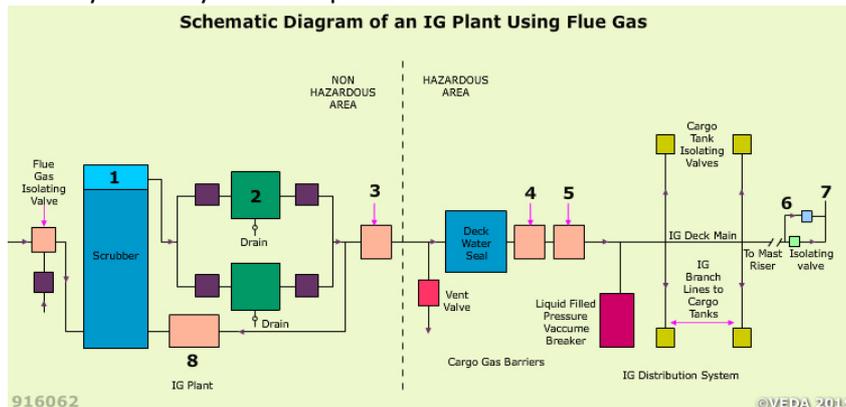


1.



(1)

Identify the IG system components



1- Demister; 2-Blower; 3-Pressure Regulating Valve; 8- Recirculating Valve

1- Recirculating Valve;2-Blower; 3-Pressure Regulating Valve; 8- Demister

1- Demister; 2-Blower; 3-Recirculating Valve; 8- Pressure Regulating Valve

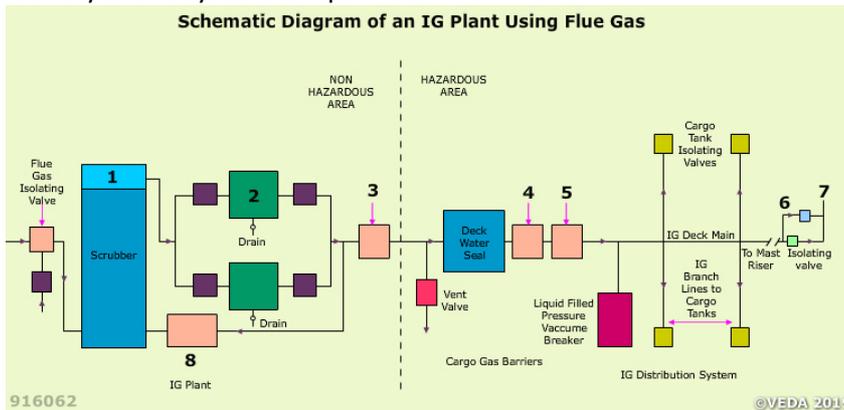
1- Blower; 2-Demister; 3-Pressure Regulating Valve; 8- Recirculating Valve

2.



(1)

Identify the IG system components



4-Deck Mechanical NR valve;5-PV Valve; 6-Deck Isolating Valve; 7- Mast Riser

4-Deck Mechanical NR valve;5-Deck Isolating Valve; 6-PV Valve;7- Mast Riser

4-Deck Mechanical NR valve;5-Deck Isolating Valve;6-Mast Riser;7- PV Valve

4-Deck Isolating Valve;5-Deck Mechanical NR valve; 6-PV Valve; 7- Mast Riser

3.



(1)

What is the major function of the deck water seal in an inert gas system?

Relieves excessive pressures from the system.

Isolates hazardous areas from nonhazardous areas.

Prevents the flow of inert gas into closed or isolated tanks.

Removes any leftover water or soot after the gas has been scrubbed.

4.



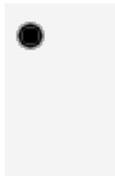
(1)

The oxygen level in the tank is reduced by _____.

Inert gas system

High Expansion foam system

CO2 system



5.



(1)

Inert gas systems must be capable of delivering inert gas with an oxygen content by volume in the inert gas main of not more than

2%

5%

8%

11%



6.



(1)

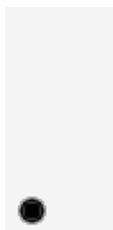
In which of the following conditions, the IG blower fans should shut down automatically?

Oxygen content above 8%

Low water level in deck seal

Low water level in the scrubber tower

High scrubber water level



7.



(1)

Inert gas systems must be capable of maintaining inert gas with an oxygen content by volume in the cargo tanks of not more than

2%

5%

8%

11%



8.



(1)

Which action must be taken when an individual cargo tank is closed off from the inert gas system by the tank isolation valve?

The tank must be gas freed.

The tank must be ballasted.

The tank must be vented to the atmosphere.

The bypass valve must also be closed.



9.



(1)

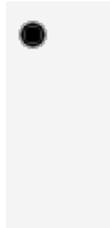
Which of the listed functions is the purpose of a gas scrubber in an inert gas generation system?

Cools the inert gas.

Maintains the oxygen content at 5% by volume.

Bleeds off static electricity in the inert gas.

Maintains flow to the water seal on the gas main.



10.



(1)

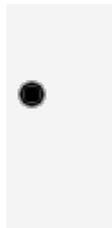
Which method is used to supply inert gas from a flue gas system to the cargo tanks?

Exhaust gas pressure from the stack

High capacity fan

Inert gas compressor

Natural aspiration



1.



(1)

Which statement about inert gas pressures in a cargo tank is TRUE?

The pressures of the inert gas in the tank may create excessive pressure at the pump while discharging.

Gas pressures should be maintained at the highest permissible level throughout the discharging process.

High gas pressures may cause pyrophoric oxidation in the tank.

High gas pressures may cause loss of suction when stripping.



2.



(1)

Typically nitrogen contained in inert gas generated from boiler flue gas, at the scrubber outlet is

- 50%
- 60%
- 70%
- 83%

3.



(1)

What type of liquid is used in the liquid P/V breaker?

- Hydraulic oil
- Water-antifreeze mixture
- Distilled water
- Oil from the cargo

4.



(1)

An inert gas system installed on a tanker is designed to

- aid in the stripping and cleaning of cargo tanks
- increase the rate of discharge of cargo
- force toxic and explosive fumes from a cargo tank to vent to the outside atmosphere
- lower the oxygen levels inside cargo tanks, making explosion nearly impossible

5.



(1)

Which action must be taken when an individual cargo tank is closed off from the inert gas system by the tank isolation valve?

- The tank must be gas freed.
- The tank must be ballasted.
- The tank must be vented to the atmosphere.
- The bypass valve must also be closed.

6.



(1)

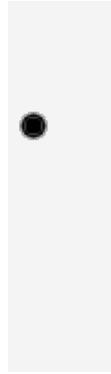
The fresh air intake of the inert gas system

prevents the flue gas from falling below an oxygen content of 3%

allows the inert gas piping to be used for gas freeing the tanks

opens when there is excessive vacuum on the deck water seal

enables outside air to mix with and to cool the hot flue gasses



7.



(1)

Which function is NOT provided by the scrubber of an inert gas system?

Cools the inert gas.

Removes particulate matter like soot.

Maintains gas pressure in the tanks.

Removes chemical impurities from the gas.



8.



(1)

What is the maximum percent of oxygen, by volume, allowed to be maintained in the cargo tanks prior to the commencement of crude oil tank washing?

5%

8%

10%

12%

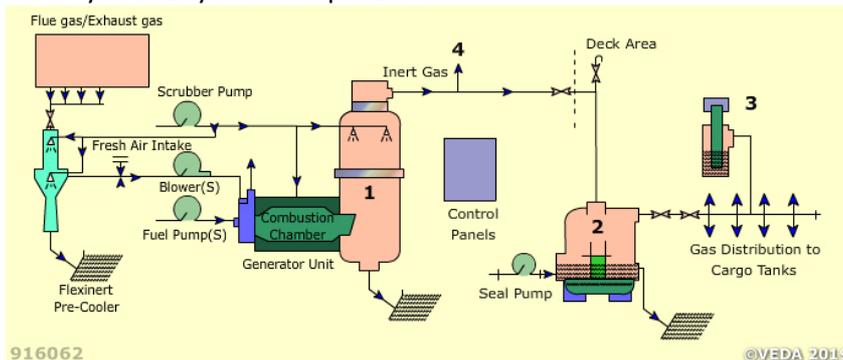


9.



(1)

Identify the IG system components



1-Scrubber; 2- Pressure/Vacuum breaker; 3-Deck Water Seal; 4-Atm. Vent

1-Scrubber; 2-Deck Water Seal; 3-Atm. Vent; 4- Pressure/Vacuum breaker

1-Deck Water Seal; 2-Scrubber; 3-Pressure/Vacuum breaker; 4-Atm. Vent

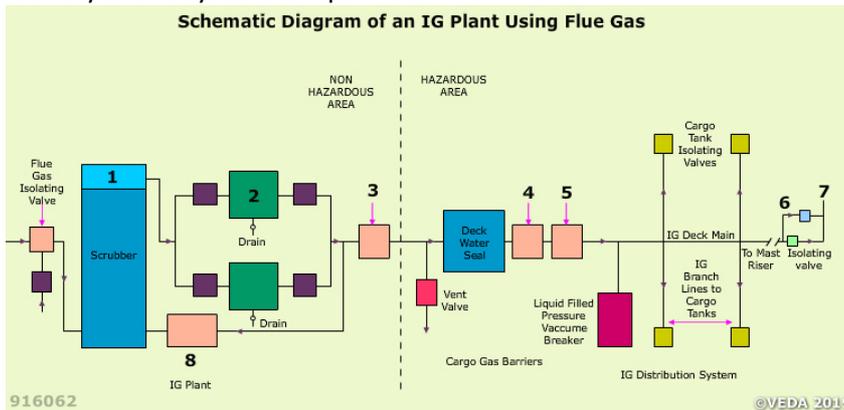
1-Scrubber; 2-Deck Water Seal; 3-Pressure/Vacuum breaker; 4-Atm. Vent

10.



(1)

Identify the IG system components



4-Deck Mechanical NR valve;5-PV Valve; 6-Deck Isolating Valve; 7- Mast Riser

4-Deck Mechanical NR valve;5-Deck Isolating Valve; 6-PV Valve;7- Mast Riser

4-Deck Mechanical NR valve;5-Deck Isolating Valve;6-Mast Riser;7- PV Valve

4-Deck Isolating Valve;5-Deck Mechanical NR valve; 6-PV Valve; 7- Mast Riser

1.



(1)

Introducing inert gas into a tank already inert with the object of further reducing the oxygen or hydrocarbon content to prevent combustion if air enters the tank is called

purging

gas freeing

gas dispersion

bonding

2.



(1)

The fresh air intake of the inert gas system

prevents the flue gas from falling below an oxygen content of 3%

allows the inert gas piping to be used for gas freeing the tanks

opens when there is excessive vacuum on the deck water seal

enables outside air to mix with and to cool the hot flue gasses



3.



(1)

What is the maximum oxygen content below which flaming combustion will no longer occur?

1%

10%

15%

21%



4.



(1)

Inert gas systems must be capable of delivering inert gas with an oxygen content by volume in the inert gas main of not more than

2%

5%

8%

11%



5.



(1)

Which statement about inert gas pressures in a cargo tank is TRUE?

The pressures of the inert gas in the tank may create excessive pressure at the pump while discharging.

Gas pressures should be maintained at the highest permissible level throughout the discharging process.

High gas pressures may cause pyrophoric oxidation in the tank.



High gas pressures may cause loss of suction when stripping.

6.



(1)

What is the maximum percent of oxygen, by volume, allowed to be maintained in the cargo tanks prior to the commencement of crude oil tank washing?

- 5%
- 8%
- 10%
- 12%



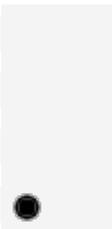
7.



(1)

Typically nitrogen contained in inert gas generated from boiler flue gas, at the scrubber outlet is

- 50%
- 60%
- 70%
- 83%

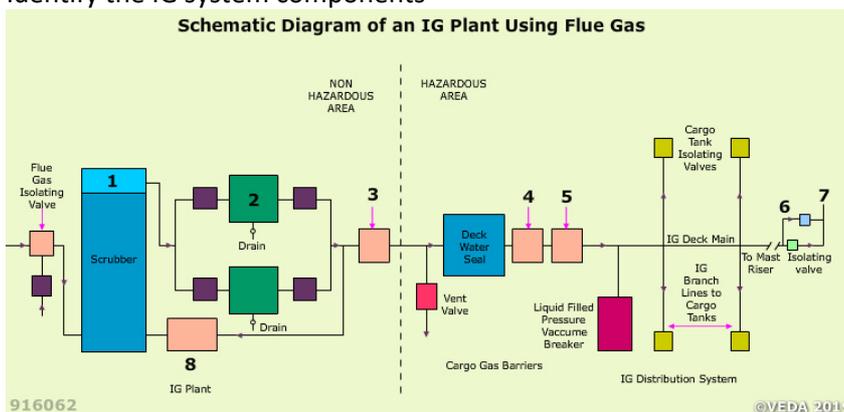


8.



(1)

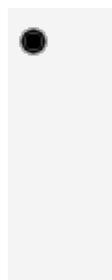
Identify the IG system components



1- Demister; 2-Blower; 3-Pressure Regulating Valve; 8- Recirculating Valve

1- Recirculating Valve; 2-Blower; 3-Pressure Regulating Valve; 8- Demister

1- Demister; 2-Blower; 3-Recirculating Valve; 8- Pressure Regulating Valve



1- Blower; 2-Demister; 3-Pressure Regulating Valve; 8- Recirculating Valve

9.



(1)

Inert gas systems must be capable of maintaining inert gas with an oxygen content by volume in the cargo tanks of not more than

2%

5%

8%

11%



10.



(1)

All tanker over 40,000tons dead weight are required to have

Fixed fire fighting system

Inert gas system

Cargo tank protection system



SET 12

1.



(1)

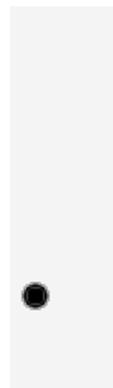
Checks to be done, amongst others, before and during COW are listed; identify the most important safety check

When carrying out crude oil washing during cargo discharge, the Master should inform the terminal competent authority 24 hours before commencement (or other ship when ship-to-ship transfer is involved)

The Oxygen analyzing equipment to be tested and working satisfactorily

Inert gas in tank to be checked – (Oxygen to be less than 8%), IG pressure to be satisfactory (positive pressure)

All hydrant valves on the tank washing line to be shut



2.



(1)

Concurrent COW with cargo discharge: identify the precaution for the Concurrent COW method for use

COW concurrent method utilizes the crude oil stream being discharged, together with its associated back pressure, to supply the COW pipeline with crude oil.

COW concurrent method can be achieved either by a "bleed-off" system from the main crude oil discharge pipelines for supply to the COW pipeline or by separate supply using a designated cargo pump.

COW concurrent method: The normal minimum back pressure required for the operation of the COW guns is 8 kg/cm².

COW concurrent method: If supply is achieved by the bleed-off from the bulk discharge, then sufficient back pressure has to be maintained at all times.

1.



(1)

Concurrent COW with cargo discharge: identify the precaution for the Concurrent COW method for use

COW concurrent method utilizes the crude oil stream being discharged, together with its associated back pressure, to supply the COW pipeline with crude oil.

COW concurrent method can be achieved either by a "bleed-off" system from the main crude oil discharge pipelines for supply to the COW pipeline or by separate supply using a designated cargo pump.

COW concurrent method: The normal minimum back pressure required for the operation of the COW guns is 8 kg/cm².

COW concurrent method: If supply is achieved by the bleed-off from the bulk discharge, then sufficient back pressure has to be maintained at all times.

2.



(1)

Checks to be done, amongst others, before and during COW are listed; identify the most important safety check

When carrying out crude oil washing during cargo discharge, the Master should inform the terminal competent authority 24 hours before commencement (or other ship when ship-to-ship transfer is involved)

The Oxygen analyzing equipment to be tested and working satisfactorily

Inert gas in tank to be checked – (Oxygen to be less than 8%), IG pressure to be satisfactory (positive pressure)

All hydrant valves on the tank washing line to be shut

1.



(1)

When evacuating a seaman by helicopter lift, the vessel should be_____.

- stopped with the wind dead ahead
- stopped with the wind on the beam
- underway with the wind 30° on the bow
- underway on a course to provide no apparent wind

2.



(1)

A rescue helicopter's hoist area should have a radius of at least _____.

- 6 feet of clear deck
- 10 feet of clear deck
- 25 feet of clear deck
- 50 feet of clear deck

3.



(1)

Usually the most gentle way of riding out a severe storm on a larger vessel is_____.

- head on at slow speeds
- hove to
- running before the seas
- to rig a sea anchor

4.



(1)

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

- Put the sea and wind about two points on either bow and reduce speed.
- Heave to in the trough of the sea.
- Put the sea and wind on either quarter and proceed at increased speed.

Put the bow directly into the sea and proceed at full speed.

5.



(1)

You are steaming in a heavy gale and find it necessary to heave to. Under most circumstances, this is best done by _____.

stopping the engines and drifting beam to the seas

going slow astern and taking the seas on the quarter

taking the sea fine on the bow and reducing the speed to the minimum to hold that position

maintaining speed and taking the sea broad on the bow

6.



(1)

Ice blink is _____.

the dark appearance of the underside of a cloud layer due to reflection of a surface of open water

the soft light appearance on the underside of a cloud layer due to reflection from a surface of open water

the yellowish-white glare on the underside of a cloud layer
water sky

7.



(1)

Snow has obliterated surface features and the sky is covered with uniform, altostratus clouds. There are no shadows and the horizon has disappeared. What is this condition called?

Ice blink

Whiteout

Water sky

Aurora reflection

8.



(1)

A vessel is wind rode when it is _____.

at anchor and heading into the wind

backing into the wind

carrying lee rudder

necessary to apply a leeway correction to the course

9.



(1)

When evacuating a seaman by helicopter lift, which course should the ship take?

Downwind so that the apparent wind is close to nil.

A course that will keep a free flow of air, clear of smoke, over the hoist area.

A course that will have the hoist area in the lee of the superstructure.

With the wind dead ahead because the helicopter is more maneuverable when going into the wind.

10.



(1)

When the gyro-pilot is used for steering, what control is adjusted to compensate for varying sea conditions?

Rudder control

Sea control

Lost motion adjustment

Weather adjustment

1.



(1)

When evacuating a seaman by helicopter lift, the vessel should be _____.

stopped with the wind dead ahead

stopped with the wind on the beam

underway with the wind 30° on the bow

underway on a course to provide no apparent wind

2.



(1)

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

Put the sea and wind about two points on either bow and reduce speed.

Heave to in the trough of the sea.

Put the sea and wind on either quarter and proceed at increased speed.

Put the bow directly into the sea and proceed at full speed.

3.



(1)

When evacuating a seaman by helicopter lift, which course should the ship take?

Downwind so that the apparent wind is close to nil.

A course that will keep a free flow of air, clear of smoke, over the hoist area.

A course that will have the hoist area in the lee of the superstructure.

With the wind dead ahead because the helicopter is more maneuverable when going into the wind.

4.



(1)

You are steaming in a heavy gale and find it necessary to heave to. Under most circumstances, this is best done by _____.

stopping the engines and drifting beam to the seas

going slow astern and taking the seas on the quarter

taking the sea fine on the bow and reducing the speed to the minimum to hold that position

maintaining speed and taking the sea broad on the bow

5.



(1)

Usually the most gentle way of riding out a severe storm on a larger vessel is _____.

head on at slow speeds

hove to

running before the seas

to rig a sea anchor

6.



(1)

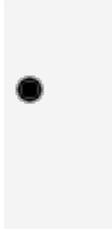
Snow has obliterated surface features and the sky is covered with uniform, altostratus clouds. There are no shadows and the horizon has disappeared. What is this condition called?

Ice blink

Whiteout

Water sky

Aurora reflection



7.



(1)

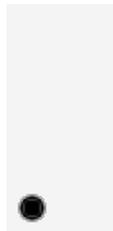
When the gyro-pilot is used for steering, what control is adjusted to compensate for varying sea conditions?

Rudder control

Sea control

Lost motion adjustment

Weather adjustment



8.



(1)

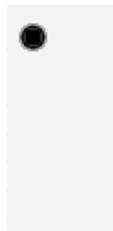
A vessel is wind rode when it is _____.

at anchor and heading into the wind

backing into the wind

carrying lee rudder

necessary to apply a leeway correction to the course



9.



(1)

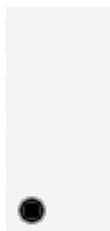
A rescue helicopter's hoist area should have a radius of at least _____.

6 feet of clear deck

10 feet of clear deck

25 feet of clear deck

50 feet of clear deck



10.



(1)

Ice blink is _____.

the dark appearance of the underside of a cloud layer due to reflection of a surface of open water

the soft light appearance on the underside of a cloud layer due to reflection from a surface of open water

the yellowish-white glare on the underside of a cloud layer
water sky

SET 14

1.



(1)

What types of mooring lines are used for larger tankers?

Ropes with high elastic elongation properties

Ropes with low plastic elongation properties

Ropes with high modulus of rigidity

Strain hardened ropes

2.



(1)

Normally Brakes must be _____ tightened to achieve the required holding capacity of the line's Minimum Breaking Load.

30%

50%

60%

75%

3.



(1)

'It is preferred to have all mooring lines of the same material and construction' This is strictly followed due to

The load on all the mooring lines should be same

To avoid undue stress on mooring lines

To increase the life of the mooring lines

To avoid compressive over loading of any of the mooring ropes

4.



(1)

How to prevent failure of the mooring and other components in the mooring system during large swell conditions?

- By attaching fibre tails in the mooring ropes
- By attaching fibre tails on the ends in the mooring ropes
- By attaching fibre tails on the sides of the mooring ropes
- By attaching fibre tails perpendicular to the mooring ropes

5.



(1)

Mooring winch brakes should be tested at regular intervals, not exceeding _____. Choose the correct period from below?

12 Months

18 Months

24 Months

30 Months

6.



(1)

What is the possible alternate for winch-stowed steel wire ropes for the mooring of large tankers at terminals?

Low Modulus synthetic fibre ropes

High Modulus synthetic wire ropes

High Modulus synthetic fibre ropes

Low Modulus nylon ropes

7.



(1)

Why mooring wires used by large tankers are normally stored on self-stowing mooring winches?

Self - stowing winches are convenient

Weight and size make manual handling difficult

Self - stowing winches have brakes

Self-stowing winches are reliable

1.



(1)

What types of mooring lines are used for larger tankers?

Ropes with high elastic elongation properties

Ropes with low plastic elongation properties

Ropes with high modulus of rigidity

Strain hardened ropes

2.



(1)

How to prevent failure of the mooring and other components in the mooring system during large swell conditions?

By attaching fibre tails in the mooring ropes

By attaching fibre tails on the ends in the mooring ropes

By attaching fibre tails on the sides of the mooring ropes

By attaching fibre tails perpendicular to the mooring ropes

3.



(1)

'It is preferred to have all mooring lines of the same material and construction' This is strictly followed due to

The load on all the mooring lines should be same

To avoid undue stress on mooring lines

To increase the life of the mooring lines

To avoid compressive over loading of any of the mooring ropes

4.



(1)

Mooring winch brakes should be tested at regular intervals, not exceeding _____. Choose the correct period from below?

12 Months

18 Months

24 Months

30 Months

5.



(1)

Normally Brakes must be _____ tightened to achieve the required holding capacity of the line's Minimum Breaking Load.

30%

50%

60%

75%



6.



(1)

What is the possible alternate for winch-stowed steel wire ropes for the mooring of large tankers at terminals?

Low Modulus synthetic fibre ropes

High Modulus synthetic wire ropes

High Modulus synthetic fibre ropes

Low Modulus nylon ropes



7.



(1)

Why mooring wires used by large tankers are normally stored on self-stowing mooring winches?

Self - stowing winches are convenient

Weight and size make manual handling difficult

Self - stowing winches have brakes

Self-stowing winches are reliable



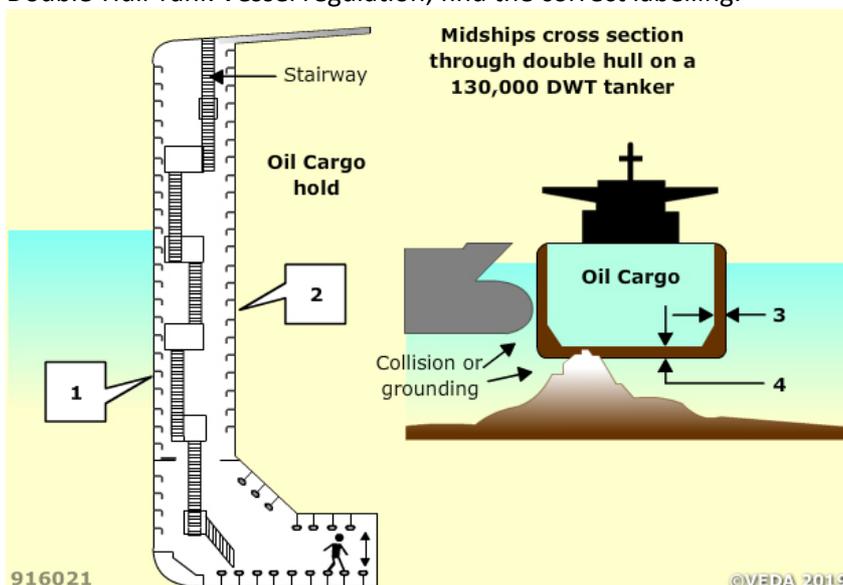
SET 15

1.



(1)

Double-Hull Tank Vessel regulation; find the correct labelling:



1-Inner Hull 2- Outer Hull; 3- Gap between inner/outer hull- 6 feet (2 m); 4- Height of Double-bottom- 6 feet (2 m)

1-Inner Hull 2- Outer Hull; 3-Gap between inner/outer hull- 6 feet (2 m); 4- Height of Double-bottom- 6 feet (2 m)

1-Outer Hull; 2- Inner Hull 3- Gap between inner/outer hull- 6 feet (2 m); 4- Height of Double-bottom- 6 feet (2 m)

1-Inner Hull 2- Outer Hull; 3- Gap between inner/outer hull- 5 feet (1.5 m); 4- Height of Double-bottom- 5 feet (1.5 m)



SET 16

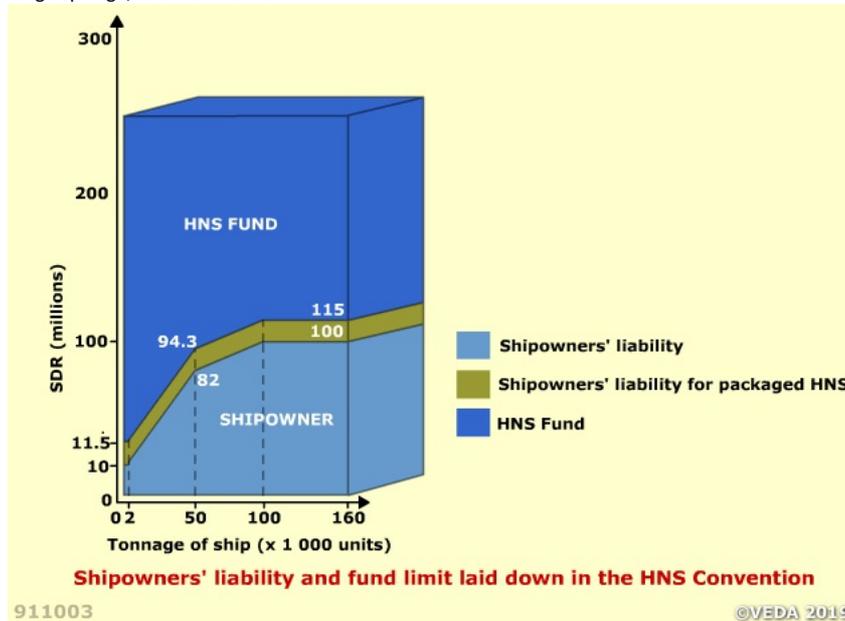
1.



(1)

With regards to the HNS-1996 Compensation, identify the correct statement using the graph:

For a tonnage between 75 thousand tons, what will be the shipowner's liability for bulk HNS cargo spillage, as a maximum?

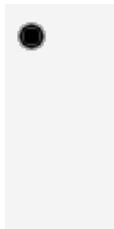


91 million SDR

82 million SDR

250 million SDR

100 million SDR

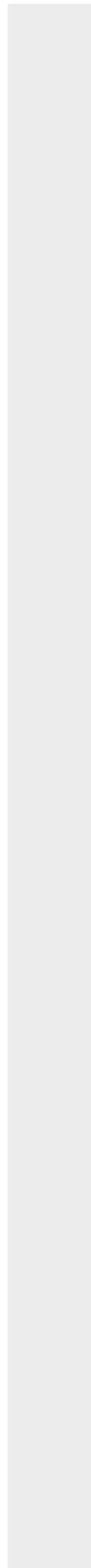


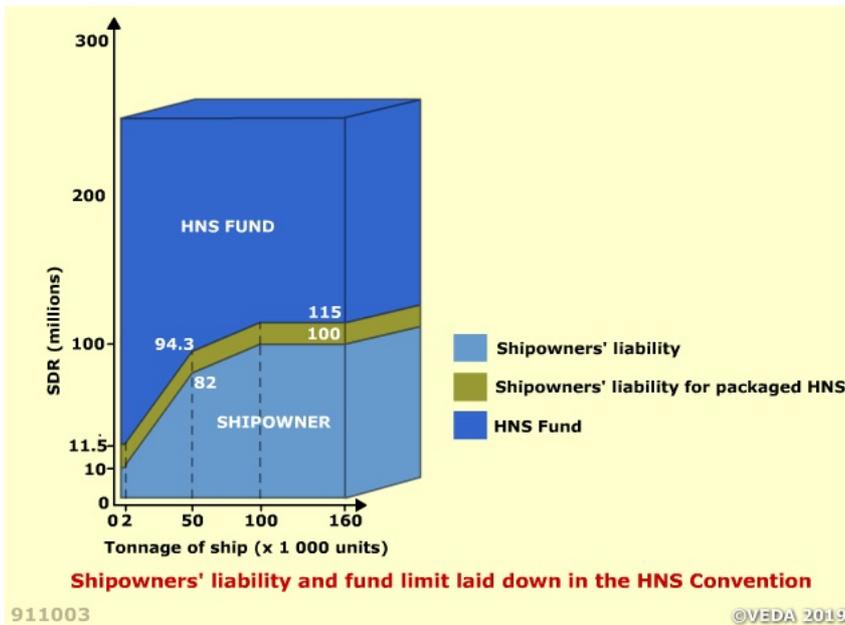
2.



(1)

With regards to the HNS-2016 Compensation, identify the correct statement using the graph:





The maximum amount payable by the HNS Fund in respect of any single incident is 250 million SDR, including the sum paid by the shipowner or his insurer

The maximum amount payable by the HNS Fund in respect of any single incident is 350 million SDR, including the sum paid by the shipowner or his insurer

The maximum amount payable by the HNS Fund in respect of any single incident is 150 million SDR, including the sum paid by the shipowner or his insurer

The maximum amount payable by the HNS Fund in respect of any single incident is 200 million SDR, including the sum paid by the shipowner or his insurer

3.



(1)

What is IOPC fund?

International Oil Pollution Compensation Funds

International Oil tanker Pollution Compensation Funds

International Oil and hazardous chemical Compensation Funds

International Oil Pollution Compensatory Funds

4.



(1)

In March 1989, Exxon Valdez ran aground in Alaska (U.S.) spilling approximately 40,000 tons of crude oil into the sea, causing serious environmental damage. What was the outcome legislation that followed the disaster?

CLC Convention and the Fund Convention

Oil Pollution Act of 1990 (OPA 90)

Bunker Convention

LLMC Convention

5.



(1)

What does LLMC Convention stand for?

Convention on Limitations of Liabilities for Maritime Claims

Convention on Limited Liabilities for Marine Claims

Convention on Liabilities limited for Marine Claims

Convention on Liabilities with Limits for Maritime Claims

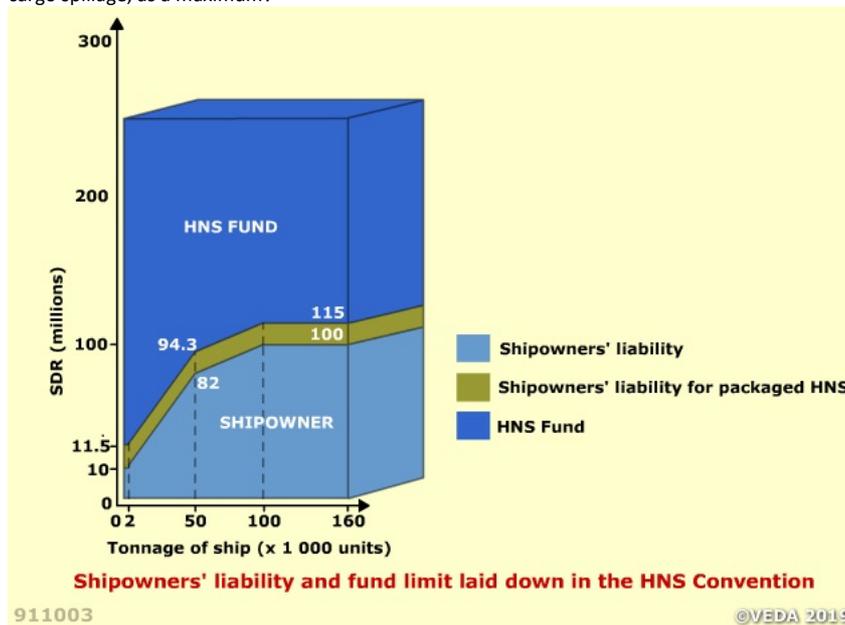
6.



(1)

With regards to the HNS Compensation as per HNS-1996, identify the correct statement using the graph:

For a tonnage between 75 thousand tons, what will be the shipowner's liability for packaged HNS cargo spillage, as a maximum?



104.7 million SDR

182.5 million SDR

250 million SDR

94.3 million SDR

7.



(1)

The meaning of the CLC Convention is,

Civil Liability Convention for Oil Pollution Damage

Civil Liability Convention for Damage from NLS

Civil Liability Convention for Air Pollution

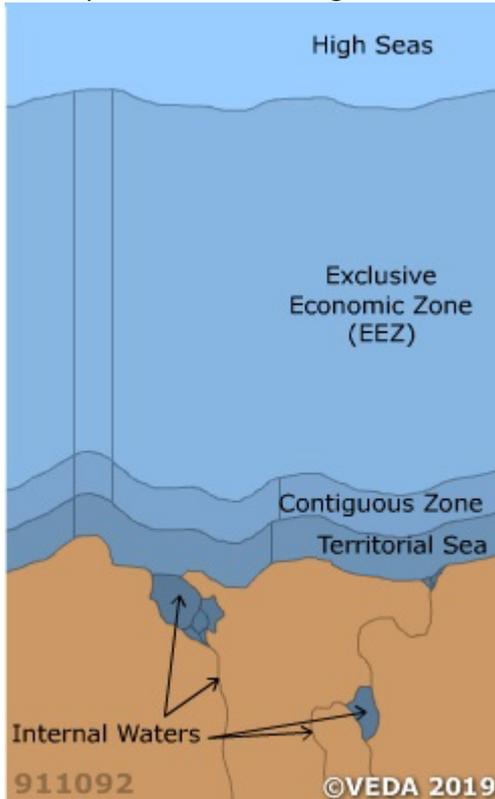
Civil Liability Convention for pollution by Sewage

8.



(1)

Identify the correct labelling statement for,



Territorial Sea-12 miles from the coastline; Contiguous Zone- up to 12 miles from the Territorial sea; EEZ- 200 miles from Territorial sea coast

Territorial Sea-12 miles from the coastline; Contiguous Zone- up to 14 miles from the Territorial sea;EEZ- 200 miles from Territorial sea coast

Territorial Sea-12 miles from the coastline; Contiguous Zone- up to 12 miles from the Territorial sea;EEZ- 180 miles from Territorial sea coast

Territorial Sea-14 miles from the coastline; Contiguous Zone- up to 12 miles from the Territorial sea; EEZ- 200 miles from Territorial sea coast

SET 17

1.



(1)

Under which operation the volumetric cargo losses are more?

During Tank to tank transfer onboard

During Ship to shore transfer

During COW

During circulation inside the same Tank onboard



2.



(1)

In spite of using clean sample bottles to acquire individual samples from each level (ie top, middle and bottom of each of the ship's tanks) and clearly labelled for density calculation, why the final result may not provide the correct density value?

Due to temperature variations

Due to Viscosity variations

Due to the loss of volatile fractions to atmosphere

Due to changes in Emulsion



3.



(1)

What can be the probable causes for a gross mismatch between ship and shore oil figures?

Ullages incorrectly measured, Tanks filled but not taken into account, The contents of pipelines not allowed for, Cargo mistakenly loaded on top of ballast and Cargo lost in the shore installation.

Incorrectly measured Ullages/ Temperatures/ densities, Tanks filled but not taken into account, The contents of pipelines not allowed for, Incorrect temperatures or densities, Cargo mistakenly loaded on top of ballast and Cargo lost in the shore installation.

Ullages incorrectly measured, Tanks filled but not taken into account, The contents of pipelines not allowed for, Incorrect temperatures or densities, and Cargo lost in the shore installation.

Ullages incorrectly measured, The contents of pipelines not allowed for, Incorrect temperatures or densities, Cargo mistakenly loaded on top of ballast and Cargo lost in the shore installation.



4.



(1)

Normally which one will affect the final cargo measurement more when there is a 0.1% variation in their respective reading?

Ullage measurement

Density measurement

Temperature measurement

Water in cargo measurement

5.



(1)

Why water finding pastes or electronic tape interface reading to measure water in the take do not give accurate results?

Due to emulsion

Due to temperature difference

Due temperature and density difference

Due to differences in Viscosity

6.



(1)

What are all the Claims/ disputes you can successfully defend if some records if maintained on board properly?

Shortage, contamination and demurrage / dispatch disputes.

Shortage, performance claims, and demurrage / dispatch disputes.

Shortage, contamination, performance claims, and demurrage / dispatch disputes.

Contamination performance claims, and demurrage / dispatch disputes.

7.



(1)

What are the factors that may affect the calculation of OBQ value?

Residues on tank floors, the age of the vessel and previous cargoes carried.

Residues on tank floors and previous cargoes carried.

Residues on tank floors and structures, and previous cargoes carried.

Residues on tank floors and structures, and these will vary with the age of the vessel and previous cargoes carried.

8.



(1)

What are all the cargo measurement issues creep up when liquid cargo is measured for volume calculations

Ullage, listing of vessel, sea conditions, and temperature of cargo

Ullage, listing of vessel, sea conditions, water in cargo and temperature of cargo

Ullage, listing of vessel, sea conditions, water in cargo, density and temperature of cargo

Ullage, listing of vessel, water in cargo, density and temperature of cargo

9.



(1)

Under what conditions given below, the Evaporation losses are more

Loading under inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging at atmospheric pressure

Loading under inerted conditions and discharging under slightly more pressure

10.



(1)

What can be the ship's defence if the Oil discharged from board is more than the B/L figure?

Water seepage into cargo onboard the ship

The onboard quantity (OBQ) prior to loading has not been taken into consideration

The cargo has been slightly over heated to reduce viscosity

The flow meter on the shore at the discharge port is not working well

1.



(1)

In spite of using clean sample bottles to acquire individual samples from each level (ie top, middle and bottom of each of the ship's tanks) and clearly labelled for density calculation, why the final result may not provide the correct density value?

Due to temperature variations

Due to Viscosity variations

Due to the loss of volatile fractions to atmosphere

Due to changes in Emulsion

2.



(1)

Under which operation the volumetric cargo losses are more?

During Tank to tank transfer onboard

During Ship to shore transfer

During COW

During circulation inside the same Tank onboard

3.



(1)

Normally which one will affect the final cargo measurement more when there is a 0.1% variation in their respective reading?

Ullage measurement

Density measurement

Temperature measurement

Water in cargo measurement

4.



(1)

What are all the cargo measurement issues creep up when liquid cargo is measured for volume calculations

Ullage, listing of vessel, sea conditions, and temperature of cargo

Ullage, listing of vessel, sea conditions, water in cargo and temperature of cargo

Ullage, listing of vessel, sea conditions, water in cargo, density and temperature of cargo

Ullage, listing of vessel, water in cargo, density and temperature of cargo

5.



(1)

What are all the normal defence for the Ship, in case of an 'Oil Shortage'

To prove that all the cargo has been discharged with no (ROB).

To prove that there was no significant in-transit loss

To prove that the ship tank calibrations are more accurate than the shore tank calibrations.

To prove that the shore's flow meter is wrong

6.



(1)

Why is it the potential for volumetric losses is greater where COW is performed?

During COW, the cargo is being formed into a low pressure spray and completely atomised

During COW, the cargo is being formed into a high pressure spray and completely atomised

During COW, the cargo is being formed into a high pressure spray and partially atomised

During COW, the cargo is being formed into a low pressure spray and partially atomised

7.



(1)

Under what conditions given below, the Evaporation losses are more

Loading under inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging at atmospheric pressure

Loading under inerted conditions and discharging under slightly more pressure

8.



(1)

When the sea conditions are not exactly calm, how will you make sure that the ullage measurement reading is closer to accurate?

For each tank, take 5 ullage measurements and average, then apply trim correction

For each tank, take 3 ullage measurements and average, then apply trim correction

For each tank, take 5 ullage measurements, leave the maximum and minimum values, then average the remaining three values and apply trim correction

For each tank, take 5 ullage measurements, leave the maximum and minimum values, then average the remaining three values.

9.



(1)

Select the appropriate sentence from below describing the 'Oil Shortage claim'

The discrepancy between what has been received on board and what has been discharged from the ship

The discrepancy between what has been received on board as per B/L and what has been discharged from the ship

The discrepancy between the quantity of cargo as stated in the B/L and the out turn quantity as calculated in the discharge port.

The discrepancy between the quantity of cargo as stated in the B/L and the out turn quantity as calculated in the discharge port after due consideration for the allowable transportation loss



10.



(1)

What can be the ship's defence if the Oil discharged from board is more than the B/L figure?

Water seepage into cargo onboard the ship

The onboard quantity (OBQ) prior to loading has not been taken into consideration

The cargo has been slightly over heated to reduce viscosity

The flow meter on the shore at the discharge port is not working well



1.



(1)

Why water finding pastes or electronic tape interface reading to measure water in the take do not give accurate results?

Due to emulsion

Due to temperature difference

Due temperature and density difference

Due to differences in Viscosity



2.



(1)

Normally which one will affect the final cargo measurement more when there is a 0.1% variation in their respective reading?

Ullage measurement

Density measurement

Temperature measurement

Water in cargo measurement

3.



(1)

When the sea conditions are not exactly calm, how will you make sure that the ullage measurement reading is closer to accurate?

For each tank, take 5 ullage measurements and average, then apply trim correction

For each tank, take 3 ullage measurements and average, then apply trim correction

For each tank, take 5 ullage measurements, leave the maximum and minimum values, then average the remaining three values and apply trim correction

For each tank, take 5 ullage measurements, leave the maximum and minimum values, then average the remaining three values.

4.



(1)

What are the factors that may affect the calculation of OBQ value?

Residues on tank floors, the age of the vessel and previous cargoes carried.

Residues on tank floors and previous cargoes carried.

Residues on tank floors and structures, and previous cargoes carried.

Residues on tank floors and structures, and these will vary with the age of the vessel and previous cargoes carried.

5.



(1)

How to find out 'True in-Transit losses' during the voyage?

The ship's gross volume at normal temperature on loading is compared with the ship's gross volume at normal temperature prior to discharge

The ship's gross volume at atmospheric temperature on loading is compared with the ship's gross volume at atmospheric temperature prior to discharge

The ship's gross volume at standard temperature on loading is compared with the ship's gross volume at standard temperature prior to discharge

The ship's gross volume at atmospheric temperature & pressure on loading is compared with the ship's gross volume at atmospheric temperature & pressure prior to discharge

6.



(1)

What are all the normal defence for the Ship, in case of an 'Oil Shortage'

To prove that all the cargo has been discharged with no (ROB).

To prove that there was no significant in-transit loss

To prove that the ship tank calibrations are more accurate than the shore tank calibrations.

To prove that the shore's flow meter is wrong

7.



(1)

What are all the records, if maintained onboard will assist in case of claims /disputes?

Voyage abstract (deck), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book including bunker operations

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/ transfer records and Oil record book including bunker operations

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book.

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book including bunker operations

8.



(1)

Under what conditions given below, the Evaporation losses are more

Loading under inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging under slightly more pressure

Loading under non inerted conditions and discharging at atmospheric pressure

Loading under inerted conditions and discharging under slightly more pressure

9.



(1)

How to find out 'Theoretical in-Transit losses' during the voyage?

The ship's net volume on board at standard temperature on completion of loading is compared with the net volume on board at standard temperature prior to the commencement of discharge emptying and filling losses.

The ship's net volume on board at normal temperature & pressure on completion of loading is compared with the net volume on board at normal temperature & pressure prior to the commencement of discharge emptying and filling losses.

The ship's gross volume on board at standard temperature on completion of loading is compared with the net volume on board prior to the commencement of discharge emptying and filling losses.

The ship's net volume on board at standard temperature on completion of loading is compared with the gross volume on board at standard temperature prior to the commencement of discharge emptying and filling losses.



10.



(1)

What can be the ship's defence if the Oil discharged from board is more than the B/L figure?

Water seepage into cargo onboard the ship

The onboard quantity (OBQ) prior to loading has not been taken into consideration

The cargo has been slightly over heated to reduce viscosity

The flow meter on the shore at the discharge port is not working well



1.



(1)

Why water finding pastes or electronic tape interface reading to measure water in the take do not give accurate results?

Due to emulsion

Due to temperature difference

Due temperature and density difference

Due to differences in Viscosity



2.



(1)

What are all the normal defence for the Ship, in case of an 'Oil Shortage'?

To prove that all the cargo has been discharged with no (ROB).

To prove that there was no significant in-transit loss

To prove that the ship tank calibrations are more accurate than the shore tank calibrations.



To prove that the shore's flow meter is wrong

3.



(1)

Why is it the potential for volumetric losses is greater where COW is performed?

During COW, the cargo is being formed into a low pressure spray and completely atomised

During COW, the cargo is being formed into a high pressure spray and completely atomised

During COW, the cargo is being formed into a high pressure spray and partially atomised

During COW, the cargo is being formed into a low pressure spray and partially atomised

4.



(1)

What are the factors that may affect the calculation of OBQ value?

Residues on tank floors, the age of the vessel and previous cargoes carried.

Residues on tank floors and previous cargoes carried.

Residues on tank floors and structures, and previous cargoes carried.

Residues on tank floors and structures, and these will vary with the age of the vessel and previous cargoes carried.

5.



(1)

What are all the records, if maintained onboard will assist in case of claims /disputes?

Voyage abstract (deck), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book including bunker operations

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/ transfer records and Oil record book including bunker operations

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book.

Voyage abstract (deck and engine), notice of readiness (NOR), port log, Cargo pumping/loading/transfer records and Oil record book including bunker operations

6.



(1)

Select the appropriate sentence from below describing the 'Oil Shortage claim'

The discrepancy between what has been received on board and what has been discharged from the ship

The discrepancy between what has been received on board as per B/L and what has been discharged from the ship

The discrepancy between the quantity of cargo as stated in the B/L and the out turn quantity as calculated in the discharge port.

The discrepancy between the quantity of cargo as stated in the B/L and the out turn quantity as calculated in the discharge port after due consideration for the allowable transportation loss



7.



(1)

In spite of using clean sample bottles to acquire individual samples from each level (ie top, middle and bottom of each of the ship's tanks) and clearly labelled for density calculation, why the final result may not provide the correct density value?

Due to temperature variations

Due to Viscosity variations

Due to the loss of volatile fractions to atmosphere

Due to changes in Emulsion



8.



(1)

How to find out 'Theoretical in-Transit losses' during the voyage?

The ship's net volume on board at standard temperature on completion of loading is compared with the net volume on board at standard temperature prior to the commencement of discharge emptying and filling losses.

The ship's net volume on board at normal temperature & pressure on completion of loading is compared with the net volume on board at normal temperature & pressure prior to the commencement of discharge emptying and filling losses.

The ship's gross volume on board at standard temperature on completion of loading is compared with the net volume on board prior to the commencement of discharge emptying and filling losses.

The ship's net volume on board at standard temperature on completion of loading is compared with the gross volume on board at standard temperature prior to the commencement of discharge emptying and filling losses.



9.



(1)

What are all the Claims/ disputes you can successfully defend if some records if maintained on board properly?

Shortage, contamination and demurrage / dispatch disputes.

Shortage, performance claims, and demurrage / dispatch disputes.

Shortage, contamination, performance claims, and demurrage / dispatch disputes.

Contamination performance claims, and demurrage / dispatch disputes.

10.



(1)

Normally which one will affect the final cargo measurement more when there is a 0.1% variation in their respective reading?

Ullage measurement

Density measurement

Temperature measurement

Water in cargo measurement

What are the international classification that describes petroleum liquid cargoes ?

flammable and combustible

volatile and non-volatile

Organic and Inorganic

Acidic and non-acidic

Petroleum liquids derived from the naturally occurring crude oil that may include the following

Gasoline, Lubricant, Asphalt

Phosphoric acid, Sulfuric acid, Hydrochloric acid

Caustic soda, molten sulfur, Boric acid

Tallow, grease, molasses

The EmS guide is given in

Volume 1 of IMDG code

Volume 2 of IMDG code

IMDG code supplement

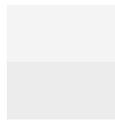
SOLAS

What are the international classification that describes petroleum liquid cargoes ?

flammable and combustible

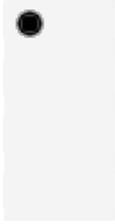
volatile and non-volatile

Organic and Inorganic
Acidic and non-acidic



MARPOL Annex I came into force in

1983
1987
1992
2003

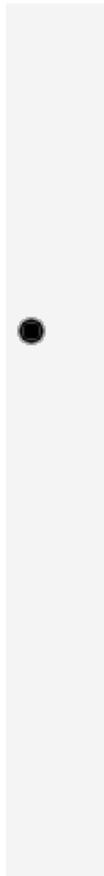


What is an Electrostatic Field?

When the charges are separated, a large voltage difference can develop between them and this is known as an electrostatic field

When charges are separated a voltage distribution is set up throughout the neighbouring space and this is known as an electrostatic field.

When the charges are separated, a large voltage difference can develop between them. A voltage distribution is also set up throughout the neighbouring space and this is known as an electrostatic field.



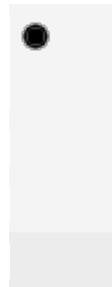
How to reduce Hydrogen Sulphide Hazard in Residual Fuel Oils?

Ventilation to lower the concentration of vapour in the ullage space and in specific areas where vapours may accumulate should be carried out as soon as practicable.

Transfer the oil to some other tank using fuel transfer pump,

Keep heating the oil to maintain a higher temperature

Circulate the oil in the same tank using the fuel transfer pump



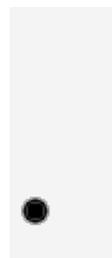
What is pressure surge ?

When the pressure of oil increases suddenly at the manifold

When the pressure of oil decreases suddenly at the manifold

When the discharge pressure at the pump drops to zero

A sudden increase in the pressure of the liquid in a pipeline brought about by an abrupt change in flow rate

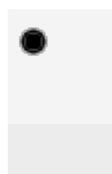


Ignition temperature is

lowest temperature to catch fire

higher temperature to catch fire

any temperature



Burning of candle is an example of _____.

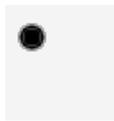
rapid combustion

spontaneous combustion



slow oxidation

explosion



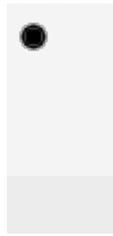
The Medical First Aid Guide (MFAG) is published by the:

World Health Organization (WHO)

International maritime organization (IMO)

International labour organization (ILO)

International chemical organization (ICO)

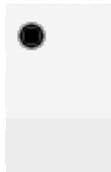


Glass and iron are the examples of

Non-combustible

Combustible

indicator



What is flammable range ?

The range in which nothing will burn

The range in which the oxygen content is too low to cause explosion

The range in which the oxygen content is too high to cause explosion

The range of hydrocarbon gas concentrations in air between the lower and upper flammable limits. Mixtures within this range are capable of being ignited and of burning.



What is the eight-hour safe exposure limit for Carbon Monoxide?

15ppm

25ppm

125ppm

250ppm



How Putrefaction process is connected to Carbon Monoxide?

Putrefaction process generates obnoxious and toxic vapours

Putrefaction process depletes the oxygen in the tank due to chemical reaction

Putrefaction process generates obnoxious and toxic vapours and these depletes the oxygen in the tank due to chemical reaction



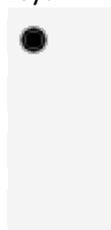
What is Oxygen deficiency?

Oxygen less than 21%

Oxygen less than 16%

Oxygen less than 8%

Oxygen less than 5%



It is possible to find the appropriate EmS SPILLAGE SCHEDULE from the

Proper shipping name

UN Number

Packing group



Packing instructions

Pyrophoric oxidation occurs when loading:

Light crude oils

Sour crude oils

Refined products

Chemical cargoes

Systemic poisons are those that cause an adverse health effect on-----

the whole body

several organs of the human body

the skin only

a specific organ

Precautions for H₂S should be taken when?

Less than 5 ppm in volume

More than 5 ppm in Volume

Less than 0.05 ppm in weight

The products of combustion are

carbon dioxide and water

oxygen and water

only carbon dioxide

only oxygen

In the burning process hydrocarbon gases react with oxygen in the air:

To produce carbon and water

To produce hydrogen and water

To produce carbon dioxide and water

To produce carbon monoxide and water

EmS was adopted and was first issued in the year _____ by the Maritime Safety Committee.

1971

1981

1991

What is triboelectric property?

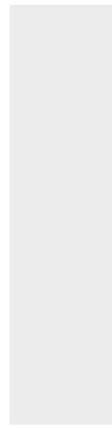
Some materials due to rubbing friction gain or loose electrons, this is known as triboelectric property

The gaining and losing of electrons from the materials depends on how strong an atom holds its electron, this is known as triboelectric property

The material which gains electrons becomes negatively charged and the material which loses electrons turns to be positively charged, this is known as triboelectric property

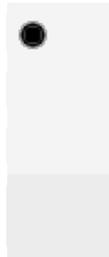
Buildup of electrostatic charge when loading static accumulator oils is avoided by:

- Increasing the flow rate
- Not using natural fibre ropes in ullaging equipment
- Taking tank soundings within a metal sounding pipe
- Fitting, fixed equipment away from the tank wall



What is non-volatile petroleum ?

- Petroleum having a flashpoint of 60 Degrees C or above
- Petroleum having a flashpoint of 60 Degrees C or below
- Petroleum having a flashpoint of 100 Degrees C or above
- Petroleum having a flashpoint of 100 Degrees C or below



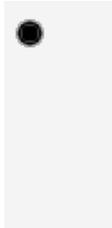
What is a resuscitator ?

- Equipment to revive an unconscious person
- To supply air to a person in a tank
- Equipment to restore the breathing of a person overcome by gas or lack of oxygen
- It is a rescue equipment for use in emergency



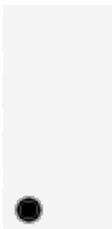
What is the TLV-TWA for hydrogen sulphide over a period of 8 hours ?

- 5 ppm
- 10 ppm
- 15 ppm
- 20 ppm



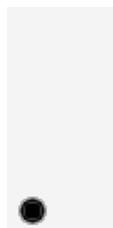
The International Medical Guide for Ships gives guidelines on how to diagnose, treat and prevent health problems in seafarers, mainly focusing on the first _____ hours after injury.

- 6
- 12
- 24
- 48



When required to work in an area where explosive gases may accumulate, you should use tools which are

- approved by the Coast Guard
- high carbon steel
- fixed with a ferrous cover
- non-sparking



The permit to work should not last for more than

12 hours

24 hours

36 hours

48 hours

What precaution should be taken while lifting heavy loads in the engine room?

All personnel should stand under the load

All personnel should stand clear of the load being lifted

All personnel should operate the controls

Class C fires involve

Solid cellulosic materials such as wood, paper, clothing, etc.

Vapour/air mixture over the surface of flammable liquids

Energised electrical equipment

Combustible materials such as magnesium, sodium, etc.

Multi-gas instruments are widely used and are usually capable of housing four different sensors. A typical configuration would comprise sensors for measuring: identify one that will be of major importance for enclosed space entry,

Hydrocarbon vapor as a % LFL (explosimeter function using a pellistor sensor).

Hydrocarbon vapor in inert gas as a % Volume (tankscope function using an infra-red sensor).

Oxygen (using an electrochemical sensor).

Hydrogen Sulfide (using an electrochemical sensor).

In the burning process hydrocarbon gases react with oxygen in the air:

To produce carbon and water

To produce hydrogen and water

To produce carbon dioxide and water

To produce carbon monoxide and water

Tanker pump room ventilation must be switched on at least how many minutes before entry ?

10 minutes

15 minutes

30 minutes

One hour

In the burning process hydrocarbon gases react with oxygen in the air:

To produce carbon and water

To produce hydrogen and water

To produce carbon dioxide and water

To produce carbon monoxide and water

Which of the following hazards is the main concern when entering a ballast tank?

- toxic gases
- flammable gases
- infection
- lack of oxygen



A crew member is unconscious and the face is flushed. You should _____.

- lay the crew member down with the head and shoulders slightly raised
- administer a liquid stimulant
- lay the crew member down with the head lower than the feet
- attempt to stand the crew member upright to restore consciousness



Pyrophoric oxidation occurs when loading:

- Light crude oils
- Sour crude oils
- Refined products
- Chemical cargoes



A diffuse discharge from a single sharp conductor is called

- A spark
- A corona
- A brush discharge
- A Propagating brush discharge



What is the type of gas detection system fitted for spaces with air?

- Spot metering type fixed inside the individual insulation spaces
- Infrared type using sequential measurement
- Portable gas detection system due to mobility of this method
- Catalytic combustion type



Foam extinguishes a fire by

- Heat removal or cooling
- Smothering or oxygen exclusion
- Flame inhibition



Class B fires involve

- Solid cellulosic materials such as wood, paper, clothing, etc.
- Vapour/air mixture over the surface of flammable liquids
- Energised electrical equipment
- Combustible materials such as magnesium, sodium, etc.

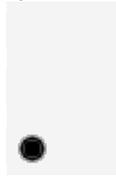


Dry chemical extinguishes a fire by

Heat removal or cooling

Smothering or oxygen exclusion

Flame inhibition

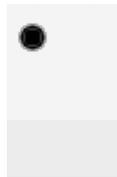


What bare minimum should be done before working on electrical equipment?

Complete electrical isolation checklist

Switch off the mains and start working

Open the equipment and commence work



Lower flammable limit (LFL) or Lower Explosive Limit (LEL), is usually expressed:

as a percentage of the air volume

as a percentage of hydrocarbon volume

in volume percent

as a percentage of the volume of oxygen



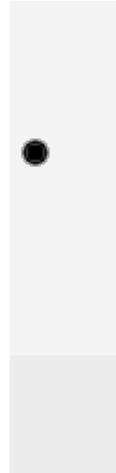
For Oxygen analyzer, identify the statement that explains the working principle

Electrochemical Sensors: Analyzers of this type determine the oxygen content of a gas mixture by measuring the output of an electrochemical cell.

Oxygen diffuses through a membrane into the cell and current flows between two special electrodes separated by a liquid or gel electrolyte.

The current flow is related to the oxygen concentration in the sample and the scale is arranged to give a direct indication of oxygen content.

The analyzer readings are directly proportional to the pressure in the measuring cell, and only small errors are caused by normal variations in atmospheric pressure.

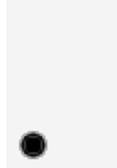


How should steam pipes be protected in machinery spaces?

They should be painted in different colours

They should have placards to warn personnel

They should be lagged



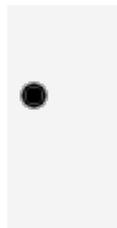
The bypass valve on a self-contained breathing apparatus (SCBA) bypasses

a breathing bag containing excessive pressure

the regulator in an emergency

oxygen to the atmosphere

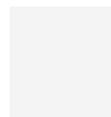
the regenerator in an emergency



A fuel tank is considered to be gas free when the tank is

free of most flammable gas concentrations

thoroughly ventilated for at least 24 hours



inerted with carbon dioxide for 24 hours

free of all dangerous concentrations of flammable or toxic gases

Which of the gases listed is the poisonous gas most likely to be found in a closed compartment involved in a fire?

Nitrogen

Hydrogen

Carbon dioxide

Carbon monoxide

Which type of cargoes are often known as static accumulator cargoes?

Crude oil

Vegetable oil

Highly refined petroleum products

Animal oil

What is the priority order of a Company's on board policies and procedures?

Safety of the crew; Safe operation of the vessel;
Protection of the environment

Safe operation of the vessel; Safety of the crew;
Protection of the environment

Protection of the environment; Safety of the crew; Safe
operation of the vessel

Protection of the environment; Safe operation of the
vessel; Safety of the crew

A fuel tank is considered to be gas free when the tank is

free of most flammable gas concentrations

thoroughly ventilated for at least 24 hours

inerted with carbon dioxide for 24 hours

free of all dangerous concentrations of flammable or toxic gases

When preparing to pump flammable liquids with a centrifugal pump, you should

draw a small quantity of liquid to prime the pump

check for gland leakage and any fire hazard

have a standby pump running with the discharge valve closed

lift the relief valve by hand to check its operation

Certain operations can give rise to accumulations of electric charge which may be released suddenly in electrostatic discharges with sufficient energy to ignite

Flammable hydrocarbon gas/air mixtures

Flammable hydrocarbon gas/Nitrogen mixtures

Combustible hydrocarbon liquid

Flammable hydrocarbon gas/CO₂ mixtures

Which of these statements is correct?

Used primary cells can be recharged

Used primary cells can be refilled and used

Used primary cells have to be discarded

What is the priority order of a Company's on board policies and procedures?

Safety of the crew; Safe operation of the vessel; Protection of the environment

Safe operation of the vessel; Safety of the crew; Protection of the environment

Protection of the environment; Safety of the crew; Safe operation of the vessel

Protection of the environment; Safe operation of the vessel; Safety of the crew

The bypass valve on a self-contained breathing apparatus (SCBA) bypasses

a breathing bag containing excessive pressure

the regulator in an emergency

oxygen to the atmosphere

the regenerator in an emergency

How many portable multi – gas detectors should be carried onboard?

At least one with methane gas and one of propane gas detection capability

At least one with methane and one of carbon monoxides gas detection capability

At least one with methane gas and one of ammonia gas detection capability

At least two sets with methane gas detection capability

Class A fires involve

Solid cellulosic materials such as wood, paper, clothing, etc.

Vapour/air mixture over the surface of flammable liquids

Energised electrical equipment

Combustible materials such as magnesium, sodium, etc.

The ISM Code requires work procedures which ensures _____ performance

Superior

Profitable

Safe

Excellent

What is the procedure for checking for spinal cord damage in an unconscious patient?

Beginning at the back of the neck, and proceeding to the buttocks, press the spine to find where it hurts

Prick the skin of the hands and the soles of the feet with a sharp object to check for reaction

Selectively raise each arm and each leg and watch patient's face to see if he registers pain

Roll patient onto his stomach and prick along the length of his spine to check reaction



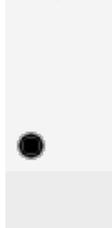
The airborne concentrations of substances (such as hydrogen sulfide) under which nearly all workers may be repeatedly exposed without adverse effects are called

exposure limits

concentration limits

threshold limit values

substance limit values



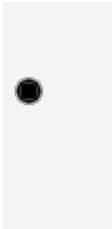
Optimum Oxygen values in the inert gas for delivery into cargo tanks is between:

1 to 2%

3 to 4%

5 to 6%

9 to 10%



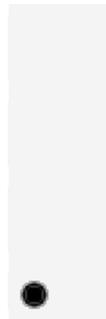
If a cargo tank has not been certified as gas free,

breathing apparatus would not be necessary in an emergency as you would only be in the tank a short time

a man may work safely without breathing apparatus in cold weather, as vapors are less volatile

entry without a breathing apparatus may be made at the top of the tank since petroleum vapors are heavier than air

breathing apparatus should always be used



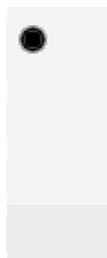
Cargo tank pressure is monitored on tankers:

To ensure IG backpressure is slightly positive at all times

To prevent back pressure

To ensure enough tanks are open for loading

To ensure that the loading rate is not too high



Identify the statement that highlights the purpose of using a non-catalytic heated filament gas indicator,

The working of catalytic gas indicator depends on the property of its combustion with air.

Since the inerted atmosphere is deficient in oxygen the catalytic gas indicators cannot be used in inerted atmospheres.

Instruments used in inerted atmosphere have a filament sensitive to the variations in the heat conductivity.

Instruments used in inerted atmosphere have a filament that are good for monitoring inerting operations.



The highest concentration of a harmful substance to which a person may be exposed without danger to health, is termed the

vapor pressure

tolerance point

threshold limit value

odor threshold



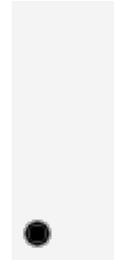
Vessel's enclosed spaces that are not to be treated as such:

Spaces which must be entered through small hatchways or access points;

Cargo tanks and holds ;

Double-bottom tanks;

Crew accommodation



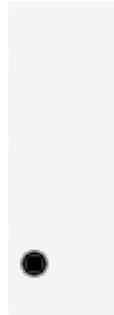
Which would be the appropriate arrangement for entering into a DB tank through the ductkeel?

Entry permit for ductkeel and standby person at the entrance

Entry permit for DB tank and standby person located inside ductkeel outside DB tank

Combined entry permit for both but standby person ductkeel entrance and DB entrance

Separate enclosed space entry permit for both spaces including standby person outside both



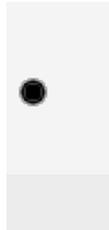
Which of the devices listed would be safe to use in a compartment with insufficient oxygen?

Wet handkerchief.

Self-contained breathing apparatus.

Dust or gas mask.

Canister type mask.



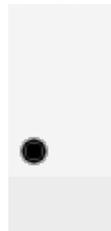
Where is the electrostatic discharge plate installed?

Near the cargo manifold

At the forward end of the ship

At the accommodation entrance on upper deck

At the aft part of the ship

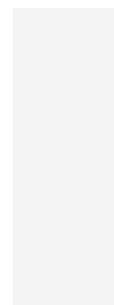


For Oxygen analyzer, identify the key principle upon which the analyzer is working,

A Wheatstone bridge circuit is formed using the two wires. It is used to measure a resistance by balancing two legs of the circuit.

The sample of atmosphere is filtered and passed through a diffuser before reaching the two chambers.

One chamber is with a magnetic field and the other without a magnetic field.



A difference in the thermal conductivity of the oxygen with respect to air is developed and this causes an imbalance in the resistance.



The _____ depends upon the pressure of contact exerted on live wires.

voltage

current

impedance

power



What is related to the relaxation time of the material in which the electrical charges are accumulated?

That material's density

That material's viscosity

That material's conductivity

That material's flammability



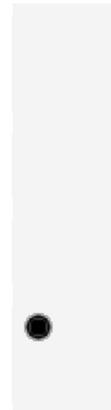
Operating Principle of the Infrared instrument: identify the key principle that leads to detection of hydrocarbon gas,

The amount of absorption is related to the concentration of the gas and is measured by a set of optical detectors and suitable electronic systems.

The change in the intensity of the absorbed light is measured relative to the intensity of light at a non-absorbed wavelength.

When there is no gas present the signals of reference signal detector and measurement signal detector are balanced.

When there is combustible gas present, there is a predictable drop in the output from measurement signal detector because the gas is absorbing light.



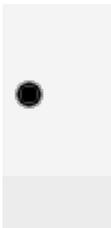
When using a permit to work system one must make how many copies of the permit ?

One copy

Two copies

Three copies

Four copies



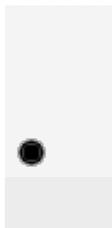
It is generally NOT allowed to clean up an oil spill by using _____.

a boom

suction equipment

chemical agents

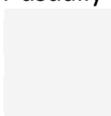
skimmers



A method NOT usually allowed for cleaning up oil spills would be the use of _____.

skimmers

straw

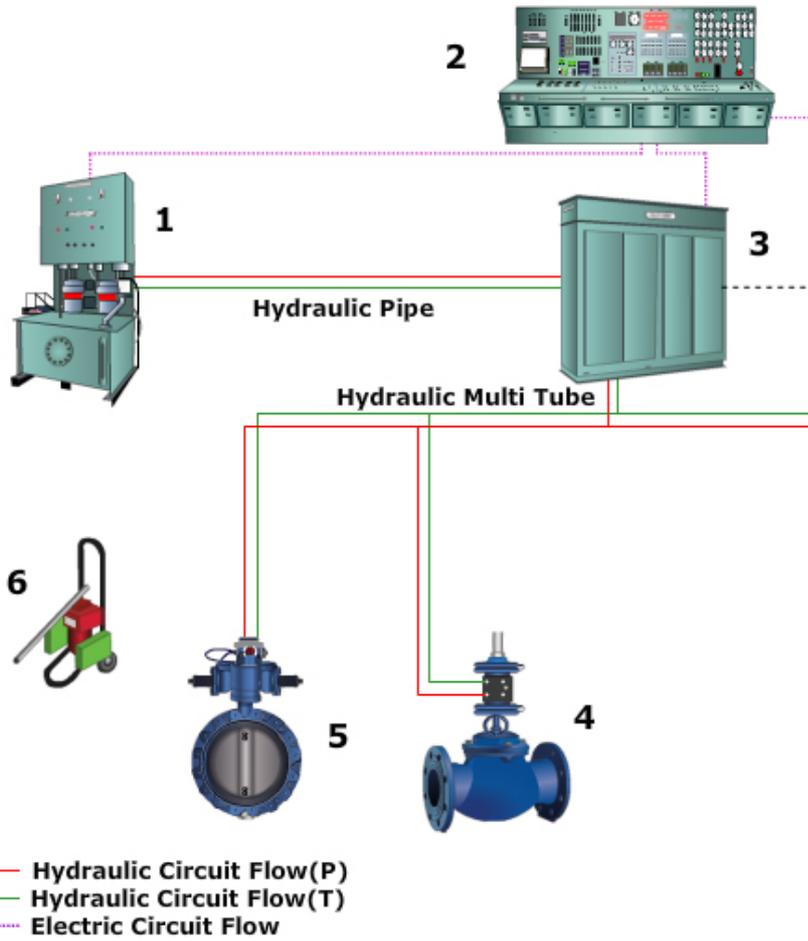


dispersants



sawdust

Valve Remote Control System: Identify the equipment components:



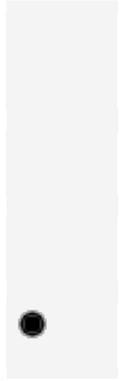
916011

1- Portable Handpump; 2- Control Console; 3- Solenoid Valve Cabinet; 4-Globe Valve; 5- Butterfly Valve; 6- Hydraulic Power Unit

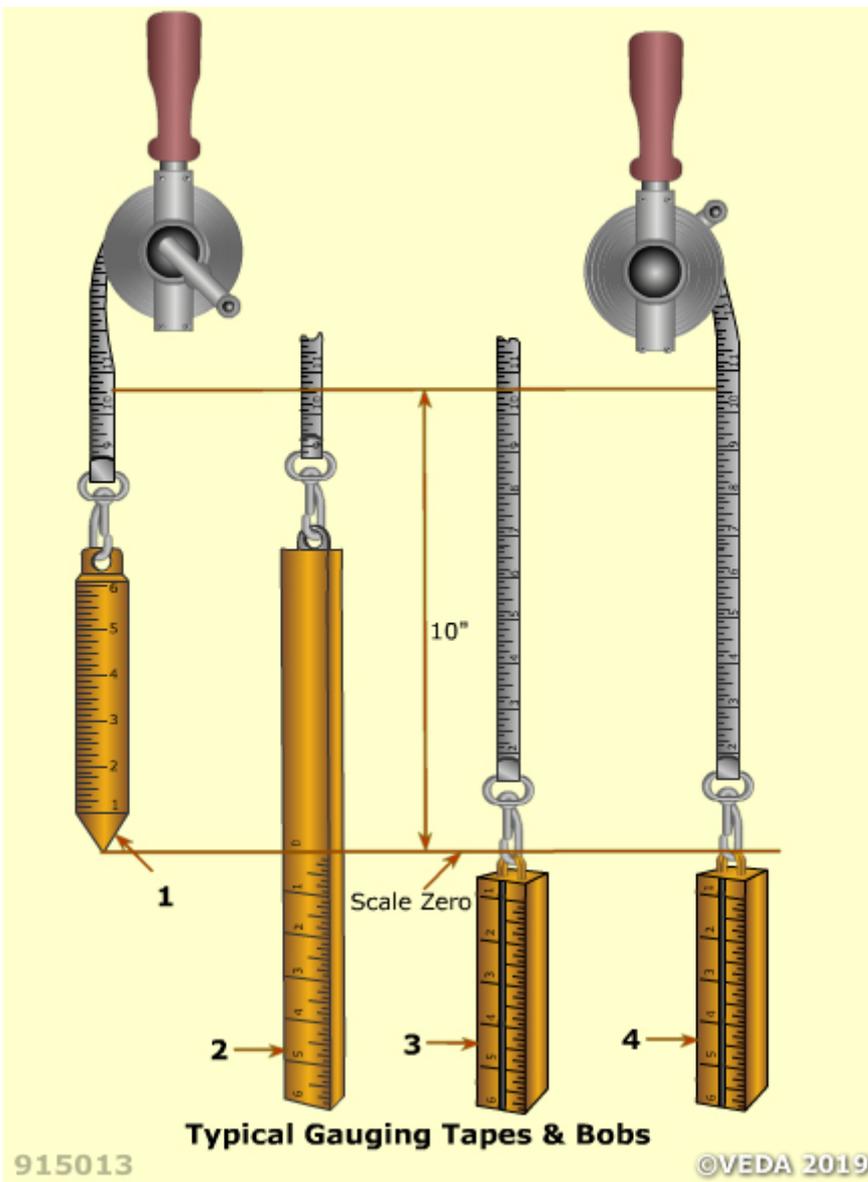
1- Hydraulic Power Unit; 2- Control Console; 3- Solenoid Valve Cabinet; 4- Butterfly Valve ; 5- Globe Valve; 6-Portable Handpump

1- Control Console; 2 -Hydraulic Power Unit ; 3- Solenoid Valve Cabinet; 4-Globe Valve; 5- Butterfly Valve; 6-Portable Handpump

1- Hydraulic Power Unit; 2- Control Console; 3- Solenoid Valve Cabinet; 4-Globe Valve; 5- Butterfly Valve; 6-Portable Handpump



Several types of bobs connected to handheld tapes: Identify those correctly,



1-Innage Bob; 2-Plain Ullage Bob; 3-Extension Outage Bob; 4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Deep-grooved ullaged Bob; 4-Plain Ullage Bob

1-Extension Outage Bob; 2-Innage Bob ; 3-Plain Ullage Bob; 4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Plain Ullage Bob; 4-Deep-grooved ullaged Bob

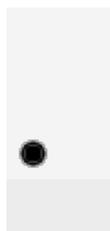
A liquid-filled pressure vacuum breaker

is fitted on the tank dome

is fitted on the main deck a tanker

is fitted on the inert gas main line of a tanker

is fitted in the pump room



A thermoelectric detector:

Uses a heat sensor

converts heat to electrical energy

detects a rise in temperature



uses a fixed temperature stop

The vacuum strip system was developed on oil tankers to
remove all hydrocarbon gases from the tanks after discharging
prevent cavitation in centrifugal cargo pumps
quickly remove rain water collecting on deck
discharge cargo without any human intervention

Gas Dispersion through tank vents; There is a potential danger of fire and explosion if the flammable zone with emitted vapor reaches any location where there may be sources of ignition such as the follows; which one of these can be prevented easily by onboard systems?

Superstructures and accommodation blocks into which the gas can enter through doors, ports or ventilation intakes.

The cargo deck which, although it is usually regarded as free of sources of ignition, is a work area and thoroughfare.

An adjacent jetty which, although it is usually regarded as free of sources of ignition, is a work area and thoroughfare.

Adjacent vessels such as lightering ships, bunker and stores craft, pilot and crew transfer boats.

Inerting Operations: During normal operation of oil tankers the following operational modes frequently take place: find an operation that is required after tank cleaning during a ballast voyage and before loading

Inerting of empty tanks

Inerting during loading and simultaneous discharge of ballast

Inerting during loaded sea voyage

Inerting during discharging and ballasting

In a float gauge, the float is connected to an indicating device by a _____.

Tape

rope

tube

A stripping pump is fitted in the pump room so that

the last remaining traces of liquid can be pumped out from the tanks, pipelines and pumps

cargo from the tanks can be discharged if the main pumps should fail

the liquids collected in the bilge can be pumped out

slops can be discharged overboard at a slow rate

Tanks of tankers do not exceed:

0.1 of ship's length

0.15 of ship's length

0.2 of ship's length

0.25 of ship's length

What do you understand from the term "Bleed off COW" ?

The process of pressure testing the COW lines onboard

The process of diverting part of cargo discharged for reducing rate

The process of diverting part of cargo discharged for crude oil washing

The process of draining oil from the COW lines after washing

The pipeline system that has valves fitted on bulkheads is called:

The direct line system

The free flow system

The ring main system

The free line system

Before gas freeing operations the hydrocarbon content is reduced to:

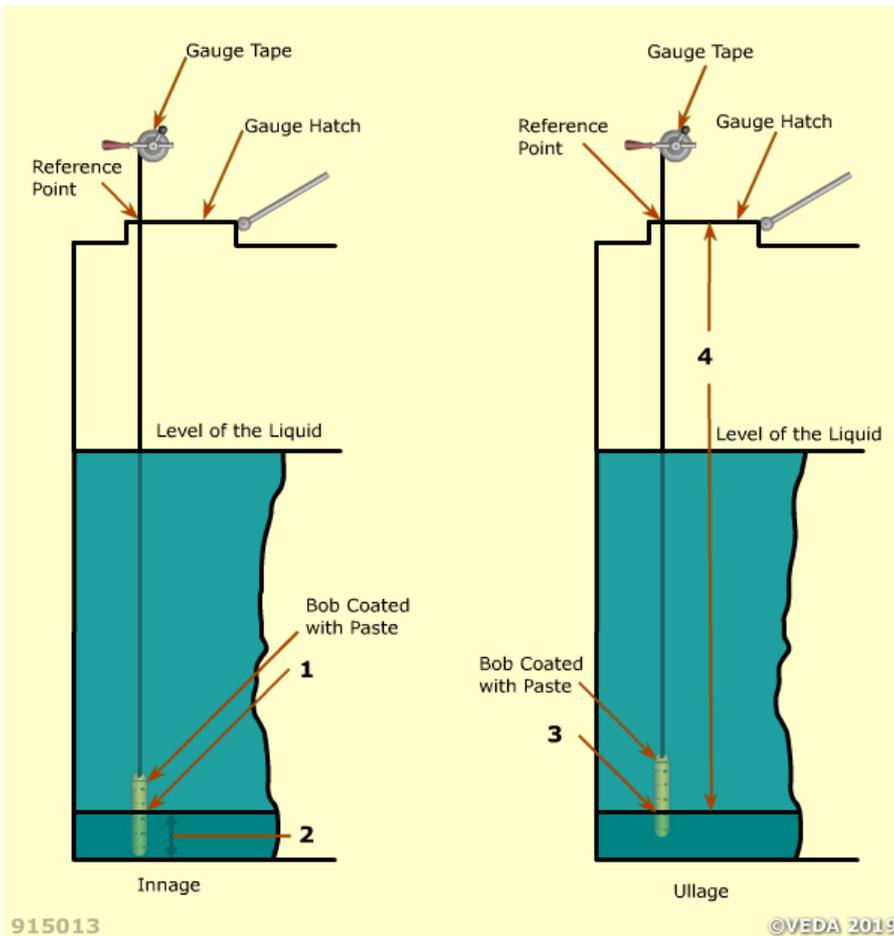
to 15% or less by volume

to 10% or less by volume

to 8% or less by volume

to 2% or less by volume

Tank level measurement of free water by gauging tape and plumb bob: find the labeling combination that is correct,



915013

©VEDA 2019

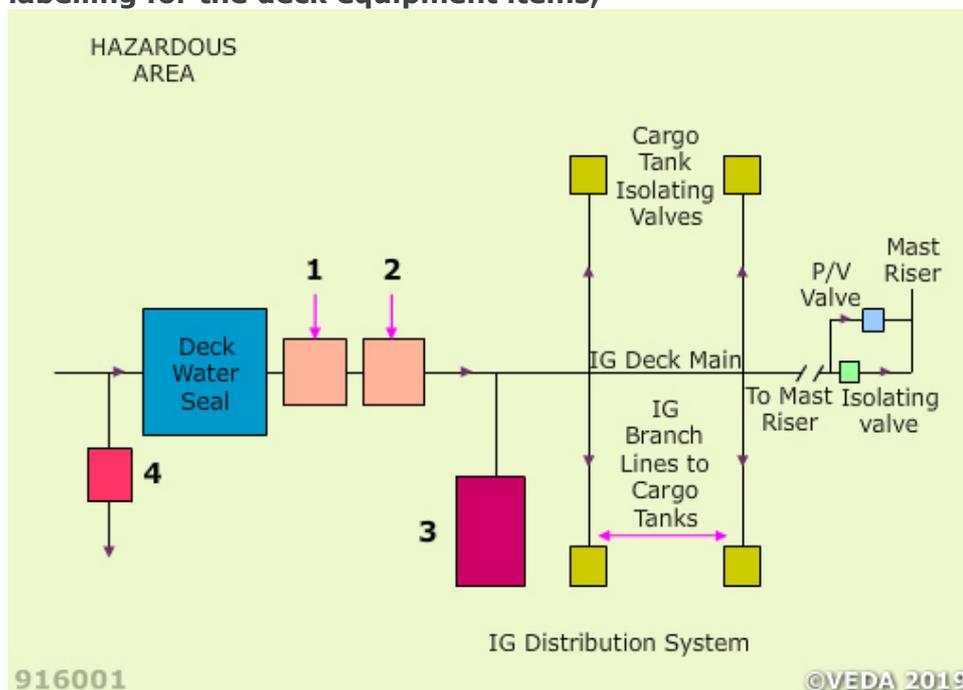
1- Water Innage; 2- Water Cut; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Cut; 4- Water Ullage

1- Water Cut; 2- Water Innage; 3- Water Ullage; 4- Water Cut

1- Water Cut; 2- Water Cut; 3- Water Innage ; 4- Water Ullage

The inert gas is delivered to the cargo tanks by an inert gas deck main line. Find the correct labelling for the deck equipment items,



916001

©VEDA 2019

1-Mechanical Non-return Valve; 2- Liquid-filled Pressure Vacuum breaker; 3- Isolating Valve; 4- Vent Valve

1- Mechanical Non-return Valve; 2- Isolating Valve; 3- Liquid-filled Pressure Vacuum breaker; 4- Vent Valve

1- Mechanical Non-return Valve; 2- Isolating Valve; 3- Vent Valve ; 4- Liquid-filled Pressure Vacuum breaker

1- Isolating Valve; 2 -Mechanical Non-return Valve; 3- Liquid-filled Pressure Vacuum breaker; 4- Vent Valve

Turbidity:

is an optical characteristic that indicates the degree of clarity of a liquid

is a motion characteristic that indicates the degree of clarity of a liquid

is a refractive characteristic that indicates the degree of clarity of a liquid

is a characteristic that indicates the degree of clarity of a liquid

Tank bulkheads on a tanker are strengthened using:

Web frames, transverse webs and stringers.

Longitudinals, transverse webs and stringers.

Web frames, transverse webs and gusset plates.

Gusset plates, transverse webs and longitudinals

In capacitance gauges, the probes are placed in an_____

Open protective tube

tank

enclosed cage

What is LEAST likely to be used to strip a cargo tank?

Centrifugal pump

Eductor

Rotary pump

Reciprocating pump

Differential pressure gauge works based on the differential pressure between the vapour and_____.

Inert gas

liquid

air

Deep tanks on oil tankers are used normally to carry

nothing at all

additional ballast in bad weather

extra bunkers for long international voyages

more cargo for increasing freight

_____ gauges can be used in ships only if the tank is above the deck.

Differential pressure



Float

Capacitance

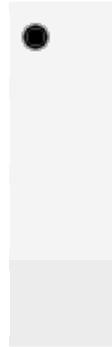
The main purpose of introducing double hull design in tankers was

to offer an extra layer of protection against environmental pollution

to increase the light weight of ship and reduce ballast required

to allow ships to navigate with reduced UKC without worrying about pollution

to increase the cargo carrying capacity of the ship with same dimensions



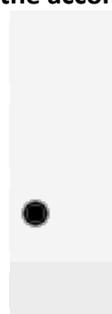
During loading/unloading operations on a tanker the accommodation ventilation is set to:

70% recirculation and 30% intake from atmosphere.

80% recirculation and 20% intake from atmosphere.

90% recirculation and 10% intake from atmosphere.

95% recirculation and 5% intake from atmosphere.

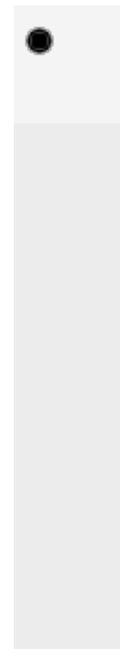


In capacitance gauges, the probes are placed in an _____

Open protective tube

tank

enclosed cage



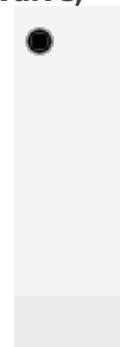
Quick Closing Valve: identify the purpose of such a valve,

Fuel oil gravity tanks must be fitted with valves that can be closed rapidly and remotely in the event of an emergency such as a fire.

Quick closing valves can be wire operated mechanically from outside the engineroom

Quick closing valves can behydraulically or pneumaticallyoperated from outside the engineroom

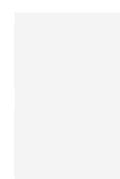
Quick closing valves are not usedfor throttle purpose



Which of the following is true about eductors?

They can be used only when there is a good level of liquid in the tank to be pumped out

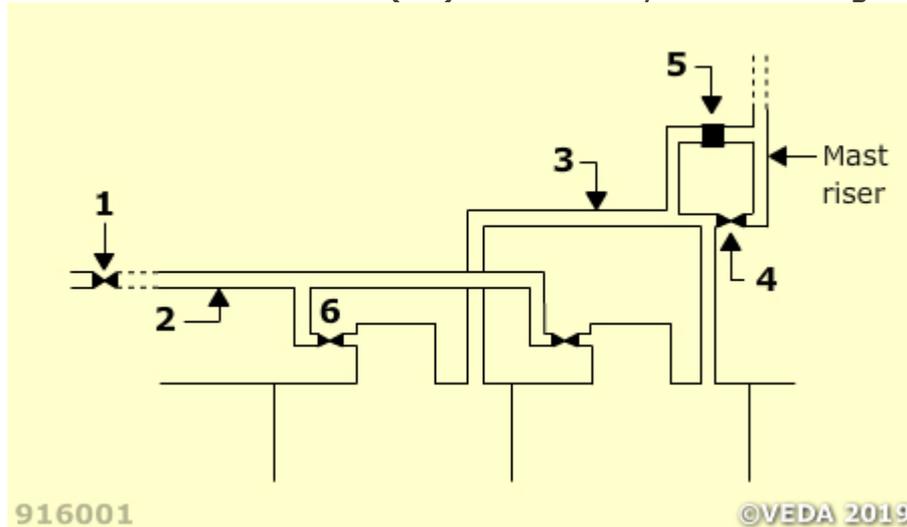
Sea water can be used as drive and crude oil pumped out from the tanks



They sometimes make high vibrations and even lead to pipeline and gauge damage

A long preparation is required before educator can be put to use

Use of Pressure-Vacuum (PV) Relief Valve; label the diagram correctly,



1-IG Main; 2-Deck Isolating Valve ; 3- Vent Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- Vent Main; 3- IG Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- IG Main; 3- Vent Main; 4- By-Pass Valve; 5- PV valve; 6- Tank Isolating Valve

1-Deck Isolating Valve; 2- IG Main; 3- Vent Main; 4- By-Pass Valve; 5 - Tank Isolating Valve; 6- PV valve

Which one of the following is not a piping system found on an oil tanker?

Ring main system

Integrated system

Direct line system

Free flow system

The purpose of a cofferdam between two compartments is to

store tools and equipment that are necessary for the adjacent compartments

give access to the bulkhead for inspection and repairs when the tanks are full with liquid

keep a reserve space if capacity of either compartment needs to be increased

prevent different liquids from the two tanks coming in contact in case of a leak

Quick Closing Valve: identify the purpose of such a valve,

Fuel oil gravity tanks must be fitted with valves that can be closed rapidly and remotely in the event of an emergency such as a fire.

Quick closing valves can be wire operated mechanically from outside the engine room

Quick closing valves can be hydraulically or pneumatically operated from outside the engine room

Quick closing valves are not used for throttle purpose

Which statement about the pressure in a tank being inerted by an inert gas system is TRUE?

The maximum pressure permitted is 8 psi.

A positive pressure should be maintained at all times.

The pressure must remain within the limits of +5 psi to -1 psi.

Prior to entering a cargo pump room, you should ensure that

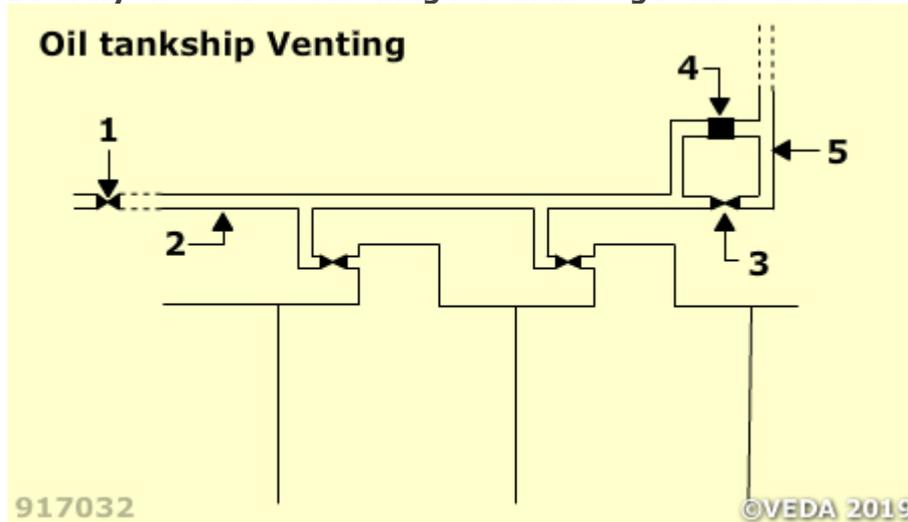
the forced ventilating system is operating

the cargo pumps are secured

no mono carbon gases are present

the oily water separator is de-energized

Identify the correct labelling for an inert gas line on deck



1-By-Pass Valve ; 2-IG Main; 3- Deck Isolating Valve; 4-PV Valve; 5- Mast Riser

1- Deck Isolating Valve; 2-IG Main; 3- By-Pass Valve; 4-Mast Riser; 5- PV Valve

1- PV Valve; 2-IG Main; 3- By-Pass Valve; 4-Deck Isolating Valve ; 5- Mast Riser

1- Deck Isolating Valve; 2-IG Main; 3- By-Pass Valve; 4-PV Valve; 5- Mast Riser

The complete details of a crude oil washing system aboard your vessel, including the operating sequences and procedures, design characteristics, a description of the system, and required personnel will be found in the

Oil Transfer Procedures Manual

Crude Oil Washing Operations and Equipment Manual

Code of Federal Regulations

Crude Oil Washing addendum to the Certificate of Inspection

Which statement about the pressure in a tank being inerted by an inert gas system is TRUE?

The maximum pressure permitted is 8 psi.

A positive pressure should be maintained at all times.

The pressure must remain within the limits of +5 psi to -1 psi.



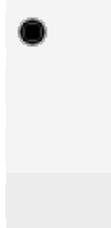
Prior to entering a cargo pump room, you should ensure that

the forced ventilating system is operating

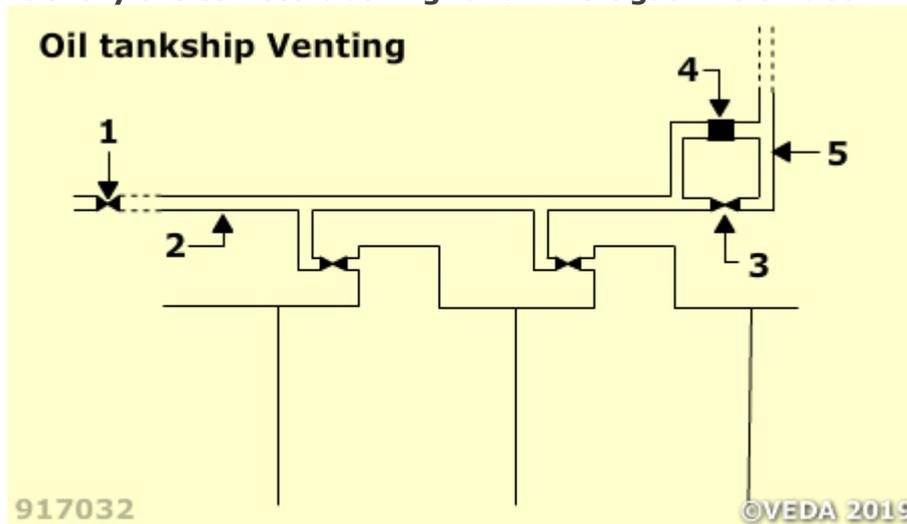
the cargo pumps are secured

no mono carbon gases are present

the oily water separator is de-energized



Identify the correct labelling for an inert gas line on deck

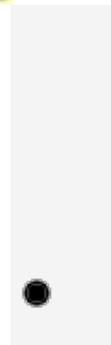


1-By-Pass Valve ; 2-IG Main; 3- Deck Isolating Valve; 4-PV Valve; 5- Mast Riser

1- Deck Isolating Valve; 2-IG Main; 3- By-Pass Valve; 4-Mast Riser; 5- PV Valve

1- PV Valve; 2-IG Main; 3- By-Pass Valve; 4-Deck Isolating Valve ; 5- Mast Riser

1- Deck Isolating Valve; 2-IG Main; 3- By-Pass Valve; 4-PV Valve; 5- Mast Riser



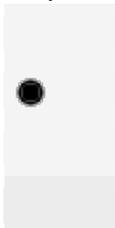
The complete details of a crude oil washing system aboard your vessel, including the operating sequences and procedures, design characteristics, a description of the system, and required personnel will be found in the

Oil Transfer Procedures Manual

Crude Oil Washing Operations and Equipment Manual

Code of Federal Regulations

Crude Oil Washing addendum to the Certificate of Inspection



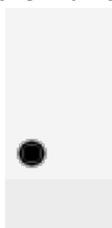
You are testing a tank that contained gasoline by using a combustible gas indicator. Under testing, the tank sample caused the needle to move rapidly to 100 on the dial then fall to zero. What is the concentration of flammable gas?

Less than the flammable range

Within the flammable range

Over the flammable range

The explosimeter is defective and giving a false reading.



An oil record book Part-I shall be retained onboard for a period of

- 1 year since the last entry has been made
- 1 year since the first entry has been made
- 3 years since the first entry has been made
- 3 years since the last entry has been made

Which of the following documents carried by a ship is not issued under the MARPOL convention?

- IOPP certificate
- Oil Record Book
- SOPEP
- Safety Management Certificate

Which of the following conditions need NOT be satisfied while discharging oil or oil mixtures from ships into the sea?

- The ship must be proceeding en route
- The ship must be at a distance of 12 nautical miles from the nearest land
- The oily mixture is processed through an oil filtering equipment as per Reg. 14 of Annex-1
- The oil content of the effluent without dilution does not exceed 15 ppm

Which tanker discharge pattern would be the safest and most efficient?

- Empty the forward tanks and start working aft, emptying each tank in sequence
- Start discharging with most of the discharge coming from forward, but include some from midships and after tanks
- Start pumping from forward, midships, and aft with the discharge distributed equally among the tanks
- Start pumping from midships and then work forward and aft simultaneously as the midships tank is emptied

Ballast water exchange should be done:

- at least 100 nautical miles from the nearest land and in waters at least 100 metres in depth.
- at least 200 nautical miles from the nearest land and in waters at least 100 metres in depth.
- at least 200 nautical miles from the nearest land and in waters at least 200 metres in depth.
- at least 100 nautical miles from the nearest land and in waters at least 200 metres in depth.

As per requirements of Marpol, Annex 1, all ships delivered on or after 1st Aug. 2010 with an aggregate oil fuel capacity 600 m3 and above, the oil fuel can be carried in

- Any of the tanks without any restriction
- Deep tanks and Double bottom tanks
- Deep tanks in protective locations
- Double bottom tanks not extending upto the ship's side

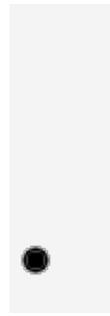
The atmosphere in a tank is too rich when it is

incapable of supporting combustion because the hydrocarbon vapor content makes the atmosphere below the LFL (Lower Flammable Level)

capable of supporting combustion

in a noncombustible state which can be relied on to occur naturally on a regular basis

incapable of supporting combustion because the hydrocarbon vapor content makes the atmosphere above the UFL (Upper Flammable Limit)



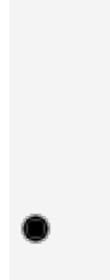
Reid vapor pressure is _____.

exerted by liquid cargo on the sides of a tank

exerted by liquid cargo on a cargo hose body

the lowest temperature and pressure that will cause a flammable liquid to give off vapors

a measurement of the amount of flammable vapors given off by a liquid at a certain temperature



The fitting at the end of a cargo line in a tank that allows suction to be taken close to the bottom of a tank is a

_____.

suction end

strainer

bell-mouth

vacuum valve



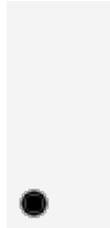
The use of sinking and dispersing chemical agents for removal of surface oil is

the most common method used

too expensive for common use

generally safe to sea life

authorized only with prior approval



High level and overflow tank alarms are set:

as per the ship's cargo system

to values as recommended by the manufacturer

to values depending on cargo type

to values as recommended by the ISGOTT guide



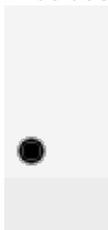
The term "oil" as used in the Oil Pollution Regulations means

fuel oil

sludge

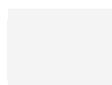
oil refuse

fan speed



To allow for the rise or fall in tide and for change in draft of a tankship during cargo transfer, cargo hoses must be suspended with _____.

slings or saddles placed at 25-foot (8 meter) intervals



enough slack in their bight
topping lifts and runners tied off to winches



Small oil spills on deck can be kept from going overboard by

driving wooden plugs into the vents
closing the lids on the vents
plugging the scuppers
plugging the sounding pipes



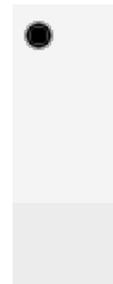
The fitting at the end of a cargo line in a tank that allows suction to be taken close to the bottom of a tank is a

suction end
strainer
bell-mouth
vacuum valve



You are planning to use a crude oil washing system. What precaution must be taken with the source tank for the washing machines?

At least one meter must be decanted from the source tank.
The oil in the source tank must be sampled for compatibility.
The source tank must have been crude oil washed at least once in the past 150 days.
The inert gas system must lower the oxygen content in the source tank to a maximum of 12%.



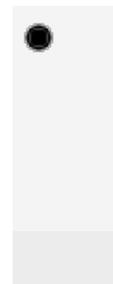
As per definition of MARPOL Annex-1, a Crude oil tanker means a tanker designed to carry

Crude oil and other dirty oils
Crude oil alongwith some refined products
Crude oil only
Crude oil, but alternatively may carry at times dirty and clean oil products also



The atmosphere in a tank is too lean if it is

incapable of supporting combustion because the hydrocarbon content is below the LFL (LowerFlammable Limit)
capable of supporting combustion because the hydrocarbon content is above the UFL (UpperFlammable Limit)
capable of supporting a fire once started
not safe for ballasting



While testing a cargo tank, your oxygen indicator reads 25% oxygen in the tank. You would then

enter the tank safely
suspect the accuracy of the reading
ventilate the tank
test for nitrogen



As per the definition of MARPOL, Annex-1, a combination carrier means a ship designed to carry

Crude oil and refined oil products at the same time in different tanks

Refined oil products and chemical products at the same time in different tanks

A combination of different products at the same time, sometimes also known as a parcel tanker

Either oil or solid cargoes in bulk

The main function of a stripping system is to

maintain the temperature of the cargo throughout the vessel

dispose of dangerous vapors within the cargo tanks

increase the loading rate of the shoreside pumps

discharge liquid left in the cargo tanks after the main pumps have discharged the bulk

Which tanker discharge pattern would be the safest and most efficient?

Empty the forward tanks and start working aft, emptying each tank in sequence

Start discharging with most of the discharge coming from forward, but include some from midships and after tanks

Start pumping from forward, midships, and aft with the discharge distributed equally among the tanks

Start pumping from midships and then work forward and aft simultaneously as the midships tank is emptied

Pollution regulations require that each scupper in an enclosed deck area have a

wooden plug

soft rubber plug

two-piece soft patch

mechanical means of closing

During loading and discharging operation in addition to when the cargo tanks have been properly filled each inert gas system must be capable of maintaining a minimum gas pressure of

50 millimeters of water pressure

25 millimeters of water pressure

100 millimeters of water pressure

5 millimeters of water pressure

You are planning to use a crude oil washing system. What precaution must be taken with the source tank for the washing machines?

At least one meter must be decanted from the source tank.

The oil in the source tank must be sampled for compatibility.

The source tank must have been crude oil washed at least once in the past 150 days.

The inert gas system must lower the oxygen content in the source tank to a maximum of 12%.

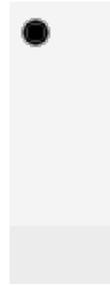
The atmosphere in a tank is too lean if it is

incapable of supporting combustion because the hydrocarbon content is below the LFL (LowerFlammable Limit)

capable of supporting combustion because the hydrocarbon content is above the UFL (UpperFlammable Limit)

capable of supporting a fire once started

not safe for ballasting



When authorized to use chemical agents on an oil spill they would

absorb the oil for easy removal

dissolve the oil in the water

facilitate the removal of the pollutant from the water

sink the oil



In developing the stability booklet, consideration must be given to including the following information: which one of these will be most important prior sailing out?

Tank sounding tables showing capacities, vertical centers of gravity, and longitudinal centers of gravity in graduated intervals and showing free surface data for each tank.

Information on maximum KG or minimum GM curve that can be used to determine compliance with applicable intact and damage stability criteria.

A rapid and simple means for evaluating other loading conditions.

A brief description of the stability calculations done including assumptions.



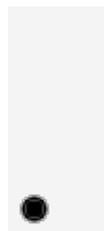
One of the requirements of a vessel's intact stability criteria is that:

The GZ should be at least 0.15 metres at an angle of 25 degrees or more

The GZ should be at least 0.15 metres at an angle of 30 degrees or more

The GZ should be at least 0.20 metres at an angle of 25 degrees or more

The GZ should be at least 0.20 metres at an angle of 30 degrees or more



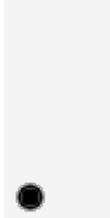
As regulation 12 of Annex 1 of MARPOL, all ships of _____ gross tonnage and above shall be provided with a sludge tank for collection of oil residues

150 tonnes deadweight

150 gross tonnage

400 tonnes deadweight

400 gross tonnage



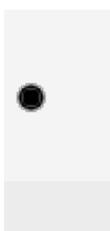
The lowest temperature at which a liquid will give off sufficient vapors to form a flammable mixture with air is known as the _____.

fire point

flash point

lower explosive limit

threshold limit value



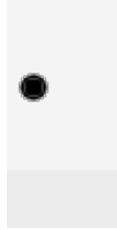
The high-level overfill tank alarm, installed in the on-board monitoring system, must

operate in unison with other alarms

be both audible and visual

be the same as the overfill alarm

sound when the tank is 90% full



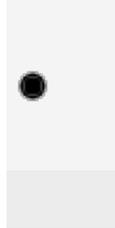
What is NOT a precaution to be taken when topping off?

Reduce the loading rate.

Notify the engine room of the procedure.

Maintain communications with the dock man.

Give the operation your undivided attention.



The minimum concentration of a vapor in air which can form an explosive mixture is called the

auto-ignition point

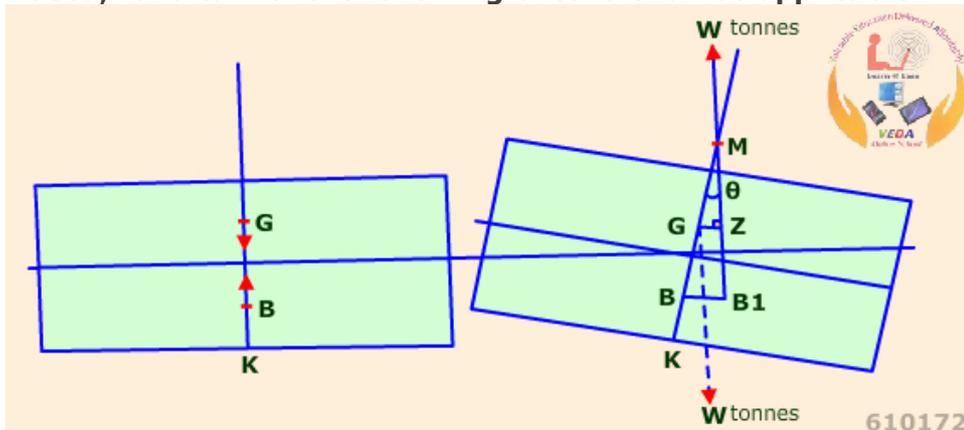
flash point

lower explosive limit (LEL)

threshold limit value (TLV)



At sea, for a tanker the following criteria shall be applicable:



The righting lever GZ shall be at least 0.20 m at an angle of heel equal to or greater than 30°

The maximum righting arm shall occur at an angle of heel preferably exceeding 30° but not less than 25°

At sea, the initial metacentric height GM, corrected for free surface measured at 0° heel, must be more than 0.15 m, or 0.5 feet.

Tankers have a trim and stability booklet which may contain either curves of form or, hydro static tables and stability and trim characteristics for various conditions of loading.



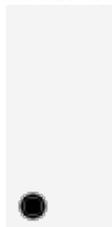
What is the material used in cargo pump?

EN 8

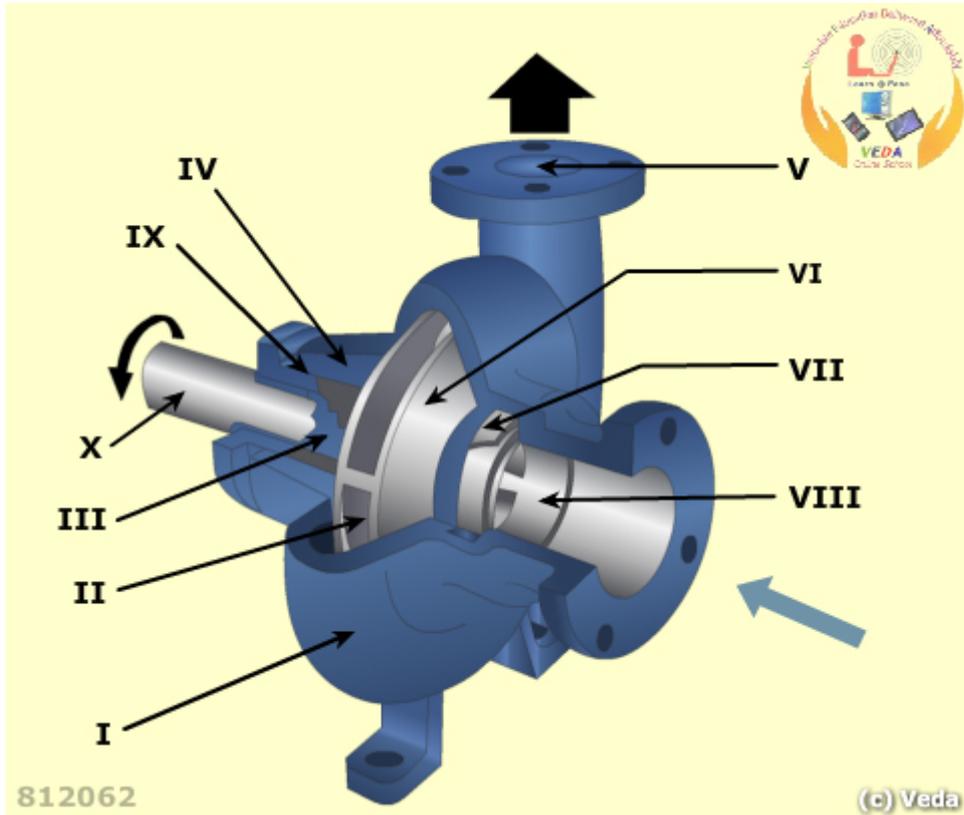
Bronze

Aluminium

Stainless steel



What does "IV" indicate in the below illustration?



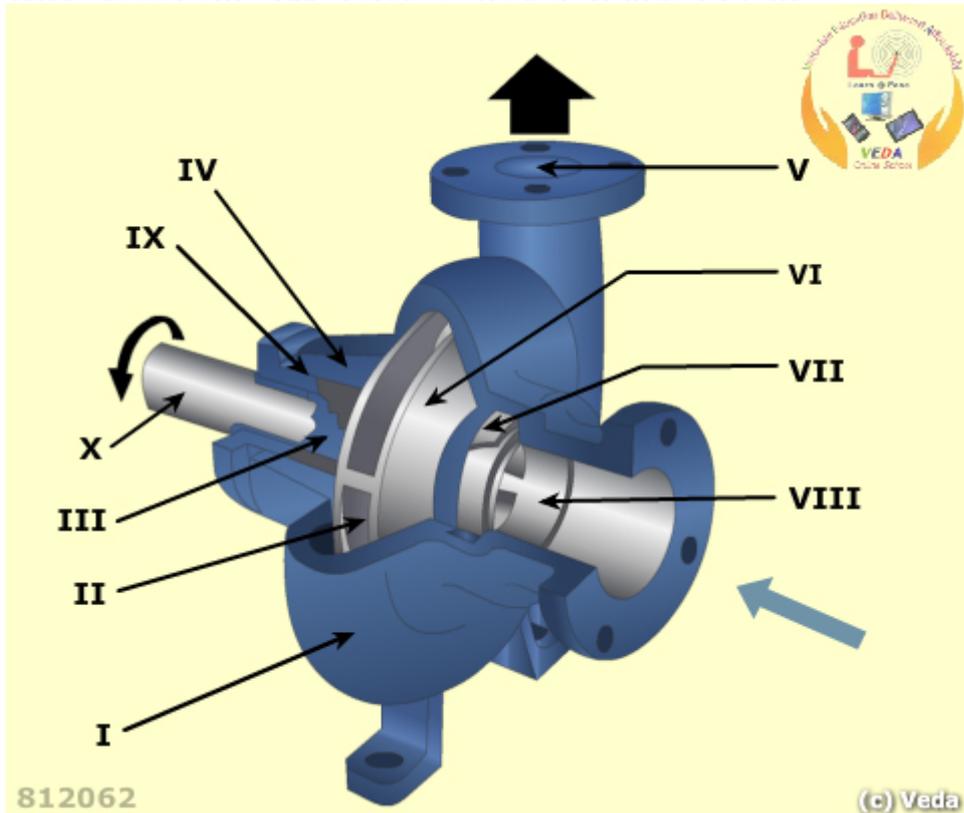
Shaft

Stuffing box

Casing

Packing

What does item "VII" refer to the below illustration?

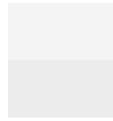


Stuffing Box

Casing wear ring

Shaft Sleeve

Vane



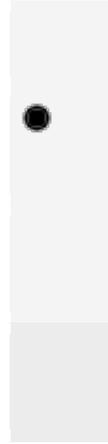
Why the cargo pump in the Framo cannot be overloaded?

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the flow is always kept constant

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pump runs at the optimum speed

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, when the pump over speeds, the flow of oil is reduced

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pressure can run the pump at 75% of the capacity



What happens in the volute casing of the centrifugal pump?

Pressure energy converted into Kinetic energy

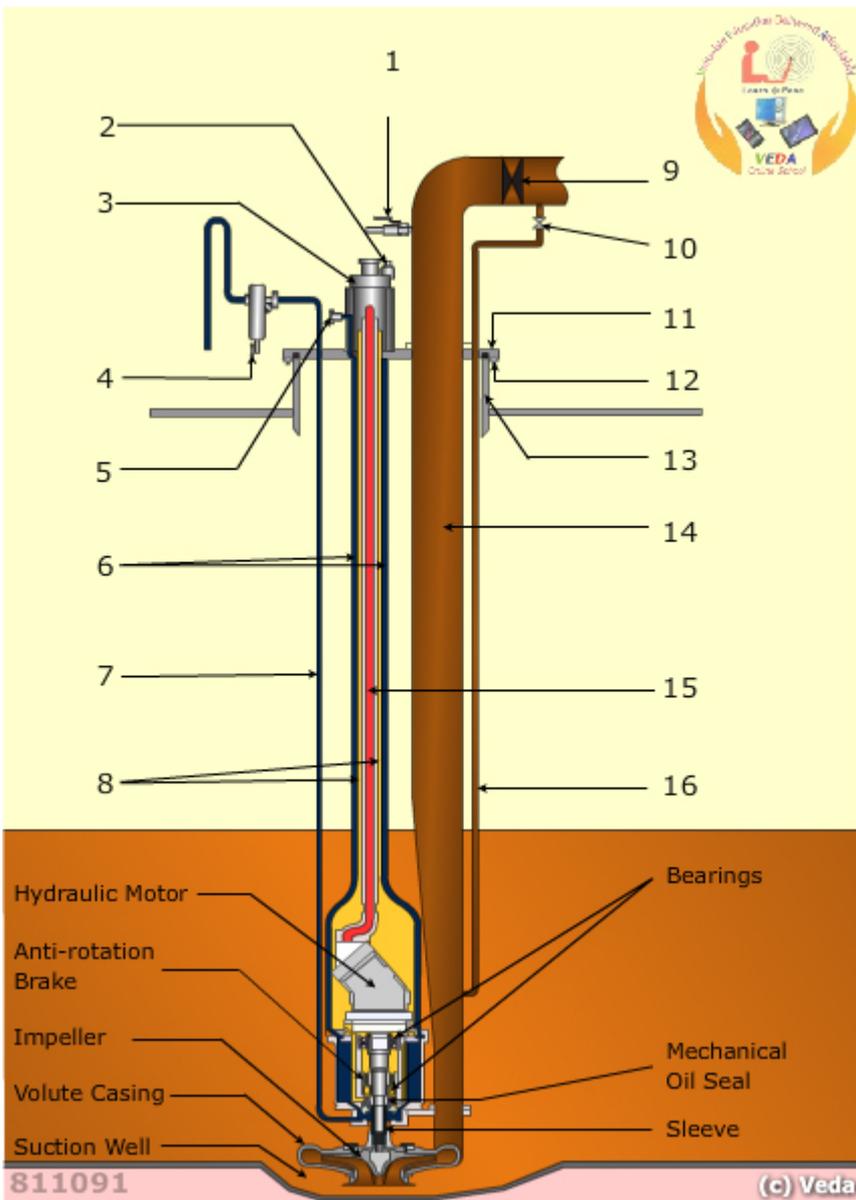
Velocity of the liquid increases

Kinetic energy converted into pressure energy

Air bubbles are produced, creating cavitation



From the below illustration, identify the name of the marking "14".



Resilient Mounting

Deck Trunk

Cargo Pipe

Hydraulic Pressure Pipe

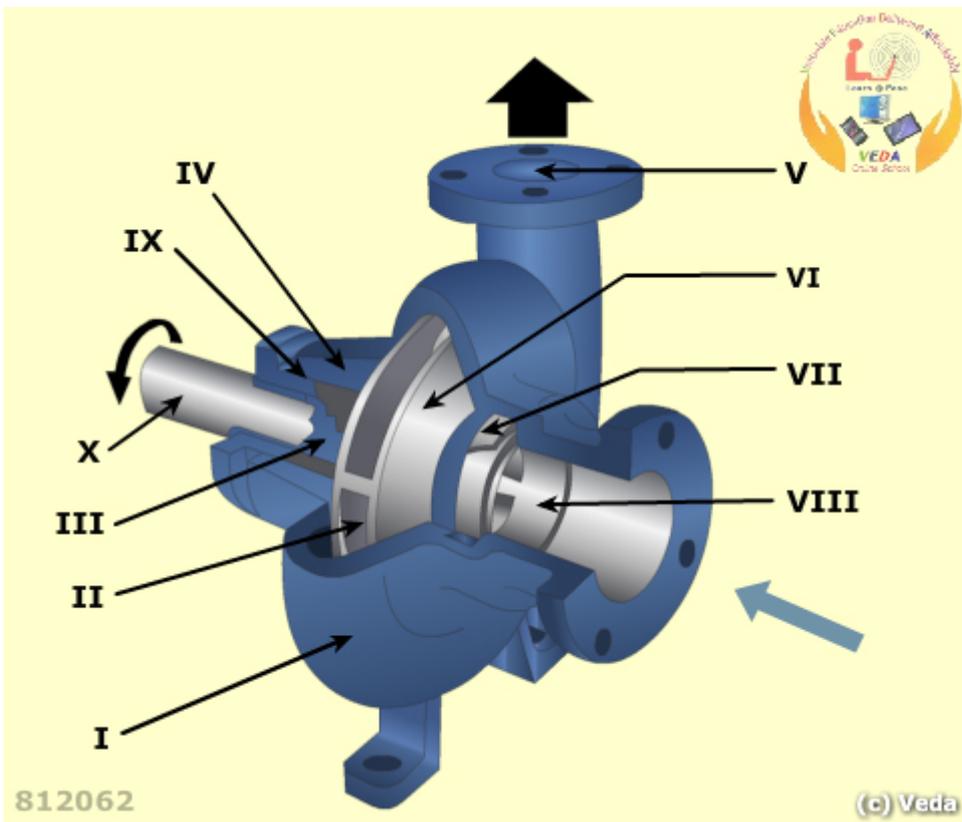
How the speed of the cargo pump in a Framo system can be varied?

Speed of the cargo pump in Framo system is not varied at all

By controlling the amount of hydraulic oil to the hydraulic motor

By controlling the amount of hydraulic oil to the cargo pump

What does "VIII" indicate in the below diagram?



- Impeller
- Discharge Nozzle
- Eye of Impeller
- None of the above

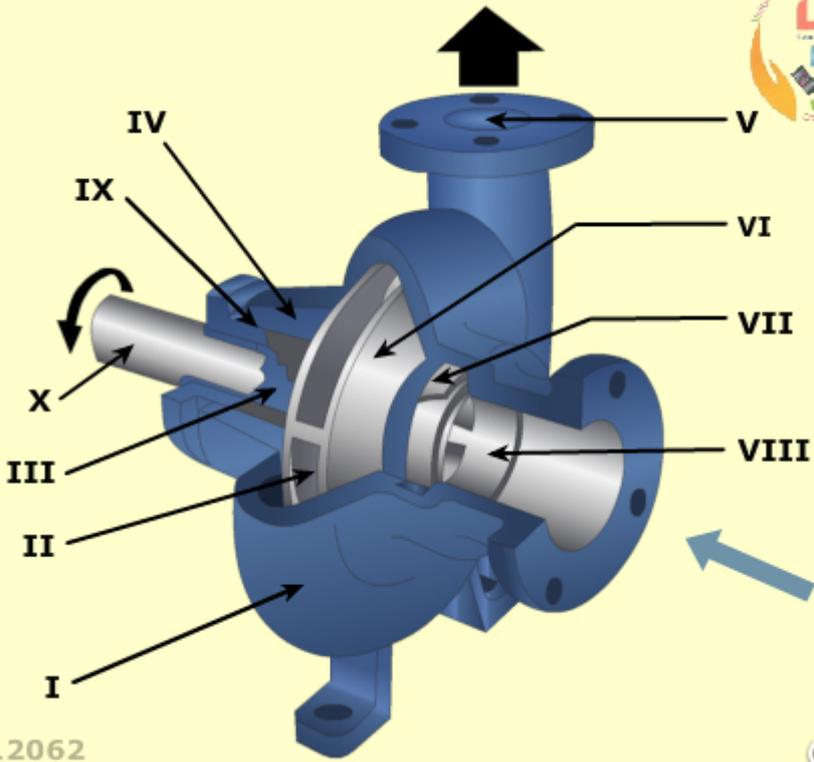
What is the material used in cargo pump?

- EN 8
- Bronze
- Aluminium
- Stainless steel

What kind of pumps can move extremely thick fluids like sludge without clogging ?

- Rotary vane pumps
- Reciprocating pumps
- Deep well pumps
- Screw pumps

What is represented by the figure "VI" in the illustration?



812062

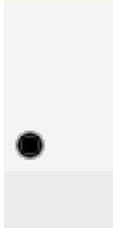
(c) Veda

Eye of impeller

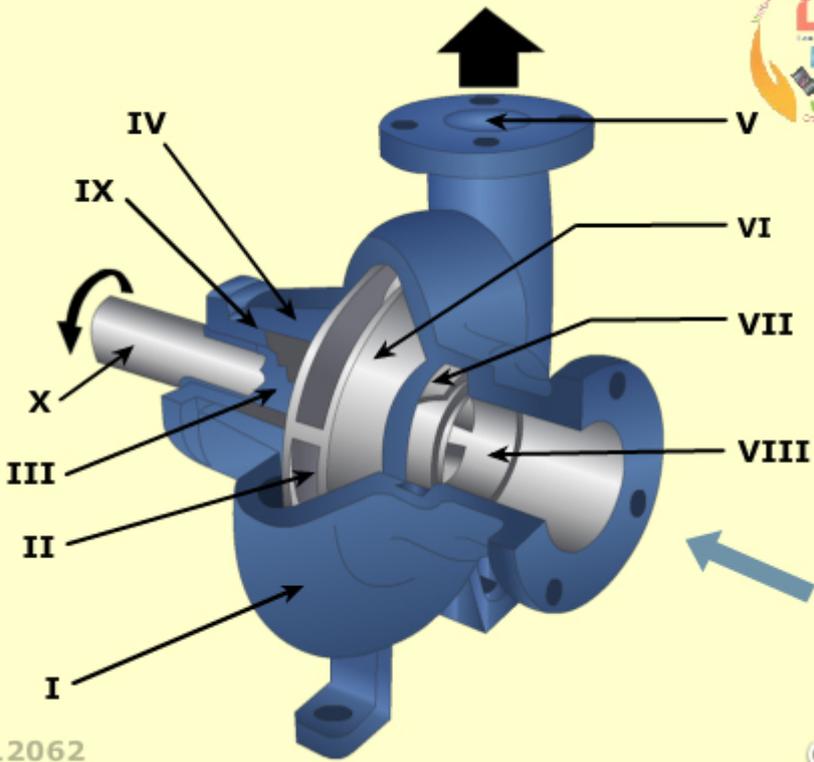
Shaft

Impeller

Casing



What does "X" indicate in the below diagram?



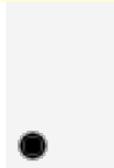
812062

(c) Veda

Shaft Sleeve

Casing

Shaft



None of the above

What type of pump, the FRAMO system uses for liquid chemical cargo?

Reciprocating pump

Variable delivery axial flow pump

Centrifugal pump

Gear pump

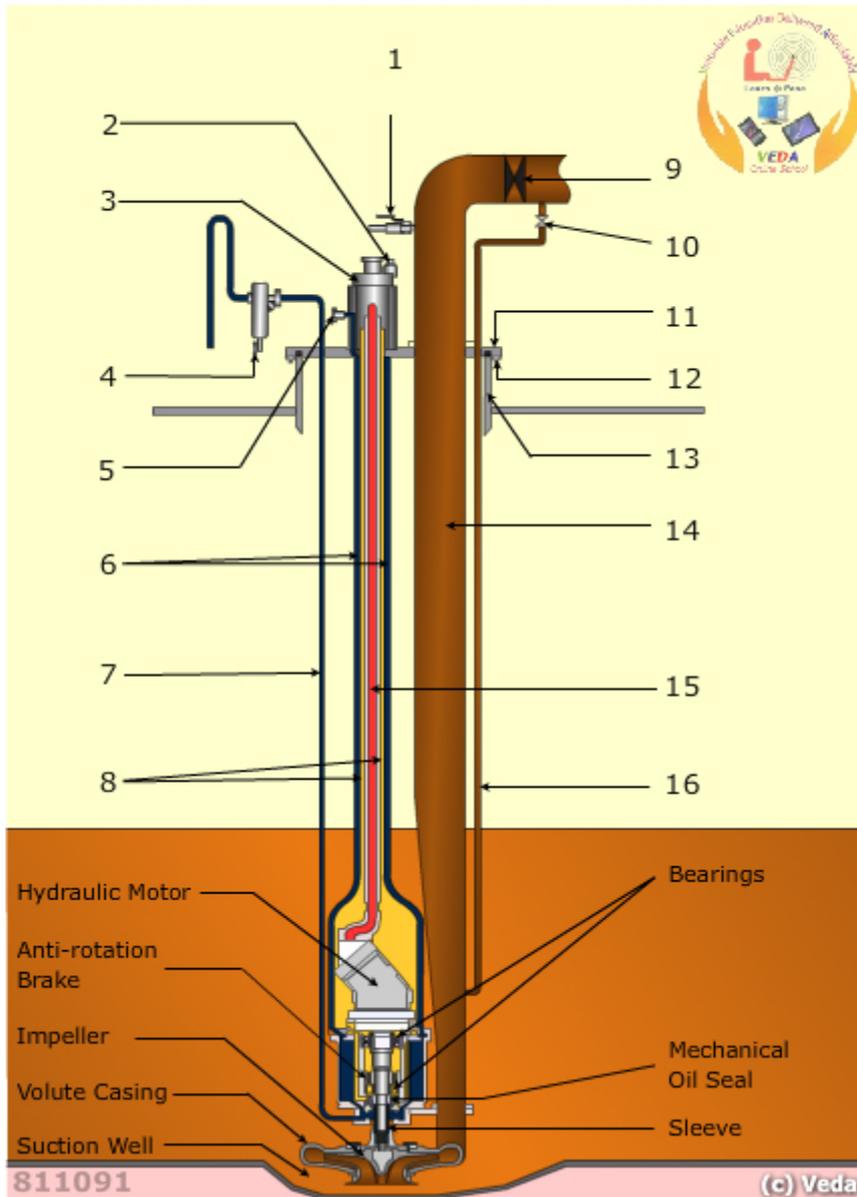
How the speed of the cargo pump in a Framo system can be varied?

Speed of the cargo pump in Framo system is not varied at all

By controlling the amount of hydraulic oil to the hydraulic motor

By controlling the amount of hydraulic oil to the cargo pump

What does item "1" refer to the below illustration?



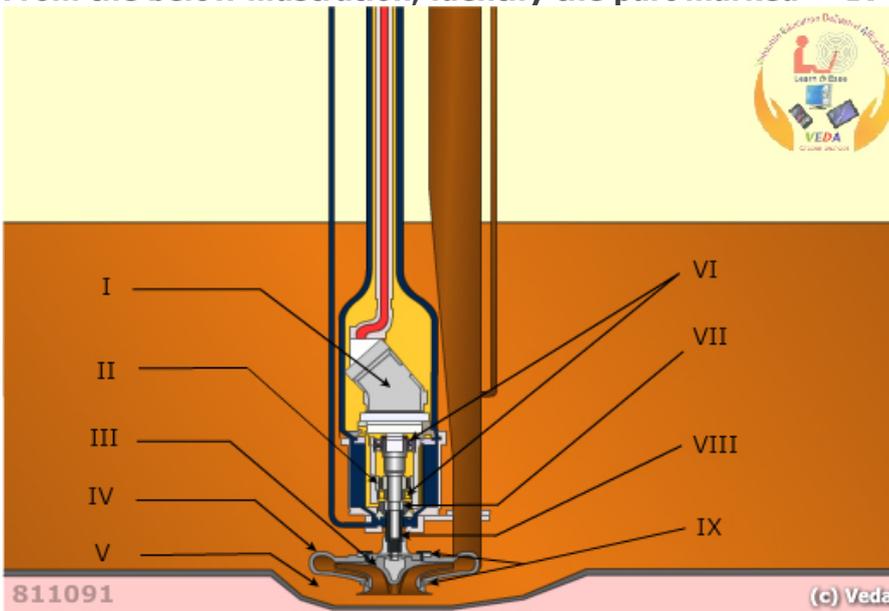
Local Control Valve

Cargo Purging Connection

Speed Torque Control Valve

Exhaust Trap

From the below illustration, identify the part marked - "IV".



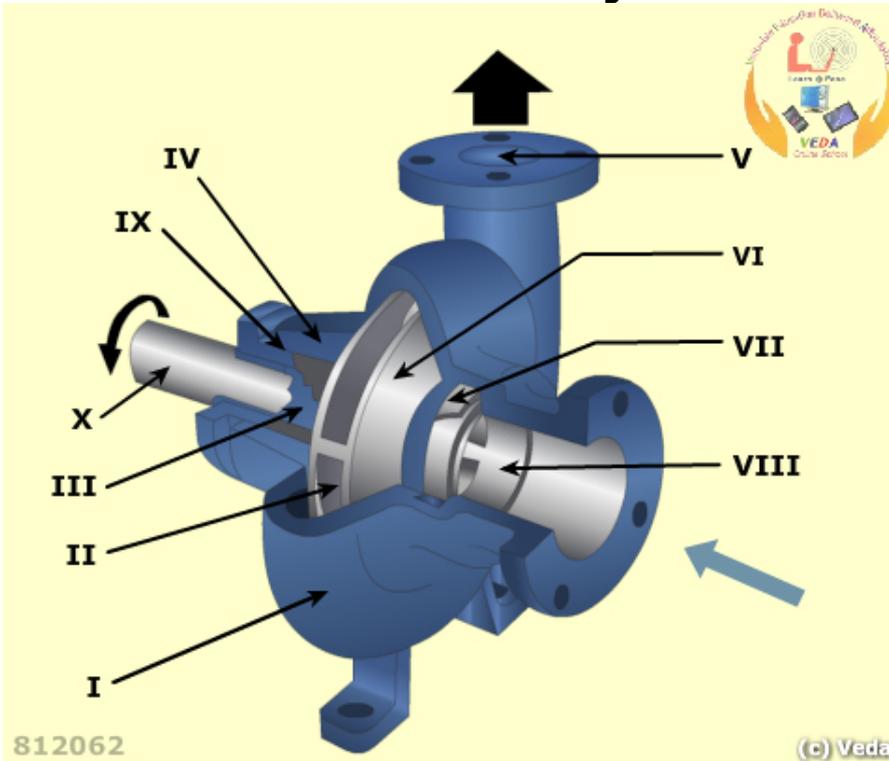
Hydraulic Motor

Volute Casing

Impeller

Anti-rotation Brake

What does "X" indicate in the below diagram?



Shaft Sleeve

Casing

Shaft

None of the above

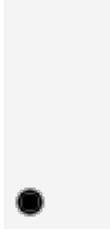
What is the material used in cargo pump?

EN 8

Bronze

Aluminium

Stainless steel



What type of pump, the FRAMO system uses for liquid chemical cargo?

Reciprocating pump

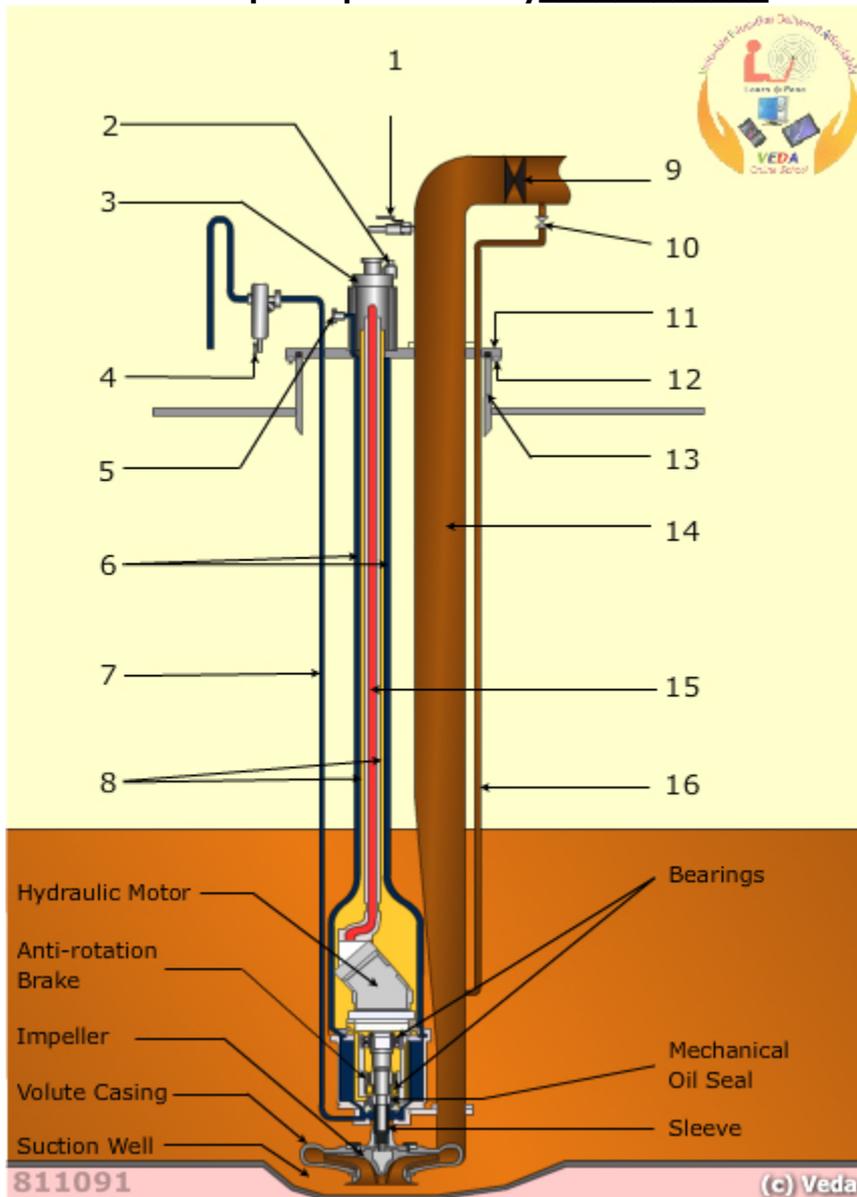
Variable delivery axial flow pump

Centrifugal pump

Gear pump



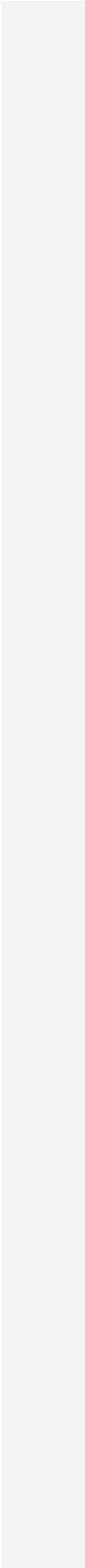
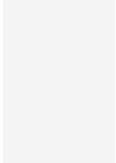
The Exhaust Trap is represented by _____.



1

2

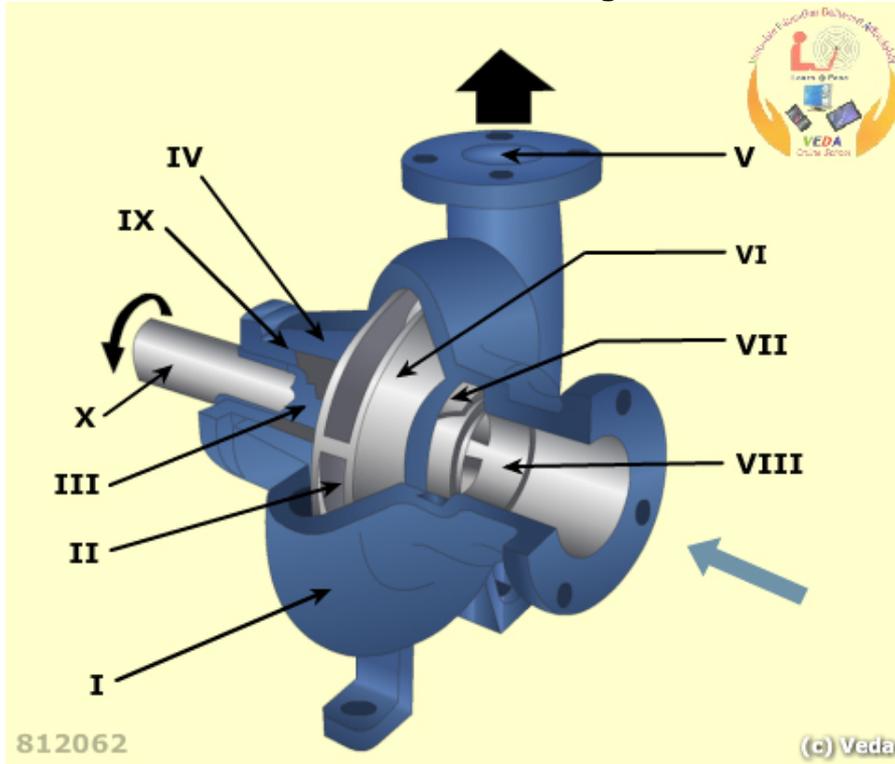
3



What is the purpose of the seal?

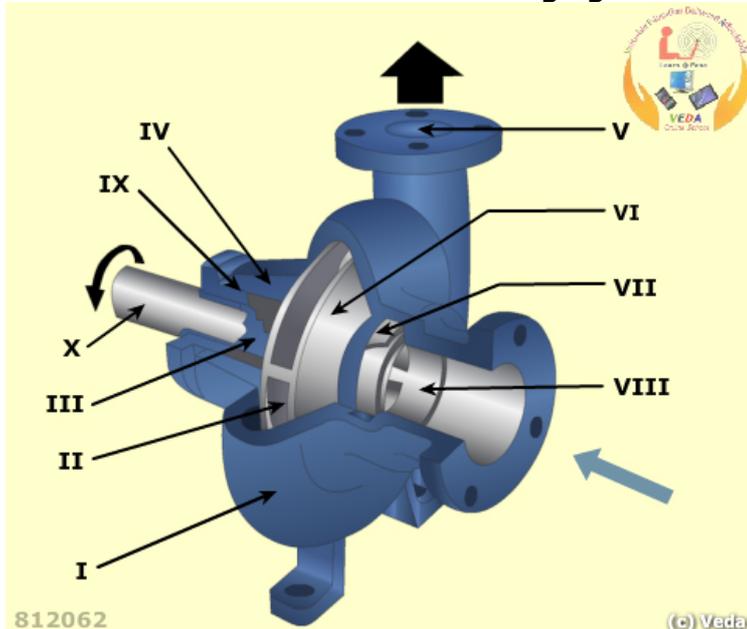
- To prevent hydraulic oil to seep to the cargo oil side
- To prevent cargo oil to seep to the hydraulic oil side
- To prevent mixing of both Cargo and Hydraulic oil seeping into other's place

What does "I" indicate in the below diagram?



- Shaft Sleeve
- Casing
- Impeller
- Vane

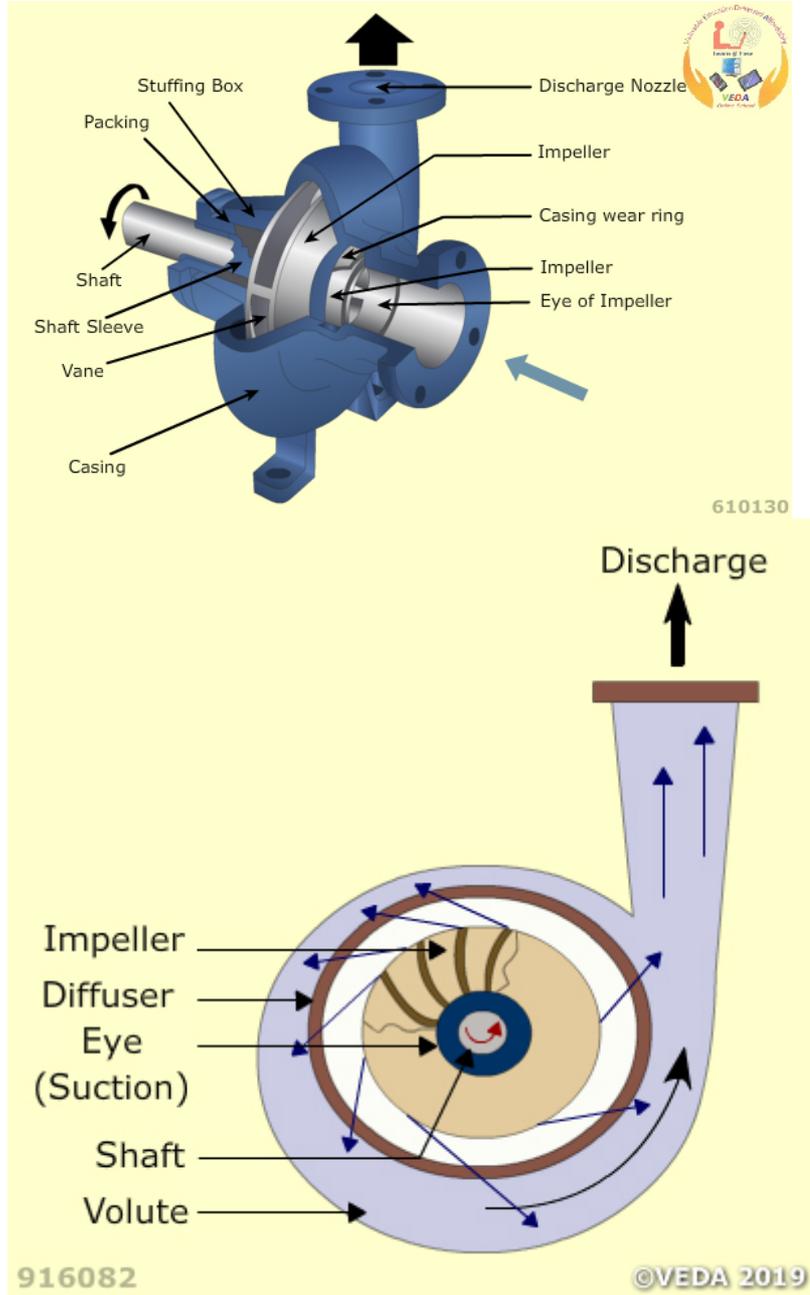
What does "II" stand for in the image given below?

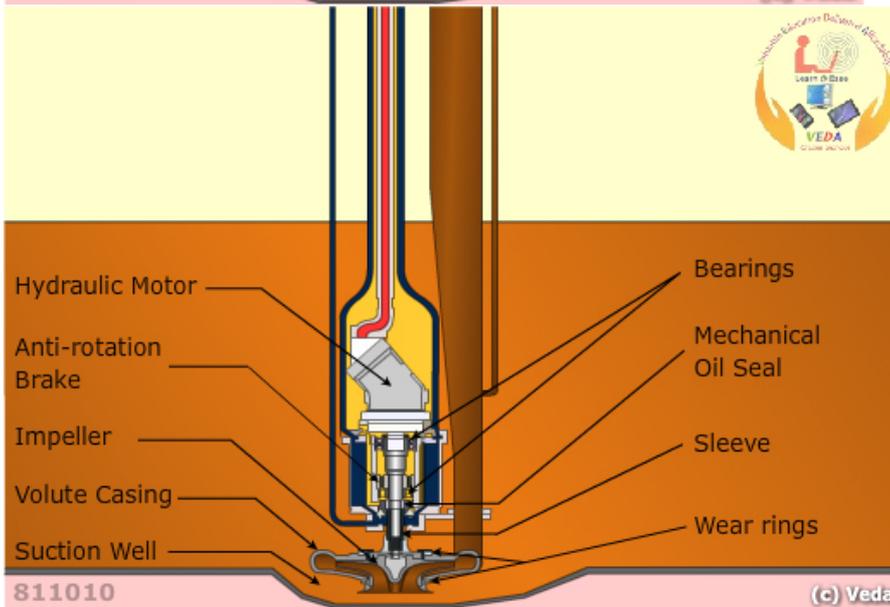
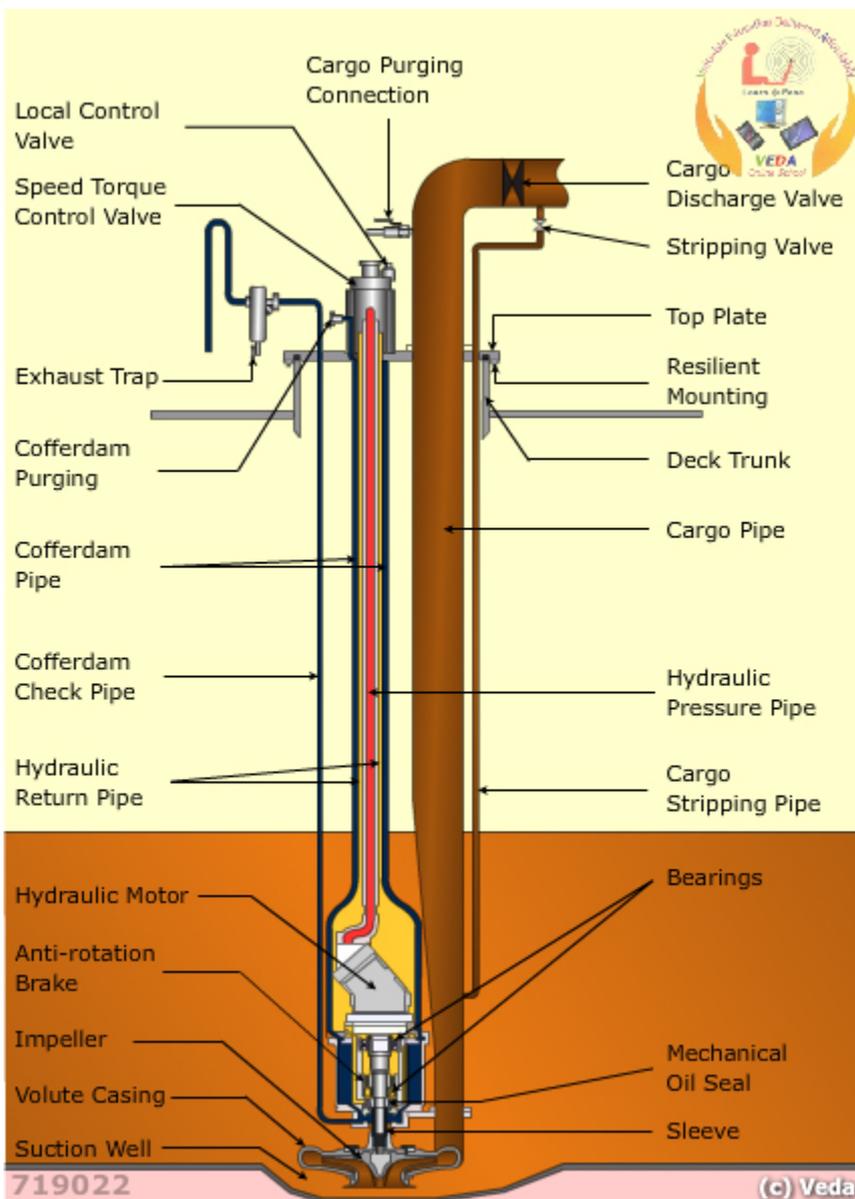


- Casing
- shaft
- Vane
- None of the above



Centrifugal or Submerged Pump Diagrams/Images For reference



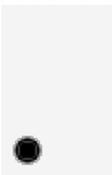


Which function is NOT provided by the scrubber of an inert gas system?

Cools the inert gas.

Removes particulate matter like soot.

Maintains gas pressure in the tanks.



Removes chemical impurities from the gas.



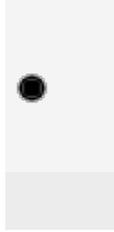
Each inert gas system gas main must have an automatic shut down valve at the outlet of the gas production plant. This valve must close automatically upon

cargo pump failure

blower failure

deck seal low water level

low inert gas temperature



What are the three broad classification of cargoes transported on tankers?

Liquefied Natural gas, Liquefied Petroleum gas, Liquefied Nitrogen

Container, Dry Bulk and Refrigerated cargo

- Petroleum liquids, chemical liquids, and special liquids

General cargo, Dry Break Bulk and Frozen cargo

Cargoes carried by a tanker as miscellaneous liquids are

Palm oil, molasses, tallow

Soybean oil, Sunflower oil, Other vegetable oils

Animals oils, Grease

- Freshwater, Wine, Beer

The organic chemical liquids are

Phosphoric acid, Hydrochloric acid, Molten sulfur

Tallow and greases, Molasses, Wine

Boric acid, Sulfuric acid, Caustic soda

Vinyl chloride, Acetone, Acetic acid *

The chemical liquids may be categorized as

Organic or Inorganic*

Volatile or Non-volatile

Flammable or combustible

Petroleum or special

5.

Liquids that have an open-cup flash point at or below 80 Deg F (26.7 Deg C) are classified as-----

Non-volatile Liquids

Flammable Liquids*

Volatile Liquids

Combustible Liquids

6.

Animal/Vegetable Oils carried in tankers are classified as

Chemical Liquid

Special Liquids*

Non-volatile Liquids

Non-flammable Liquids

7.

Find the correct statement with respect to special liquids carried in tankers

Special liquids are divided in to three groups as Animal oils, Vegetable oils and Miscellaneous Liquids

Special liquids are divided in to two groups as Animal oils and Miscellaneous Liquids

Special liquids are divided in to two groups, Animal/Vegetable oils and Miscellaneous Liquids*

Special liquids are divided in to three groups as Chemical Liquids, Vegetable Oils and Miscellaneous Liquids

8.

Tankers carry palm oil, molasses and tallow as special liquids cargoes in bulk, which are grouped as

Animal/Vegetable oils*

Miscellaneous Liquids

Non-volatile Liquids

Other chemical Liquids

9.

What is the open cup flash point of the petroleum liquids that are classified as combustible liquids?

- Above 80 Deg F (26.7 Deg C)*
- Above 60 Deg F (15.6 Deg C)
- Below 80 Deg F (26.7 Deg C)
- Below 60 Deg F (15.6 Deg C)

Boric acid, Molten sulfur, Caustic soda etc are chemicals categorized as

- Organic chemicals
- Volatile chemicals
- Inorganic chemicals
- Solid chemicals

SET 2

Why personal protective equipment may be required when a chemical tanker carry high vapor pressure cargo?

- Because high vapor pressure releases more vapor *
- Because high vapor pressure releases less vapor
- Because high vapor pressure releases hot vapor
- Because high vapor pressure releases cold vapor

Molarity = Number of moles of solute per

- Solvent in kilograms
- Solution in litres *
- Mililitres
- Litres

Vegetable and animal oils may vary in composition and the most important factor is their free fatty acid content, which greatly affects

- The carriage pressure
- The cargo pumping rate
- The suitability of coatings *
- The cargo tank atmosphere

What is the effect of intermolecular forces on vapor pressure?

- Relatively strong force will increase vapor pressure
- Relatively strong force will decrease vapor pressure *
- Relatively weak force will decrease vapor pressure
- Relatively weak force does not have any effect on vapor pressure

Specific gravity is used by the American Petroleum Institute (API) to classify various

- Viscosities of oil
- Vapor densities of oil
- Weights of oil *
- Volumes of oil

Vegetable and animal oils may vary in composition. The most important factor is their

- Alkalinity content
- Hydrocarbon content
- Composition
- Free fatty acid content*

System in which both matter and energy can be exchanged with the surroundings is

Open system *

Closed system

Surrounding

Isolated system

Combustion of carbon is an example for

Exothermic reaction *

Endothermic reaction

Reversible reaction

Irreversible reaction

Sublimation is the transition of a substance directly from

Liquid to the gas phase & Vice versa

Solid to the Liquid phase & Vice versa

Gas to the super heated gas phase & Vice versa

Solid to the gas phase & Vice versa *

The change in the internal energy is represented as

ΔU *

ΔH

ΔG

ΔT

The quantitative relationship between pressure and solubility of the gas in solvent is known as

Henry's law

Poisous law

Michalis menten

3.

The process which separates a pure solid in the form of its crystals from a solution

Crystallisation

Sublimation

Chromatography.

4.

Bottle A contains a dilute solution of vinegar and bottle B contains sodium carbonate solution, the colours seen in pH paper dipped in A and B are :

orange, blue

green, blue

blue, orange

orange, green

5.

Which process does not result in the formation of both carbon dioxide and water?

addition of a dilute acid to a carbonate

burning ethanol

burning methane

heating crystals of hydrated sodium carbonate

6.

In a volumetric experiment involving the addition of hydrochloric acid to 25.0 cm³ of aqueous sodium hydroxide it is necessary to determine when the reaction is just complete. Which piece of apparatus could be used to determine the end-point of the reaction

balance	<input type="checkbox"/>
gas syringe	<input type="checkbox"/>
stop watch	<input type="checkbox"/>
thermometer	<input checked="" type="checkbox"/>

7.

When there are four components present in the solution it is called _____

Ternary	<input type="checkbox"/>
Quaternary	<input checked="" type="checkbox"/>
Primary	<input type="checkbox"/>

8.

Vegetable and animal oils may vary in composition and the most important factor is their free fatty acid content, which greatly affects

The carriage pressure	<input type="checkbox"/>
The cargo pumping rate	<input type="checkbox"/>
The suitability of coatings	<input checked="" type="checkbox"/>
The cargo tank atmosphere	<input type="checkbox"/>

9.

Which compound in a 1 mol/dm³ solution has the lowest pH value?

ethanoic acid	<input type="checkbox"/>
hydrogen chloride	<input checked="" type="checkbox"/>
sodium chloride	<input type="checkbox"/>
sodium hydroxide	<input type="checkbox"/>

10.

In a binary homogeneous solution the component present in a ____ amount is called a solute.

smaller	<input checked="" type="checkbox"/>
Larger	<input type="checkbox"/>
fixed	<input type="checkbox"/>
miscible	<input type="checkbox"/>

The energy possessed by all the molecules or atoms is called

Internal energy	<input checked="" type="checkbox"/>
Enthalpy	<input type="checkbox"/>
Gibbs energy	<input type="checkbox"/>
Free energy	<input type="checkbox"/>

2.

The quantitative relationship between pressure and solubility of the gas in solvent is known as

Henry's law	<input checked="" type="checkbox"/>
Poisous law	<input type="checkbox"/>
Michalis menten	<input type="checkbox"/>

3.

Indicators used in acid-base titrations are

strong organic acids	<input type="checkbox"/>
strong organic bases	<input type="checkbox"/>
weak organic acids or weak organic bases	<input checked="" type="checkbox"/>
non electrolysis	<input type="checkbox"/>

4.

A bee sting is acidic. Which household substance will neutralise a bee sting?

damp bicarbonate of soda pH8	<input checked="" type="radio"/>
damp common salt pH7	<input type="radio"/>
lemon juice pH5	<input type="radio"/>
vinegar pH4	<input type="radio"/>

5.

The complex group of liquid cargoes that includes alcohols, ketones, glycols, esters, ethers, aromatic hydrocarbons, chlorinated hydrocarbons, etc. are known as

Solvents and Chemicals	<input checked="" type="radio"/>
White Oil	<input type="radio"/>
Non-petroleum oil	<input type="radio"/>
Other chemicals	<input type="radio"/>

6.

Molarity = Number of moles of solute per

Solvent in kilograms	<input type="radio"/>
Solution in litres	<input checked="" type="radio"/>
Mililitres	<input type="radio"/>
Litres	<input type="radio"/>

7.

In solid solution, solute can be _____

Liquid and Gas	<input checked="" type="radio"/>
Liquid or gas	<input type="radio"/>
Only solid	<input type="radio"/>
Only liquid	<input type="radio"/>

8.

Mixture of two or more substance in which composition can vary within a limit is called -----solution.

Homogenous	<input checked="" type="radio"/>
Heterogenous	<input type="radio"/>
Nonvenomous	<input type="radio"/>
Colloids are homogeneous mixtures where the particles are small enough that they stay suspended.	<input type="radio"/>

9.

Which statement does not describe a property of a weak acid in solution?

It forms a salt with sodium hydroxide.	<input type="radio"/>
It has a pH of between 8 and 9.	<input checked="" type="radio"/>
It is only partly dissociated into ions.	<input type="radio"/>
It reacts with sodium carbonate to give off carbon dioxide.	<input type="radio"/>

10.

Lube oils and additives group of cargoes (excluding halogenated, phosphated, and ester types) usually poses no problems for carriage in coated cargo tanks, but contamination of cargo may be a problem which requires

Thorough venting of tanks during carriage	<input type="radio"/>
Thorough cleaning and drying of tanks after discharging	<input type="radio"/>
Thorough inerting of tanks before loading	<input type="radio"/>
Thorough cleaning and drying of tanks before loading	<input checked="" type="radio"/>

1.

When does an atom form ions ?

Ions are formed when atoms lose or gain electrons	<input type="radio"/>
When atoms lose electrons they become negatively charged ions and are named cations	<input checked="" type="radio"/>
When atoms gain electrons they are negatively charged and are named anions.	<input type="radio"/>

The number of electrons in an ion is different from the number of protons, thus ion does have an overall electric charge.

2.

When CO₂ is passed through, lime water, milkiness is formed is due to :

CaCO ₃ - Calcium Carbonate	<input checked="" type="radio"/>
Ca(OH) ₂ - Calcium Hydroxide	<input type="radio"/>
Ca(HCO ₃) ₂ - calcium bi-carbonate	<input type="radio"/>

3.

The reaction which absorbs the chemical energy is,

Forward reaction	<input type="radio"/>
Reverse reaction	<input type="radio"/>
Exothermic reaction	<input type="radio"/>
Endothermic reaction	<input checked="" type="radio"/>

4.

When there are four components present in the solution it is called _____

Ternary	<input type="radio"/>
Quaternary	<input checked="" type="radio"/>
Primary	<input type="radio"/>

5.

Cargoes should not be loaded into a tank that is not specially for that purpose; if it exceeds normal atmospheric pressure at

60.0 Deg C (140 Deg F)	<input type="radio"/>
15.6 Deg C (60 Deg F)	<input type="radio"/>
25.0 Deg C (77 Deg F)	<input type="radio"/>
37.8 Deg C (100 Deg F)	<input checked="" type="radio"/>

6.

Bottle A contains a dilute solution of vinegar and bottle B contains sodium carbonate solution, the colours seen in pH paper dipped in A and B are :

orange, blue	<input checked="" type="radio"/>
green, blue	<input type="radio"/>
blue, orange	<input type="radio"/>
orange, green	<input type="radio"/>

7.

Colder liquids hold more _____ than warmer liquid.

Gases	<input checked="" type="radio"/>
Liquid	<input type="radio"/>
Pressure	<input type="radio"/>
Water	<input type="radio"/>

8.

In exothermic reactions heat is released due to _____ taking place in them.

Cyclic reaction	<input type="radio"/>
Irreversible reaction	<input type="radio"/>
Physical reaction	<input type="radio"/>
Chemical reaction	<input checked="" type="radio"/>

9.

The energy possessed by all the molecules or atoms is called

Internal energy	<input checked="" type="radio"/>
Enthalpy	<input type="radio"/>
Gibbs energy	<input type="radio"/>

Free energy

The system which contains uniform or same physical state of its matter is a

Homogeneous system *

Heterogeneous system

Mixture

Unisystem

1.

which technique is used to remove impurities from organic solution

Filtration	<input checked="" type="radio"/>
Evaporation	<input type="radio"/>
Sublimation.	<input type="radio"/>

2.

The change in the internal energy is represented as

ΔU	<input checked="" type="radio"/>
ΔH	<input type="radio"/>
ΔG	<input type="radio"/>
ΔT	<input type="radio"/>

3.

When there are four components present in the solution it is called _____

Ternary	<input type="radio"/>
Quaternary	<input checked="" type="radio"/>
Primary	<input type="radio"/>

4.

In exothermic reactions, the amount of energy required for a chemical reaction is

Equal to the the total energy released	<input type="radio"/>
Greater than the total energy released	<input type="radio"/>
Less than the total energy released	<input checked="" type="radio"/>
Zero	<input type="radio"/>

5.

In liquid solution, solvent is _____

Liquid	<input checked="" type="radio"/>
Solid	<input type="radio"/>
Gas	<input type="radio"/>

6.

The quantitative relationship between pressure and solubility of the gas in solvent is known as

Henry's law	<input checked="" type="radio"/>
Poisous law	<input type="radio"/>
Michalis menten	<input type="radio"/>

7.

The colour of the pH paper strip turned red when it was dipped into a sample. The sample could be:

dil. Na_2CO_3 solution	<input type="radio"/>
tap water	<input type="radio"/>
dil. NaOH solution	<input type="radio"/>
dil. HCl acid	<input checked="" type="radio"/>

8.

Which reactants could be used safely to prepare potassium chloride?

aqueous potassium hydroxide and dilute hydrochloric acid	<input checked="" type="checkbox"/>
aqueous potassium sulphate and aqueous sodium chloride	<input type="checkbox"/>
potassium and aqueous sodium chloride	<input type="checkbox"/>
potassium and dilute hydrochloric acid	<input type="checkbox"/>

9.

Which compound in a 1 mol/dm³ solution has the lowest pH value?

ethanoic acid	<input type="checkbox"/>
hydrogen chloride	<input checked="" type="checkbox"/>
sodium chloride	<input type="checkbox"/>
sodium hydroxide	<input type="checkbox"/>

10.

Modified epoxy or zinc silicate coated tanks may be required to carry some

Lub oils	<input type="checkbox"/>
Vegitable oils	<input type="checkbox"/>
Unleaded Gasolines	<input checked="" type="checkbox"/>
Animal oils	<input type="checkbox"/>

1.

_____ is the process of separating any substance from its solution by removing water.

Distillation	<input type="checkbox"/>
Evaporation	<input checked="" type="checkbox"/>
Filtration.	<input type="checkbox"/>

2.

which technique is used to remove impurities from organic solution

Filtration	<input checked="" type="checkbox"/>
Evaporation	<input type="checkbox"/>
Sublimation.	<input type="checkbox"/>

3.

In solid solution, solute can be _____

Liquid and Gas	<input checked="" type="checkbox"/>
Liquid or gas	<input type="checkbox"/>
Only solid	<input type="checkbox"/>
Only liquid	<input type="checkbox"/>

4.

In liquid solution, solvent is _____

Liquid	<input checked="" type="checkbox"/>
Solid	<input type="checkbox"/>
Gas	<input type="checkbox"/>

5.

When there are four components present in the solution it is called _____

Ternary	<input type="checkbox"/>
Quaternary	<input checked="" type="checkbox"/>
Primary	<input type="checkbox"/>

6.

A bee sting is acidic. Which household substance will neutralise a bee sting?

damp bicarbonate of soda pH8	<input checked="" type="checkbox"/>
damp common salt pH7	<input type="checkbox"/>

lemon juice pH5	
vinegar pH4	

7.

Which process does not result in the formation of both carbon dioxide and water?

addition of a dilute acid to a carbonate	<input checked="" type="radio"/>
burning ethanol	<input type="radio"/>
burning methane	<input type="radio"/>
heating crystals of hydrated sodium carbonate	<input type="radio"/>

8.

Which reactants could be used safely to prepare potassium chloride?

aqueous potassium hydroxide and dilute hydrochloric acid	<input checked="" type="radio"/>
aqueous potassium sulphate and aqueous sodium chloride	<input type="radio"/>
potassium and aqueous sodium chloride	<input type="radio"/>
potassium and dilute hydrochloric acid	<input type="radio"/>

9.

System in which both matter and energy can be exchanged with the surroundings is

Open system	<input checked="" type="radio"/>
Closed system	<input type="radio"/>
Surrounding	<input type="radio"/>
Isolated system	<input type="radio"/>

10.

Specific gravity is used by the American Petroleum Institute (API) to classify various

Viscosities of oil	<input type="radio"/>
Vapor densities of oil	<input type="radio"/>
Weights of oil	<input checked="" type="radio"/>
Volumes of oil	<input type="radio"/>

1.

In exothermic reactions heat is released due to ____ taking place in them.

Cyclic reaction	<input type="radio"/>
Irreversible reaction	<input type="radio"/>
Physical reaction	<input type="radio"/>
Chemical reaction	<input checked="" type="radio"/>

2.

The product of coefficient of viscosity, surface area and the velocity difference between layers of flowing liquid is

Viscosity of Liquid	<input type="radio"/>
Force of friction between liquid layers	<input checked="" type="radio"/>
Velocity of the fluid	<input type="radio"/>
Vapor pressure of liquid	<input type="radio"/>

3.

The reaction which releases the chemical energy is

Forward reaction	<input type="radio"/>
Reverse reaction	<input type="radio"/>
Exothermic reaction	<input checked="" type="radio"/>
Endothermic reaction	<input type="radio"/>

4.

When CO₂ is passed through, lime water, milkiness is formed is due to :

CaCO ₃ - Calcium Carbonate	<input checked="" type="radio"/>
---------------------------------------	----------------------------------

Ca(OH) ₂ - Calcium Hydroxide	
Ca(HCO ₃) ₂ - calcium bi-carbonate	

5.

Modified epoxy or zinc silicate coated tanks may be required to carry some

Lub oils	
Vegitable oils	
Unleaded Gasolines	<input checked="" type="checkbox"/>
Animal oils	

6.

The quantitative relationship between pressure and solubility of the gas in solvent is known as

Henry's law	<input checked="" type="checkbox"/>
Poisous law	
Michalis menten	

7.

Vegetable and animal oils may vary in composition. The most important factor is their

Alkalinity content	
Hydrocarbon content	
Composition	
Free fatty acid content	<input checked="" type="checkbox"/>

8.

Bottle A contains a dilute solution of vinegar and bottle B contains sodium carbonate solution, the colours seen in pH paper dipped in A and B are :

orange, blue	<input checked="" type="checkbox"/>
green, blue	
blue, orange	
orange, green	

9.

The reaction which absorbs the chemical energy is,

Forward reaction	
Reverse reaction	
Exothermic reaction	
Endothermic reaction	<input checked="" type="checkbox"/>

When there are four components present in the solution it is called _____

Ternary

Quartnary *

Primary

2.

Which reactants could be used safely to prepare potassium chloride?

aqueous potassium hydroxide and dilute hydrochloric acid	<input checked="" type="checkbox"/>
aqueous potassium sulphate and aqueous sodium chloride	
potassium and aqueous sodium chloride	
potassium and dilute hydrochloric acid	

3.

Some of these Solvents and Chemicals products require extreme care in the choice of

Tank material	
Tank construction	

Tank coating and cargo handling	<input checked="" type="radio"/>
Type of cargo pumps	<input type="radio"/>

4.	
Two solutions A and B were found to have pH value of 5 and 8 respectively. The inference which can be drawn is:	
the strength of solution B is higher than that of A	<input type="radio"/>
A is an acid while B is base	<input checked="" type="radio"/>
both are acidic solutions	<input type="radio"/>
both are basic solutions	<input type="radio"/>

5.	
Which compound in a 1 mol/dm ³ solution has the lowest pH value?	
ethanoic acid	<input type="radio"/>
hydrogen chloride	<input checked="" type="radio"/>
sodium chloride	<input type="radio"/>
sodium hydroxide	<input type="radio"/>

6.	
The energy possessed by all the molecules or atoms is called	
Internal energy	<input checked="" type="radio"/>
Enthalpy	<input type="radio"/>
Gibbs energy	<input type="radio"/>
Free energy	<input type="radio"/>

7.	
In a sample of distilled water, a pinch of solid sodium carbonate is dissolved in it. The pH will be :	
less than 7	<input checked="" type="radio"/>
more than 7	<input type="radio"/>
exactly 7	<input type="radio"/>
very near to 7	<input type="radio"/>

8.	
In liquid solution, solvent is _____	
Liquid	<input checked="" type="radio"/>
Solid	<input type="radio"/>
Gas	<input type="radio"/>

9.	
Mass of an element can be obtained by adding	
number of electrons and neutrons	<input type="radio"/>
number of protons and neutrons	<input type="radio"/>
number of electrons and protons	<input type="radio"/>
number of electrons, protons and neutrons	<input checked="" type="radio"/>

A bee sting is acidic. Which household substance will neutralise a bee sting?

damp bicarbonate of soda pH8 *

damp common salt pH7

lemon juice pH5

vinegar pH4

SET 3

1.

Which of these is a renewable source of energy ?

coal	<input type="checkbox"/>
petroleum	<input type="checkbox"/>
tidal energy	<input checked="" type="checkbox"/>
natural gas	<input type="checkbox"/>

2.

How the static electricity of high voltage range can be produced?

Two electronegative materials are rubbed continuously, accumulation of charges continues to produce high voltage	<input type="checkbox"/>
Two electropositive materials are rubbed continuously, accumulation of charges continues to produce high voltage	<input type="checkbox"/>
When electropositive and electro negative materials are rubbed continuously, accumulation of charges continues to produce high voltage	<input checked="" type="checkbox"/>

3.

Comments on hazards due to Carriage of Corrosive cargo in Chemical tankers that is not strictly true will be,

Corrode most of the material used for construction including the Tank	<input type="checkbox"/>
During corrosion hydrogen may be produced, which forms flammable mixture with air	<input type="checkbox"/>
When contacted, can damage human tissues	<input type="checkbox"/>
Corrosion damage by cargo in rubberized tank is common	<input checked="" type="checkbox"/>

4.

Calorific value of a fuel is expressed in

kilojoule per kilogram	<input checked="" type="checkbox"/>
kilojoule per gram	<input type="checkbox"/>
joule per milligram	<input type="checkbox"/>
kilojoule per milligram	<input type="checkbox"/>

5.

What is a hot work permit ?

Document used for carrying out repairs under super vision	<input type="checkbox"/>
A document issued by a responsible person permitting specific hot work to be done during a particular time interval in a defined space	<input checked="" type="checkbox"/>
Document used for work in a drydock	<input type="checkbox"/>
Document valid for 7 days for carrying out tank cleaning	<input type="checkbox"/>

6.

How to carry cargoes susceptible to polymerization?

Suitable Inhibitors are added after cargo is loaded	<input type="checkbox"/>
Inhibitors are added before cargo is loaded	<input checked="" type="checkbox"/>
Not all Ships carry such cargoes due to cargo reaction with the tank coating	<input type="checkbox"/>
Inhibitors are added by the refineries as catalysts during production	<input type="checkbox"/>

7.

What is flammable range ?

The range in which nothing will burn	<input type="checkbox"/>
The range in which the oxygen content is too low to cause explosion	<input type="checkbox"/>
The range in which the oxygen content is too high to cause explosion	<input type="checkbox"/>
The range of hydrocarbon gas concentrations in air between the lower and upper flammable limits. Mixtures within this range are capable of being ignited and of burning.	<input checked="" type="checkbox"/>

8.

The calorific value of fuels determines the amount of heat energy present in _____ of a fuel.

1 kg	<input checked="" type="checkbox"/>
2 Kg	<input type="checkbox"/>
3 Kg	<input type="checkbox"/>

9.

Fire hazard during cargo transportation on tanker ship shall not depend on,

Flash Point	<input type="checkbox"/>
Boiling Point	<input type="checkbox"/>
Auto Ignition Temperature	<input type="checkbox"/>
Inert Gas temperature	<input checked="" type="checkbox"/>

10.

Personnel should always carry personal H₂S indicating device, except when?

Connecting and disconnecting loading lines	<input type="checkbox"/>
Cleaning filters	<input type="checkbox"/>
Draining to open containment and mopping up spills	<input type="checkbox"/>
Agreeing on ship-shore protocol for communicating during cargo operation	<input checked="" type="checkbox"/>

1.

The permit to work should not last for more than

12 hours	<input type="checkbox"/>
24 hours	<input checked="" type="checkbox"/>
36 hours	<input type="checkbox"/>
48 hours	<input type="checkbox"/>

2.

Which one of the following gas is used in combustion?

Hydrogen	<input type="checkbox"/>
Oxygen	<input checked="" type="checkbox"/>
Nitrogen	<input type="checkbox"/>
Carbon dioxide	<input type="checkbox"/>

3.

What is Auto-ignition ?

The ignition of a combustible material without initiation by a spark or flame, when the material has been raised to a temperature at which self-sustaining combustion occurs.	<input checked="" type="checkbox"/>
Automatic ignition of material in a hot atmosphere	<input type="checkbox"/>
Ignition of materials when they come in contact with each other	<input type="checkbox"/>
Ignition caused by mixture of vapours given of by cargoes	<input type="checkbox"/>

4.

Which is non-combustible substance?

Wood	<input type="checkbox"/>
Paper	<input type="checkbox"/>
Iron nails	<input checked="" type="checkbox"/>
Straw	<input type="checkbox"/>

5.

What is Oxygen deficiency?

Oxygen less than 21%	<input checked="" type="checkbox"/>
Oxygen less than 16%	<input type="checkbox"/>
Oxygen less than 8%	<input type="checkbox"/>
Oxygen less than 5%	<input type="checkbox"/>

6.

What is bonding ?

Connecting together of cargo pipe line flanges	<input type="checkbox"/>
The connecting together of metal parts to ensure electrical continuity	<input checked="" type="checkbox"/>
Making a ship to shore cable connection	<input type="checkbox"/>

Connecting together flexible couplings on deck

7.

The amount of heat energy produced on complete combustion of 1 kg of a fuel is called

calorific value	<input checked="" type="radio"/>
significant value	<input type="radio"/>
heat value	<input type="radio"/>
internal energy	<input type="radio"/>

8.

What is Cargo inhibition?

Some chemical cargoes under certain environmental conditions, their physical and Chemical properties change, to avoid this certain inhibitors are added to the cargo	<input type="radio"/>
Some chemical cargoes under heat and in presence of oxygen, their physical and Chemical properties change, to avoid this certain inhibitors are added to the cargo	<input checked="" type="radio"/>
Some chemical cargoes under cold weather and in presence of oxygen, their physical and Chemical properties change, to avoid this certain inhibitors are added to the cargo	<input type="radio"/>

9.

Which is non-renewable source of energy?

Natural gas	<input checked="" type="radio"/>
Wind energy	<input type="radio"/>
Tidal energy	<input type="radio"/>
Mechanical energy	<input type="radio"/>

10.

What is flammable range ?

The range in which nothing will burn	<input type="radio"/>
The range in which the oxygen content is too low to cause explosion	<input type="radio"/>
The range in which the oxygen content is too high to cause explosion	<input type="radio"/>
The range of hydrocarbon gas concentrations in air between the lower and upper flammable limits. Mixtures within this range are capable of being ignited and of burning.	<input checked="" type="radio"/>

1.

How do we classify the chemical cargoes from below statements, that will Not present much of a Fire hazards?

Will burn above 93°C	<input checked="" type="radio"/>
Will burn above 37°C but below 93°C	<input type="radio"/>
Will burn below 37°C	<input type="radio"/>
Will burn spontaneously	<input type="radio"/>

2.

What are all the ways to nullify or reduce reactivity hazards?

Separation and segregation of cargo tanks and systems	<input type="radio"/>
Separation from adjacent heated cargo	<input type="radio"/>
Adding a chemical inhibitor to make it more stable and safe	<input type="radio"/>
Make use of a polyurethane coated tank to inhibit reaction	<input checked="" type="radio"/>

3.

Calorific value of a fuel is expressed in

kilojoule per kilogram	<input checked="" type="radio"/>
kilojoule per gram	<input type="radio"/>
joule per milligram	<input type="radio"/>
kilojoule per milligram	<input type="radio"/>

4.

What is the meaning of health hazard in a Chemical Tanker?

Personnel Exposure to Chemicals,	
Personnel Exposure to Noxious Liquids	
Personnel Exposure to Fumes	
Chance exposure to a Gas Free and ventilated stainless steel cargo tank	<input checked="" type="checkbox"/>

5.

Which gas helps in the process of combustion?

Cooking gas	
Nitrogen gas	
Oxygen gas	<input checked="" type="checkbox"/>
Producer gas	

6.

Which is non-combustible substance?

Wood	
Paper	
Iron nails	<input checked="" type="checkbox"/>
Straw	

7.

_____ is an example for inflammable substance.

Water	
Liquefied Petroleum gas	<input checked="" type="checkbox"/>
Paper	

8.

Which is the best domestic fuel?

wood	
dung cake	
coal	
L.P.G.	<input checked="" type="checkbox"/>

9.

What is Toxicity

Toxicity is the degree to which a substance or mixture of substances can harm humans.	<input checked="" type="checkbox"/>
Toxicity means poisonous and affects you on oral consumption	
Toxicity means Acidic	

10.

What is triboelectric property?

Some materials due to rubbing friction gain or loose electrons, this is known as triboelectric property	
The gaining and losing of electrons from the materials depends on how strong an atom holds its electron, this is known as triboelectric property	<input checked="" type="checkbox"/>
The material which gains electrons becomes negatively charged and the material which loses electrons turns to be positively charged, this is known as triboelectric property	

1.

What is Nitrogen Asphxiation?

It is unconsciousness caused by Nitrogen which can lead to death	<input checked="" type="checkbox"/>
It is unconsciousness caused by Inert gas can lead to death	
Nitrogen, which is non-flammable, non-toxic and colourless	
Nitrogen which is undetectable to the human senses	

2.

The amount of heat energy produced on complete combustion of 1 kg of a fuel is called

calorific value	<input checked="" type="checkbox"/>
-----------------	-------------------------------------

significant value	
heat value	
internal energy	

3.

What is purging ?	
The introduction of inert gas into a tank already in the inert condition to further reduce the existing oxygen content or hydrocarbon gas content to a level below which combustion cannot take place if air is introduced	<input checked="" type="radio"/>
Introducing of oxygen into a tank to a high level	<input type="radio"/>
Using blowers to push oxygen into a tank	<input type="radio"/>
Using natural ventilation to gas free a tank	<input type="radio"/>

4.

What is lower flammable limit ?	
The concentration of a hydrocarbon gas in air below which there is insufficient hydrocarbon to support combustion	<input checked="" type="radio"/>
The limit where there is insufficient oxygen to support combustion	<input type="radio"/>
The limit where there is too much oxygen to support combustion	<input type="radio"/>
The limit for man entry of personnel into tanks	<input type="radio"/>

5.

What is Auto-ignition ?	
The ignition of a combustible material without initiation by a spark or flame, when the material has been raised to a temperature at which self-sustaining combustion occurs.	<input checked="" type="radio"/>
Automatic ignition of material in a hot atmosphere	<input type="radio"/>
Ignition of materials when they come in contact with each other	<input type="radio"/>
Ignition caused by mixture of vapours given off by cargoes	<input type="radio"/>

6.

What is an inert condition in a cargo tank ?	
When the oxygen has been eliminated from a tank	<input type="radio"/>
When the oxygen is 10% by volume in a tank	<input type="radio"/>
A condition in which the oxygen content throughout the atmosphere of a tank has been reduced to 8% or less by volume by the addition of inert gas.	<input checked="" type="radio"/>
When the oxygen is 21% by volume in a tank	<input type="radio"/>

7.

What is bonding ?	
Connecting together of cargo pipe line flanges	<input type="radio"/>
The connecting together of metal parts to ensure electrical continuity	<input checked="" type="radio"/>
Making a ship to shore cable connection	<input type="radio"/>
Connecting together flexible couplings on deck	<input type="radio"/>

8.

How to carry cargoes susceptible to polymerization?	
Suitable Inhibitors are added after cargo is loaded	<input type="radio"/>
Inhibitors are added before cargo is loaded	<input checked="" type="radio"/>
Not all Ships carry such cargoes due to cargo reaction with the tank coating	<input type="radio"/>
Inhibitors are added by the refineries as catalysts during production	<input type="radio"/>

9.

Personnel should always carry personal monitors when?	
Working in enclosed spaces,	<input type="radio"/>
While Gauging,	<input type="radio"/>
Entering a pump room,	<input type="radio"/>
Entering machinery space	<input checked="" type="radio"/>

10.

In the burning process hydrocarbon gases react with oxygen in the air:

To produce carbon and water	<input type="checkbox"/>
To produce hydrogen and water	<input type="checkbox"/>
To produce carbon dioxide and water	<input checked="" type="checkbox"/>
To produce carbon monoxide and water	<input type="checkbox"/>

1.

What is Toxicity

Toxicity is the degree to which a substance or mixture of substances can harm humans.	<input checked="" type="checkbox"/>
Toxicity means poisonous and affects you on oral consumption	<input type="checkbox"/>
Toxicity means Acidic	<input type="checkbox"/>

2.

What is volatile petroleum ?

Petroleum having a flashpoint above 60 Degrees C	<input type="checkbox"/>
Petroleum having a flashpoint above 100 Degrees C	<input type="checkbox"/>
Petroleum having a flashpoint below 100 Degrees C	<input type="checkbox"/>
Petroleum having a flashpoint below 60 Degrees C	<input checked="" type="checkbox"/>

3.

A pyrophoric substance is a substance that ignites spontaneously in air at or below 54 °C (129 °F) (for gases) or within 5 minutes after coming into contact with air (for liquids and solids). When carrying such liquids as cargo, oxidation can occur when loading:

Light crude oils	<input type="checkbox"/>
Sour crude oils	<input checked="" type="checkbox"/>
Refined products	<input type="checkbox"/>
Chemical cargoes	<input type="checkbox"/>

4.

What is Upper flammable limit ?

The limit for man entry of personnel into tanks	<input type="checkbox"/>
The concentration of a hydrocarbon gas in air above which there is insufficient oxygen to support combustion	<input checked="" type="checkbox"/>
The limit where there is insufficient inert gas to support combustion	<input type="checkbox"/>
The limit where there is too much inert gas to support combustion	<input type="checkbox"/>

5.

The calorific value of fuels determines the amount of heat energy present in _____ of a fuel.

1 kg	<input checked="" type="checkbox"/>
2 Kg	<input type="checkbox"/>
3 Kg	<input type="checkbox"/>

6.

Substances which catch fire are called

acids	<input type="checkbox"/>
bases	<input type="checkbox"/>
combustible	<input checked="" type="checkbox"/>
burners	<input type="checkbox"/>

7.

What is Time Weighted Average?

Exposure time	<input type="checkbox"/>
Short Term exposure time	<input type="checkbox"/>
Highest exposure time	<input type="checkbox"/>
Averaging all the exposure times for a time period 8 hours	<input checked="" type="checkbox"/>

8.

What is Nitrogen Asphyxiation?

It is unconsciousness caused by Nitrogen which can lead to death	<input checked="" type="checkbox"/>
--	-------------------------------------

It is unconsciousness caused by Inert gas can lead to death	
Nitrogen, which is non-flammable, non-toxic and colourless	
Nitrogen which is undetectable to the human senses	

9.

In the burning process hydrocarbon gases react with oxygen in the air:

To produce carbon and water	
To produce hydrogen and water	
To produce carbon dioxide and water	<input checked="" type="radio"/>
To produce carbon monoxide and water	

10.

What is electrostatic discharge related to cargo operations?

When charge relaxation fails for any reasons, electrostatic discharge takes place	
When charge relaxation breakdown occurs, the gradual flow and charge recombination associated with relaxation is replaced by sudden flow recombination that generates intense local heating	<input checked="" type="radio"/>
When charge relaxation does not fail and yet electrostatic discharge takes place	

1.

What is the significance of pour point for carrying chemical cargoes?

The temperature at which oil /chemical gets frozen	
The lowest temperature at which a petroleum oil or chemical cargo will remain fluid	<input checked="" type="radio"/>
The temperature at which oil or chemical cannot be discharged	
The temperature at which oil or chemical needs to be heated	

2.

Which is non-renewable source of energy?

Natural gas	<input checked="" type="radio"/>
Wind energy	
Tidal energy	
Mechanical energy	

3.

The substance involved in the combustion is called as _____

Combustible	<input checked="" type="radio"/>
Non-combustible	
inflammable substances	

4.

Kilojoules per kilogram is the unit of _____ of fuel.

pressure value	
calorific value	<input checked="" type="radio"/>
density value	

5.

Why are inhibitors added in a chemical tanker for cargo operation?

Inhibitors are added by the ship staff before loading Toxic cargo. Inhibited cargoes often needs oxygen hence should be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition	
Inhibitors are added by the Terminal before loading Toxic cargo; Inhibited cargoes often needs oxygen hence should not be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition	<input checked="" type="radio"/>
Inhibitors are added by the Terminal before loading are Non Toxic. Inhibited cargoes do not need oxygen and can be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure	

6.

How Putrefaction process is connected to Carbon Monoxide?

Putrefaction process generates obnoxious and toxic vapors	
---	--

Putrefaction process depletes the oxygen in the tank due to chemical reaction



Putrefaction process generates obnoxious and toxic vapors and these depletes the oxygen in the tank due to chemical reaction

7.

How do we classify the chemical cargoes from below statements, that will Not present much of a Fire hazards?

Will burn above 93°C	<input checked="" type="checkbox"/>
Will burn above 37°C but below 93°C	<input type="checkbox"/>
Will burn below 37°C	<input type="checkbox"/>
Will burn spontaneously	<input type="checkbox"/>

8.

A diffuse discharge from a single sharp conductor is called:

A spark	<input type="checkbox"/>
A corona	<input checked="" type="checkbox"/>
A brush discharge	<input type="checkbox"/>
A Propagating brush discharge	<input type="checkbox"/>

9.

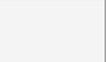
Tanker pump room ventilation must be switched on at least how many minutes before entry ?

10 minutes	<input type="checkbox"/>
15 minutes	<input type="checkbox"/>
30 minutes	<input checked="" type="checkbox"/>
One hour	<input type="checkbox"/>

10.

What is a Corona ?

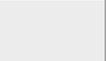
Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy. Generally, corona on its own is capable of igniting a gas.



Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy. Generally, corona on its own is incapable of igniting a gas.



Corona is a diffuse discharge from a single sharp conductor that slowly releases some of the available energy. Generally, corona on its own is incapable of igniting a gas if it is a lean mixture



1.

What are all the ways to nullify or reduce reactivity hazards?

Separation and segregation of cargo tanks and systems	<input type="checkbox"/>
Separation from adjacent heated cargo	<input type="checkbox"/>
Adding a chemical inhibitor to make it more stable and safe	<input type="checkbox"/>
Make use of a polyurethane coated tank to inhibit reaction	<input checked="" type="checkbox"/>

2.

Personnel should always carry personal monitors when?

Working in enclosed spaces,	<input type="checkbox"/>
While Gauging,	<input type="checkbox"/>
Entering a pump room,	<input type="checkbox"/>
Entering machinery space	<input checked="" type="checkbox"/>

3.

Why are inhibitors added in a chemical tanker for cargo operation?

Inhibitors are added by the ship staff before loading Toxic cargo. Inhibited cargoes often needs oxygen hence should be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition



Inhibitors are added by the Terminal before loading Toxic cargo; Inhibited cargoes often need oxygen hence should not be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition



Inhibitors are added by the Terminal before loading are Non Toxic. Inhibited cargoes do not need oxygen and can be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure

4.

What are closed operations ?

Ballasting, loading or discharging operations carried out without opening ullage ports



To prevent escape of hazardous vapour from tanks

Remote control of tank delivery valves

Remote control of inert gas entry into a tank

5.

The calorific value of fuels determines the amount of heat energy present in _____ of a fuel.

1 kg



2 Kg

3 Kg

6.

Kilojoules per kilogram is the unit of _____ of fuel.

pressure value

calorific value



density value

7.

_____ is a lowest temperature at which a substance catches fire.

Critical temperature

Ignition temperature



Eutectic temperature

8.

Which gas helps in the process of combustion?

Cooking gas

Nitrogen gas

Oxygen gas



Producer gas

9.

What is Oxygen deficiency?

Oxygen less than 21%



Oxygen less than 16%

Oxygen less than 8%

Oxygen less than 5%

10.

The burning of LPG is an example of

rapid combustion



spontaneous combustion

slow combustion

explosion

1.

What is hot work ?

Hot work is carried out in high ambient temperatures

Work involving sources of ignition or temperatures sufficiently high to cause the ignition of a flammable gas mixture.



The temperature is very high where the work is done

Work carried out using hot material

2.

The amount of heat energy produced on complete combustion of 1 kg of a fuel is called

calorific value	<input checked="" type="radio"/>
significant value	<input type="radio"/>
heat value	<input type="radio"/>
internal energy	<input type="radio"/>

3.

What is cathodic protection ?

Cathodes placed on the hull of a ship	<input type="radio"/>
Anodes placed in the stern of a ship	<input type="radio"/>
Protection of the hull of a ship	<input type="radio"/>
The prevention of corrosion by electrochemical techniques	<input checked="" type="radio"/>

4.

How Putrefaction process is connected to Carbon Monoxide?

Putrefaction process generates obnoxious and toxic vapors	<input type="radio"/>
Putrefaction process depletes the oxygen in the tank due to chemical reaction	<input checked="" type="radio"/>
Putrefaction process generates obnoxious and toxic vapors and these depletes the oxygen in the tank due to chemical reaction	<input type="radio"/>

5.

What is pour point ?

The temperature at which oil gets frozen	<input type="radio"/>
The lowest temperature at which a petroleum oil will remain fluid	<input checked="" type="radio"/>
The temperature at which oil cannot be discharged	<input type="radio"/>
The temperature at which oil needs to be heated	<input type="radio"/>

6.

How to carry cargoes susceptible to polymerization?

Suitable Inhibitors are added after cargo is loaded	<input type="radio"/>
Inhibitors are added before cargo is loaded	<input checked="" type="radio"/>
Not all Ships carry such cargoes due to cargo reaction with the tank coating	<input type="radio"/>
Inhibitors are added by the refineries as catalysts during production	<input type="radio"/>

7.

Why are inhibitors added in a chemical tanker for cargo operation?

Inhibitors are added by the ship staff before loading Toxic cargo. Inhibited cargoes often needs oxygen hence should be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition	<input type="radio"/>
Inhibitors are added by the Terminal before loading Toxic cargo; Inhibited cargoes often needs oxygen hence should not be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure of inhibition	<input checked="" type="radio"/>
Inhibitors are added by the Terminal before loading are Non Toxic. Inhibited cargoes do not need oxygen and can be carried in inerted tanks. Temperature of inhibited cargo should be properly monitored and if any abnormal increase will indicate the failure	<input type="radio"/>

8.

What is a material safety data sheet (MSDS) ?

It is used for finding out the dangers of contract	<input type="radio"/>
It is used for finding out the effects of inhalation	<input type="radio"/>
A document identifying a substance and all its constituents	<input checked="" type="radio"/>
A document giving the chemical name of the product	<input type="radio"/>

9.

The substance involved in the combustion is called as _____

Combustible	<input checked="" type="radio"/>
-------------	----------------------------------

Non-combustible	<input type="checkbox"/>
inflammable substances	<input type="checkbox"/>

10.

Personnel should always carry personal H₂S indicating device, except when?

Connecting and disconnecting loading lines	<input type="checkbox"/>
Cleaning filters	<input type="checkbox"/>
Draining to open containment and mopping up spills	<input type="checkbox"/>
Agreeing on ship-shore protocol for communicating during cargo operation	<input checked="" type="checkbox"/>

SET 4

1.

Substances indicated as OS in the pollution category of the IBC code have been assessed and found to fall outside Category X, Y, or Z as defined above and at present are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea, when discharged into the sea, from tank cleaning or deballasting operation. These substances are called

Category Y	<input type="checkbox"/>
Other Substances	<input checked="" type="checkbox"/>
Category I	<input type="checkbox"/>
Category Z	<input type="checkbox"/>

2.

What category requires that tanks be prewashed before leaving an unloading port, residues be pumped ashore until the concentration of the substance in the effluent is 0.1% by weight or less as indicated by analysis of samples taken by Port State inspector?

Category I	<input type="checkbox"/>
Category X	<input checked="" type="checkbox"/>
Category M	<input type="checkbox"/>
Category Y	<input type="checkbox"/>

3.

Annex II of MARPOL deals with the "Regulations for the Control of Pollution by _____ in bulk?"

Paper products	<input type="checkbox"/>
Oil Pollution	<input type="checkbox"/>
Noxious Liquid Substances	<input checked="" type="checkbox"/>

4.

International Pollution Prevention Certificate for the carriage of NLS in bulk issued to all ships in compliance with the requirements of Annex II is valid for

4 years	<input type="checkbox"/>
5 years	<input checked="" type="checkbox"/>
6 years	<input type="checkbox"/>
3 years	<input type="checkbox"/>

5.

What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code with appreciably severe environmental and safety hazard which require significant preventive measures to preclude an escape of such cargo?

Type 3	<input type="checkbox"/>
Type 4	<input type="checkbox"/>
Type 2	<input checked="" type="checkbox"/>
Type 1	<input type="checkbox"/>

6.

Ships constructed after 1986 carrying substances identified in chapter 17 of the IBC Code must follow the requirements for design, construction, equipment and operation of ships contained in the Code. How many types of ships are covered under the IBC Code?

2 types	<input type="checkbox"/>
3 types	<input checked="" type="checkbox"/>
4 types	<input type="checkbox"/>
5 types	<input type="checkbox"/>

7.	
Unless so stated specifically, the requirements of Annex II shall apply to all ships that are	
Category A	<input type="checkbox"/>
Category X	<input type="checkbox"/>
Annex III	<input type="checkbox"/>
Certified to carry NLS in bulk	<input checked="" type="checkbox"/>

8.	
What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code that have severe environmental and safety hazards which require maximum preventive measures to preclude an escape of such cargo?	
Type 3	<input type="checkbox"/>
Type 4	<input type="checkbox"/>
Type 2	<input type="checkbox"/>
Type 1	<input checked="" type="checkbox"/>

9.	
The fundamental purpose of the _____ is to identify for the ships office the physical arrangements and all the operational produces with respect to cargo handling, tank cleaning, slop handling and cargo tank ballasting?	
Residues Manual	<input type="checkbox"/>
Procedures and Arrangements Manual	<input checked="" type="checkbox"/>
Cargo Tanks Manual	<input type="checkbox"/>
Arrangements Manual	<input type="checkbox"/>

10.	
For ships that are constructed before _____, the discharge into the sea of residues in category Z below the waterline is not mandatory:	
April 15, 2007	<input type="checkbox"/>
December 19, 1996	<input type="checkbox"/>
March 12, 2012	<input type="checkbox"/>
January 1, 2007	<input checked="" type="checkbox"/>

1.	
The fundamental purpose of the _____ is to identify for the ships office the physical arrangements and all the operational produces with respect to cargo handling, tank cleaning, slop handling and cargo tank ballasting?	
Residues Manual	<input type="checkbox"/>
Procedures and Arrangements Manual	<input checked="" type="checkbox"/>
Cargo Tanks Manual	<input type="checkbox"/>
Arrangements Manual	<input type="checkbox"/>

2.	
What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code with appreciably severe environmental and safety hazard which require significant preventive measures to prelude an escape of such cargo?	
Type 3	<input type="checkbox"/>
Type 4	<input type="checkbox"/>
Type 2	<input checked="" type="checkbox"/>
Type 1	<input type="checkbox"/>

3.	
Which NLS, if discharged into the sea from tank-cleaning or deballasting operations, are deemed to present a major hazard to marine resources of human health, or cause harm to amenities or other legitimate uses of the sea, and therefore justify a limitation on the quality and quantity of the discharge into the marine environment ?	

Category Y	<input checked="" type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Z	<input type="radio"/>

4.

What should every ship to which Annex II of MARPOL is applicable must be provided with whether as part of the ship's official log book or otherwise?

MODU Stability Manual	<input type="radio"/>
Cargo Record Book	<input checked="" type="radio"/>
Chief Mate Deck Log Book	<input type="radio"/>
Engineer Maintenance Book	<input type="radio"/>

5.

The sea areas that have specific environmental protective measures in place that apply for commercial tourism, fishing, mining, scientific and recreation purposes are called _____:

Specialty areas (SA)	<input type="radio"/>
Environmentally Sensitive Sea Areas (ESSAs)	<input checked="" type="radio"/>
Environmentally Specific Land Areas (ESLAs)	<input type="radio"/>
Discharge Land Spaces (DLS)	<input type="radio"/>

6.

The design, construction, equipment and operation of ships certified to carry NLS as mentioned in the _____ be in compliance for minimizing the uncontrolled discharge into the sea.:

Hazardous cargos	<input type="radio"/>
International Bulk Chemical Code	<input checked="" type="radio"/>
Compatible single product containers	<input type="radio"/>
Single product cargo	<input type="radio"/>

7.

What type of chemical tanker is intended to transport Chapter 17 cargos of the IBC Code that have severe environmental and safety hazards which require maximum preventive measures to preclude an escape of such cargo?

Type 3	<input type="radio"/>
Type 4	<input type="radio"/>
Type 2	<input type="radio"/>
Type 1	<input checked="" type="radio"/>

8.

Unless so stated specifically, the requirements of Annex II shall apply to all ships that are

Category A	<input type="radio"/>
Category X	<input type="radio"/>
Annex III	<input type="radio"/>
Certified to carry NLS in bulk	<input checked="" type="radio"/>

9.

Annex II of MARPOL deals with the "Regulations for the Control of Pollution by _____ in bulk?"

Paper products	<input type="radio"/>
Oil Pollution	<input type="radio"/>
Noxious Liquid Substances	<input checked="" type="radio"/>

10.

Cargo tanks should be located specific distances from the hull unless the cargo tanks are diluted slops arising from tank washing. These ships are categorized as _____ ?

Type 2 ships	<input type="radio"/>
Type 3 ships	<input checked="" type="radio"/>
Type 1 ships	<input type="radio"/>

1.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operations, are deemed to present a major hazard to marine resources of human health, or cause harm to amenities or other legitimate uses of the sea, and therefore justify a limitation on the quality and quantity of the discharge into the marine environment ?

Category Y	<input checked="" type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Z	<input type="radio"/>

2.

Ships constructed after 1986 carrying substances identified in chapter 17 of the IBC Code must follow the requirements for design, construction, equipment and operation of ships contained in the Code. How many types of ships are covered under the IBC Code?

2 types	<input type="radio"/>
3 types	<input checked="" type="radio"/>
4 types	<input type="radio"/>
5 types	<input type="radio"/>

3.

As per Regulation 17 of Annex II of MARPOL 73/78 requires NLS tankers of 150 tons or more and all ships of 400 gross tons or more to carry

International Shipboard Practice Technical Manual (ISPTM)	<input type="radio"/>
Shipboard Marine Pollution Emergency Plan (SMPEP)	<input checked="" type="radio"/>
Shipboard Procedures and Policies Book (SPPB)	<input type="radio"/>

4.

What is used to identify the physical arrangements and all the operational procedures with respect to cargo handling, tank cleaning, slop handling and cargo tank ballasting and which must be followed in order to comply with Annex II of MARPOL?

Ballast Control Manual	<input type="radio"/>
Fire Plan and Safety Manual	<input type="radio"/>
Engine Control Manual	<input type="radio"/>
Procedures and Arrangements Manual	<input checked="" type="radio"/>

5.

Ports and terminals involved in cargo handling must have _____ adequate for residues and mixtures containing such residues of NLS.

Stowage flasks	<input type="radio"/>
Intake coordination	<input type="radio"/>
Discharge capacity limits	<input type="radio"/>
Reception facilities	<input checked="" type="radio"/>

6.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operations are deemed to present a minor hazard to marine resources or human health and therefore justify less stringent restriction on the quality and quantity of the discharge into the marine environment ?

Category X	<input type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Z	<input checked="" type="radio"/>

7.

The sea areas that have specific environmental protective measures in place that apply for commercial tourism, fishing, mining, scientific and recreation purposes are called _____ :

Specialty areas (SA)	<input type="radio"/>
Environmentally Sensitive Sea Areas (ESSAs)	<input checked="" type="radio"/>
Environmentally Specific Land Areas (ESLAs)	<input type="radio"/>

Discharge Land Spaces (DLS)

8.

International Pollution Prevention Certificate for the carriage of NLS in bulk issued to all ships in compliance with the requirements of Annex II is valid for 5 years and is subjected to

Annual Survey	<input checked="" type="radio"/>
Survey once in two years	<input type="radio"/>
Survey once in 18 months with a window period of 3 months on each side	<input type="radio"/>

9.

What should every ship to which Annex II of MARPOL is applicable must be provided with whether as part of the ship's official log book or otherwise?

MODU Stability Manual	<input type="radio"/>
Cargo Record Book	<input checked="" type="radio"/>
Chief Mate Deck Log Book	<input type="radio"/>
Engineer Maintenance Book	<input type="radio"/>

10.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operation are deemed to be present a major hazard to marine resources or human health are classified as ?

Category X	<input checked="" type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Y	<input type="radio"/>

1.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operations, are deemed to present a major hazard to marine resources of human health, or cause harm to amenities or other legitimate uses of the sea, and therefore justify a limitation on the quality and quantity of the discharge into the marine environment ?

Category Y	<input checked="" type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Z	<input type="radio"/>

2.

The fundamental purpose of the _____ is to identify for the ships office the physical arrangements and all the operational produces with respect to cargo handling, tank cleaning, slop handling and cargo tank ballasting?

Residues Manual	<input type="radio"/>
Procedures and Arrangements Manual	<input checked="" type="radio"/>
Cargo Tanks Manual	<input type="radio"/>
Arrangements Manual	<input type="radio"/>

3.

What is used to identify the physical arrangements and all the operational procedures with respect to cargo handling, tank cleaning, slop handling and cargo tank ballasting and which must be followed in order to comply with Annex II of MARPOL?

Ballast Control Manual	<input type="radio"/>
Fire Plan and Safety Manual	<input type="radio"/>
Engine Control Manual	<input type="radio"/>
Procedures and Arrangements Manual	<input checked="" type="radio"/>

4.

Ports and terminals involved in cargo handling must have _____ adequate for residues and mixtures containing such residues of NLS.

Stowage flasks	<input type="radio"/>
Intake coordination	<input type="radio"/>
Discharge capacity limits	<input type="radio"/>

Reception facilities	<input checked="" type="radio"/>
----------------------	----------------------------------

5.

What should every ship to which Annex II of MARPOL is applicable must be provided with whether as part of the ship's official log book or otherwise?

MODU Stability Manual	<input type="radio"/>
Cargo Record Book	<input checked="" type="radio"/>
Chief Mate Deck Log Book	<input type="radio"/>
Engineer Maintenance Book	<input type="radio"/>

6.

Ships constructed after 1986 carrying substances identified in chapter 17 of the IBC Code must follow the requirements for design, construction, equipment and operation of ships contained in the Code. How many types of ships are covered under the IBC Code?

2 types	<input type="radio"/>
3 types	<input checked="" type="radio"/>
4 types	<input type="radio"/>
5 types	<input type="radio"/>

7.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operation are deemed to be present a major hazard to marine resources or human health are classified as ?

Category X	<input checked="" type="radio"/>
Other Substances	<input type="radio"/>
Category I	<input type="radio"/>
Category Y	<input type="radio"/>

8.

What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code with appreciably severe environmental and safety hazard which require significant preventive measures to preclude an escape of such cargo?

Type 3	<input type="radio"/>
Type 4	<input type="radio"/>
Type 2	<input checked="" type="radio"/>
Type 1	<input type="radio"/>

9.

What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code that have severe environmental and safety hazards which require maximum preventive measures to preclude an escape of such cargo?

Type 3	<input type="radio"/>
Type 4	<input type="radio"/>
Type 2	<input type="radio"/>
Type 1	<input checked="" type="radio"/>

10.

International Pollution Prevention Certificate for the carriage of NLS in bulk issued to all ships in compliance with the requirements of Annex II is valid for

4 years	<input type="radio"/>
5 years	<input checked="" type="radio"/>
6 years	<input type="radio"/>
3 years	<input type="radio"/>

1.

What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code that have severe environmental and safety hazards which require maximum preventive measures to preclude an escape of such cargo?

Type 3	<input type="radio"/>
Type 4	<input type="radio"/>

Type 2	<input type="checkbox"/>
Type 1	<input checked="" type="checkbox"/>

2.

Ships constructed after 1986 carrying substances identified in chapter 17 of the IBC Code must follow the requirements for design, construction, equipment and operation of ships contained in the Code. How many types of ships are covered under the IBC Code?

2 types	<input type="checkbox"/>
3 types	<input checked="" type="checkbox"/>
4 types	<input type="checkbox"/>
5 types	<input type="checkbox"/>

3.

What category requires that tanks be prewashed before leaving an unloading port, residues be pumped ashore until the concentration of the substance in the effluent is 0.1% by weight or less as indicated by analysis of samples taken by Port State inspector?

Category I	<input type="checkbox"/>
Category X	<input checked="" type="checkbox"/>
Category M	<input type="checkbox"/>
Category Y	<input type="checkbox"/>

4.

Substances indicated as OS in the pollution category of the IBC code have been assessed and found to fall outside Category X, Y, or Z as defined above and at present are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea, when discharged into the sea, from tank cleaning or deballasting operation. These substances are called

Category Y	<input type="checkbox"/>
Other Substances	<input checked="" type="checkbox"/>
Category I	<input type="checkbox"/>
Category Z	<input type="checkbox"/>

5.

What type of chemical tanker is designed to transport Chapter 17 cargo of the IBS code with sufficient severe environmental and safety hazards which require a modest degree of containment to increase survival capability in a damaged condition?

Type 2	<input type="checkbox"/>
Type 4	<input type="checkbox"/>
Type 3	<input checked="" type="checkbox"/>
Type 1	<input type="checkbox"/>

6.

Unless so stated specifically, the requirements of Annex II shall apply to all ships that are

Category A	<input type="checkbox"/>
Category X	<input type="checkbox"/>
Annex III	<input type="checkbox"/>
Certified to carry NLS in bulk	<input checked="" type="checkbox"/>

7.

What type of chemical tanker is intended to transport Chapter 17 cargoes of the IBC Code with appreciably severe environmental and safety hazard which require significant preventive measures to preclude an escape of such cargo?

Type 3	<input type="checkbox"/>
Type 4	<input type="checkbox"/>
Type 2	<input checked="" type="checkbox"/>
Type 1	<input type="checkbox"/>

8.

What is designed to divide cargo tanks and associated piping into several groups depending on kinds of cargoes since there may be many occasions that several kinds of cargoes are loaded at the same time?

Cargo Piping System	<input checked="" type="checkbox"/>
---------------------	-------------------------------------

Cargo Tanks	<input type="checkbox"/>
Division bulkheads	<input type="checkbox"/>
Transverse bulkhead piping	<input type="checkbox"/>

9.

The sea areas that have specific environmental protective measures in place that apply for commercial tourism, fishing, mining, scientific and recreation purposes are called _____:

Specialty areas (SA)	<input type="checkbox"/>
Environmentally Sensitive Sea Areas (ESSAs)	<input checked="" type="checkbox"/>
Environmentally Specific Land Areas (ESLAs)	<input type="checkbox"/>
Discharge Land Spaces (DLS)	<input type="checkbox"/>

10.

Annex II of MARPOL deals with the "Regulations for the Control of Pollution by _____ in bulk?"

Paper products	<input type="checkbox"/>
Oil Pollution	<input type="checkbox"/>
Noxious Liquid Substances	<input checked="" type="checkbox"/>

1.

Within how many days of reaching the agreement between the Administration and the Shipper / Producer of the new chemical cargo, IMO should be notified and provide the details of the substance and the provisional assessment, for annual circulation to all

7 days	<input type="checkbox"/>
15 days	<input type="checkbox"/>
30 days	<input checked="" type="checkbox"/>
45 days	<input type="checkbox"/>

2.

As per Regulation 17 of Annex II of MARPOL 73/78 requires NLS tankers of 150 tons or more and all ships of 400 gross tons or more to carry

International Shipboard Practice Technical Manual (ISPTM)	<input type="checkbox"/>
Shipboard Marine Pollution Emergency Plan (SMPEP)	<input checked="" type="checkbox"/>
Shipboard Procedures and Policies Book (SPPB)	<input type="checkbox"/>

3.

Unless so stated specifically, the requirements of Annex II shall apply to all ships that are

Category A	<input type="checkbox"/>
Category X	<input type="checkbox"/>
Annex III	<input type="checkbox"/>
Certified to carry NLS in bulk	<input checked="" type="checkbox"/>

4.

Cargo tanks should be located specific distances from the hull unless the cargo tanks are diluted slops arising from tank washing. These ships are categorized as _____ ?

Type 2 ships	<input type="checkbox"/>
Type 3 ships	<input checked="" type="checkbox"/>
Type 1 ships	<input type="checkbox"/>

5.

Which NLS, if discharged into the sea from tank-cleaning or deballasting operation are deemed to be present a major hazard to marine resources or human health are classified as ?

Category X	<input checked="" type="checkbox"/>
Other Substances	<input type="checkbox"/>
Category I	<input type="checkbox"/>
Category Y	<input type="checkbox"/>

6.

What should every ship to which Annex II of MARPOL is applicable must be provided with whether as part of the ship's official log book or otherwise?

MODU Stability Manual	<input type="checkbox"/>
Cargo Record Book	<input checked="" type="checkbox"/>
Chief Mate Deck Log Book	<input type="checkbox"/>
Engineer Maintenance Book	<input type="checkbox"/>

7.

Under Annex II, No discharge of residues containing noxious substances is permitted within ____ of the nearest land.

3NM	<input type="checkbox"/>
30 NM	<input type="checkbox"/>
15NM	<input type="checkbox"/>
12 NM	<input checked="" type="checkbox"/>

8.

The sea areas that have specific environmental protective measures in place that apply for commercial tourism, fishing, mining, scientific and recreation purposes are called _____:

Specialty areas (SA)	<input type="checkbox"/>
Environmentally Sensitive Sea Areas (ESSAs)	<input checked="" type="checkbox"/>
Environmentally Specific Land Areas (ESLAs)	<input type="checkbox"/>
Discharge Land Spaces (DLS)	<input type="checkbox"/>

9.

Ports and terminals involved in cargo handling must have _____ adequate for residues and mixtures containing such residues of NLS.

Stowage flasks	<input type="checkbox"/>
Intake coordination	<input type="checkbox"/>
Discharge capacity limits	<input type="checkbox"/>
Reception facilities	<input checked="" type="checkbox"/>

10.

According to MARPOL Annex II Regulations, How many categories of Noxious liquid substance are there?

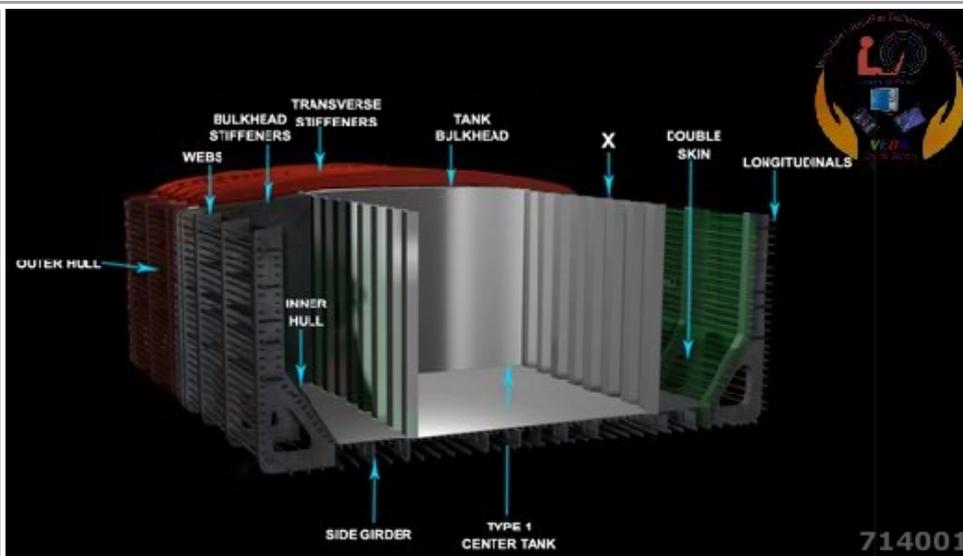
2 categories	<input type="checkbox"/>
3 categories	<input type="checkbox"/>
4 categories	<input checked="" type="checkbox"/>
5 categories	<input type="checkbox"/>

SET 5

1.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Corrugated bulkhead	<input checked="" type="radio"/>
Wing tank	<input type="radio"/>
Transverse webs	<input type="radio"/>
Cofferdam	<input type="radio"/>

2.



(1)

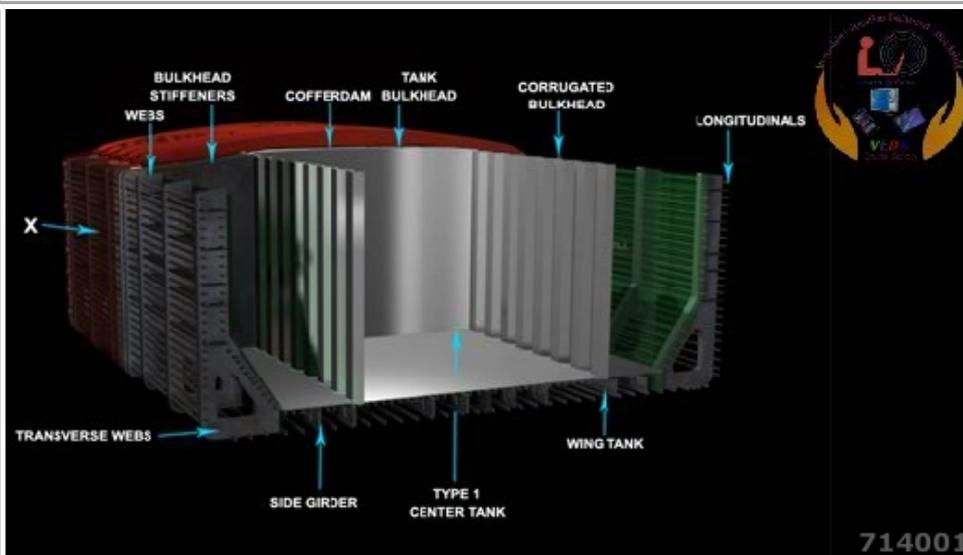
Who provides the resistance list stating approved cargoes, temperature and time limitations etc. for the tank coatings

The shipyard	<input type="radio"/>
Paint maker	<input checked="" type="radio"/>
IBC Code	<input type="radio"/>
Classification society	<input type="radio"/>

3.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Transverse stiffeners	<input type="radio"/>
-----------------------	-----------------------

Double skin	<input type="checkbox"/>
Outer hull	<input checked="" type="checkbox"/>
Inner hull	<input type="checkbox"/>

4.



(1)

Which type of chemical tanker should have a minimum distance of 760 mm between ship side plate and side plate of cargo tank?

Ship Type 4	<input type="checkbox"/>
Ship Type 2	<input checked="" type="checkbox"/>
Ship Type 3	<input type="checkbox"/>
Ship Type 1	<input type="checkbox"/>

5.



(1)

What is the distance requirement between the bottom of cargo tank and bottom shell plate at the center line of type 1 chemical tankers?

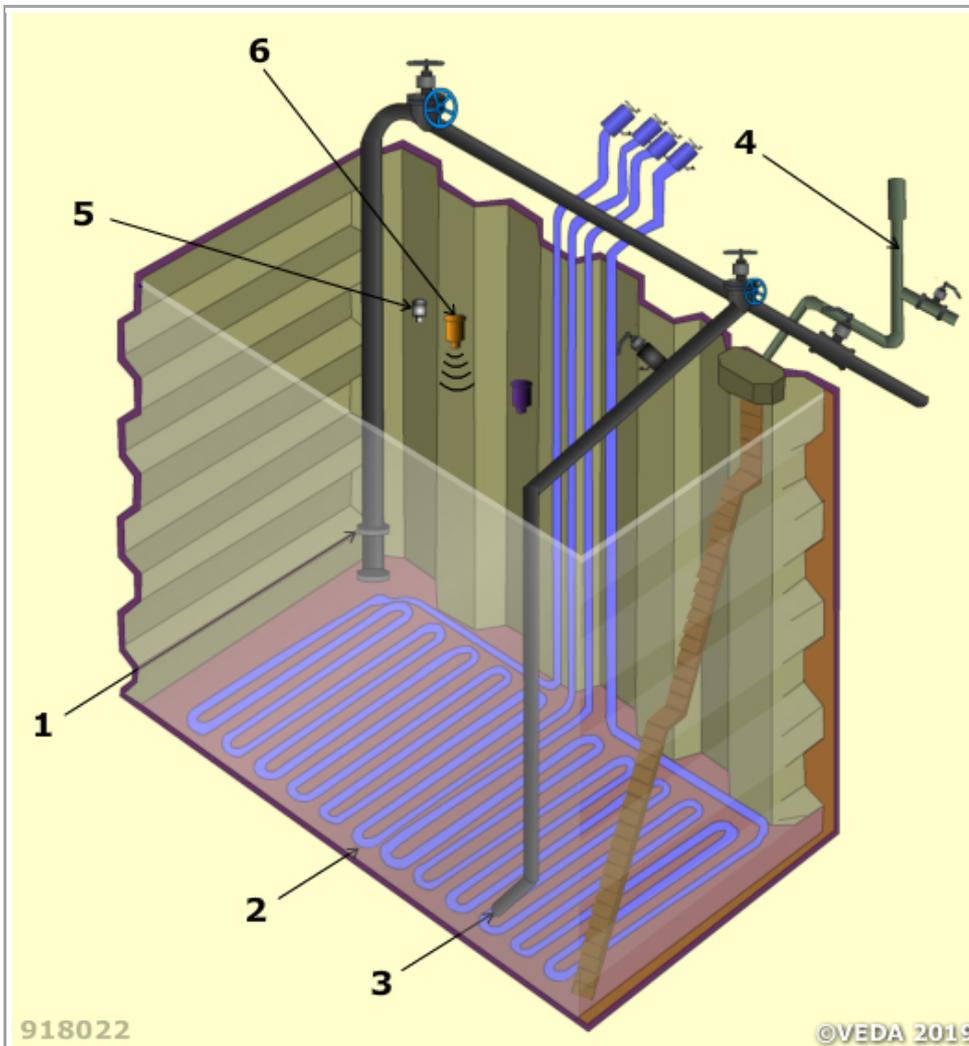
B/5 or 11.5m	<input type="checkbox"/>
NIL	<input type="checkbox"/>
Not less than 750mm	<input type="checkbox"/>
B/15 or 6m (whichever is less, but minimum 760mm)	<input checked="" type="checkbox"/>

6.



(1)

Identify correct labelling for the Chemical tanker cargo tank



1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-Radar Gauge; 6- High Level Overflow Alarm;

1- Radar Gauge; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Temperature sensor fitted with Cargo Pump

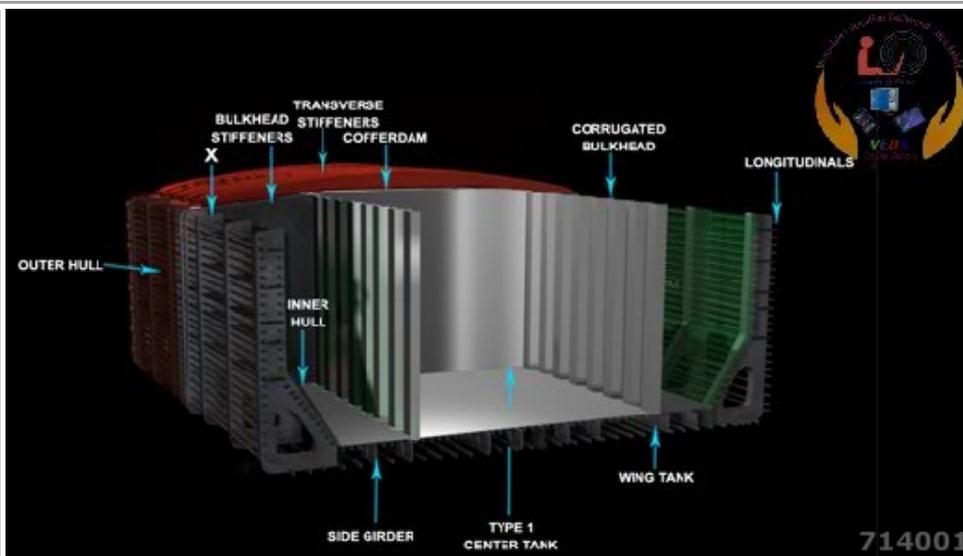
1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Radar Gauge

1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3-Vapor Line; 4- Cargo Drop Line; 5-High Level Overflow Alarm; 6- Radar Gauge

7.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

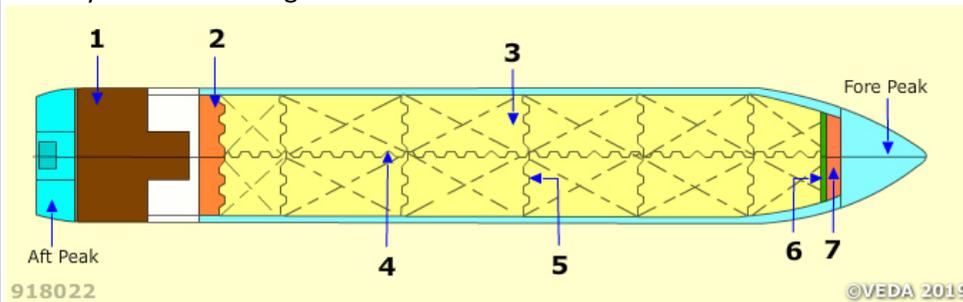
Webs	<input checked="" type="radio"/>
Double skin	<input type="radio"/>
Tank bulkhead	<input type="radio"/>
Transverse webs	<input type="radio"/>

8.



(1)

Identify correct labelling for the small oil tanker



1-Engine room; 2-Pump Room; 3- Cargo Tank; 4-Center line bulkhead	<input checked="" type="radio"/>
1-Cargo Tank; 2-Pump Room; 3- Engine room; 4-Center line bulkhead	<input type="radio"/>
1-Pump Room; 2-Engine room; 3- Cargo Tank; 4-Center line bulkhead	<input type="radio"/>
1-Engine room; 2-Pump Room; 3- Center line bulkhead; 4-Cargo Tank	<input type="radio"/>

9.



(1)

What is the design pressure at the top of the tank of a pressure tank in chemical tanker?

Less than 0.7 bar gauge pressure	<input type="radio"/>
More than 7 bar gauge pressure	<input type="radio"/>
Less than 7 bar gauge pressure	<input type="radio"/>
More than 0.7 bar gauge pressure	<input checked="" type="radio"/>

10.



(1)

The cargo tank of the Chemical carriers is normally coated with?

Zinc silicate	<input type="checkbox"/>
Rubber	<input type="checkbox"/>
Epoxy	<input type="checkbox"/>
Stainless Steel	<input checked="" type="checkbox"/>

1.



(1)

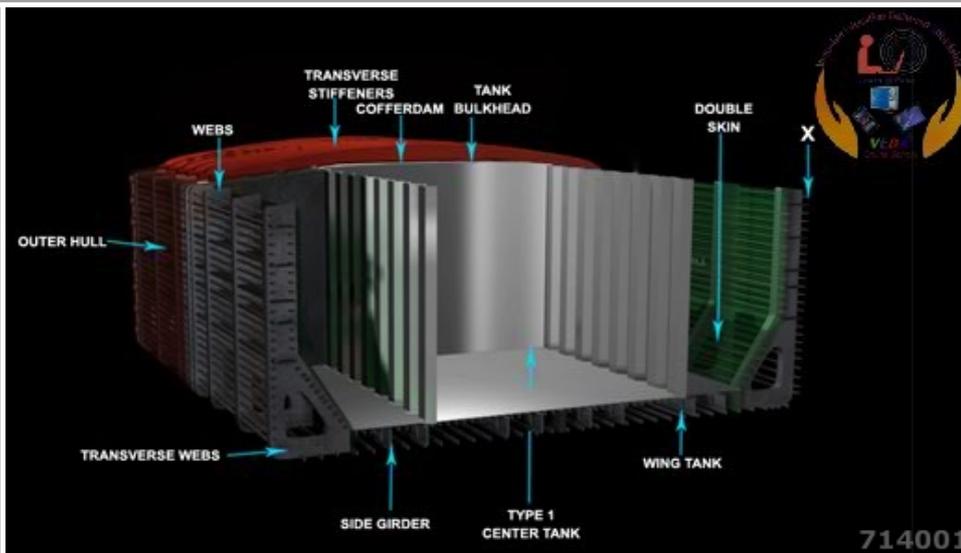
The cargo tank of the Chemical carriers is normally coated with?

Zinc silicate	<input type="checkbox"/>
Rubber	<input type="checkbox"/>
Epoxy	<input type="checkbox"/>
Stainless Steel	<input checked="" type="checkbox"/>

2.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Bulkhead stiffener	<input type="checkbox"/>
Inner hull	<input type="checkbox"/>
Corrugated bulkhead	<input type="checkbox"/>
Longitudinal	<input checked="" type="checkbox"/>

3.



(1)

What is the design pressure at the top of the tank of a pressure tank in chemical tanker?

Less than 0.7 bar gauge pressure	<input type="checkbox"/>
More than 7 bar gauge pressure	<input type="checkbox"/>

Less than 7 bar gauge pressure	<input type="checkbox"/>
More than 0.7 bar gauge pressure	<input checked="" type="checkbox"/>

4.



(1)

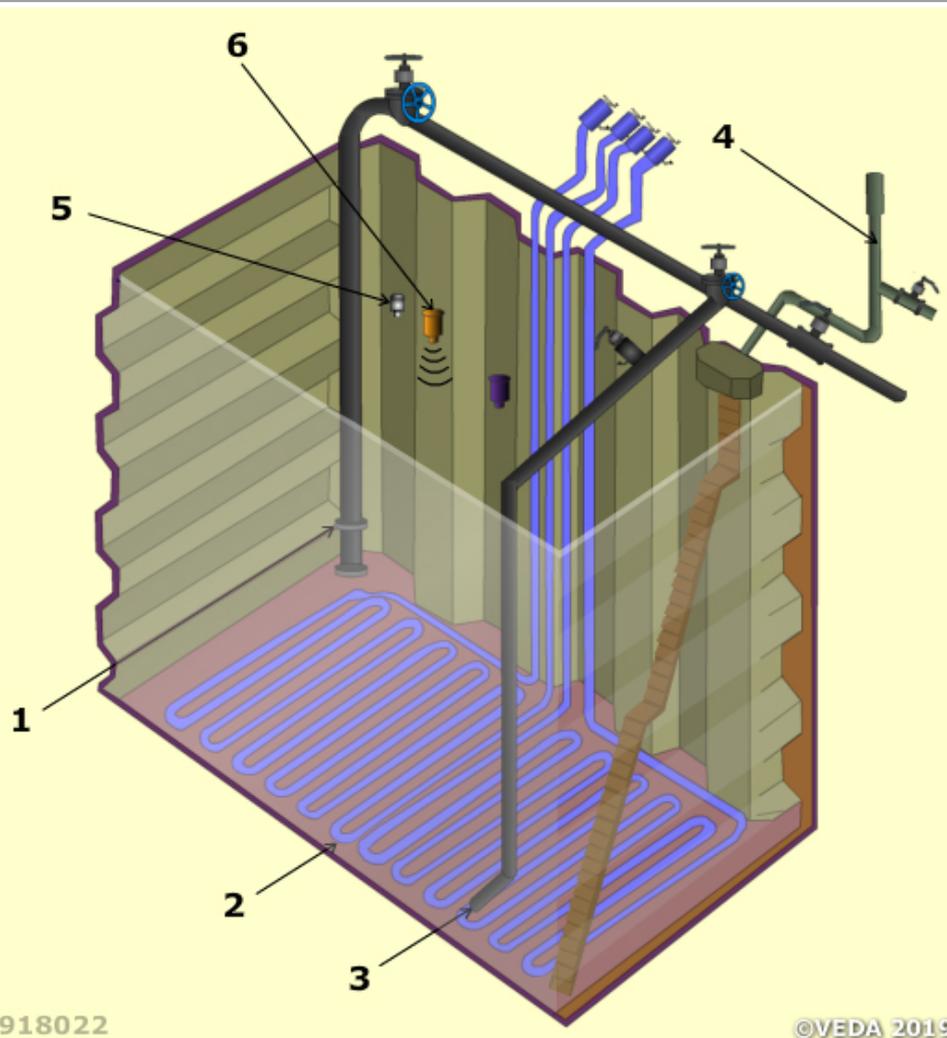
How the operation of chemical tankers differs from any other bulk liquid transportation operations, in a single voyage?

The cargo carried in Chemical tankers is corrosive and Toxic	<input type="checkbox"/>
The cargo tanks are coated in Chemical Tankers	<input type="checkbox"/>
Large number of cargoes with different properties, characteristics and inherent hazards may be carried	<input checked="" type="checkbox"/>

5.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Transverse stiffeners	<input type="checkbox"/>
Double skin	<input type="checkbox"/>
Outer hull	<input checked="" type="checkbox"/>
Inner hull	<input type="checkbox"/>

6.



(1)

Tank Coatings have limitations with regard to,

Maximum temperature	<input type="checkbox"/>
pH values	<input type="checkbox"/>
Maximum storage time	<input type="checkbox"/>
Minimum storage time	<input checked="" type="checkbox"/>

7.



(1)

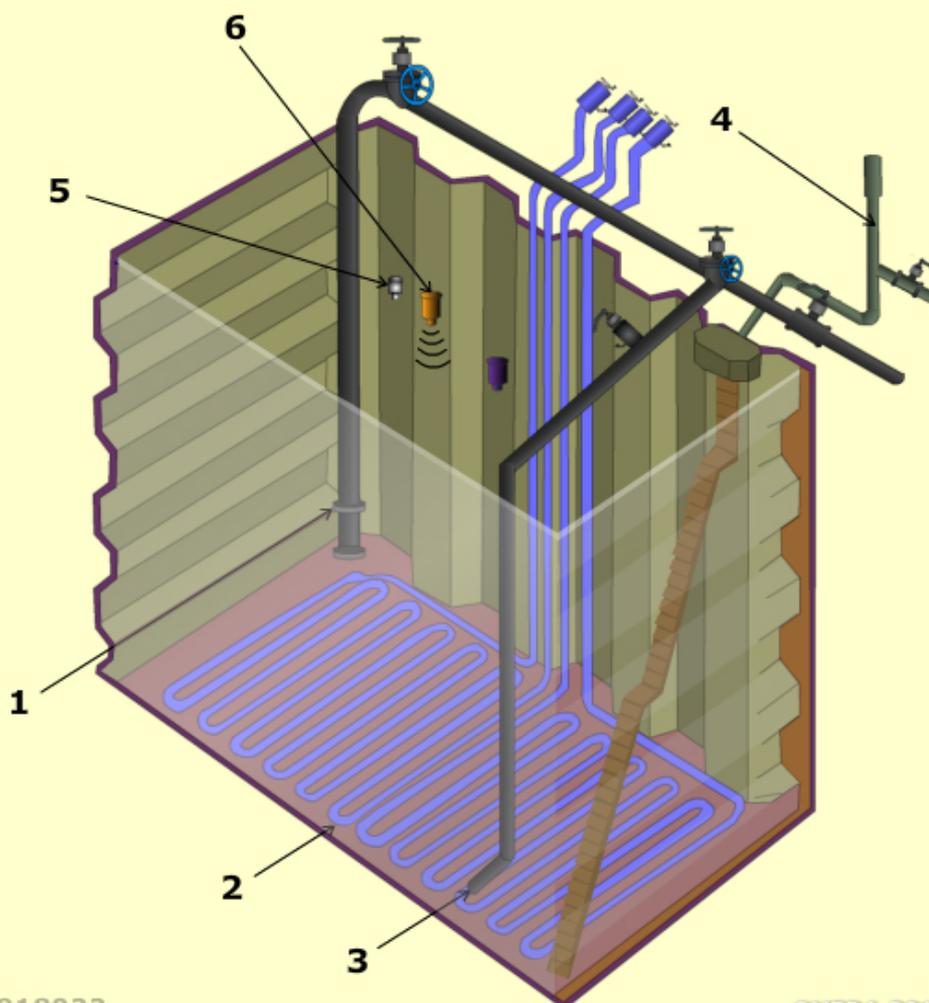
Who provides the resistance list stating approved cargoes, temperature and time limitations etc. for the tank coatings

The shipyard	<input type="checkbox"/>
Paint maker	<input checked="" type="checkbox"/>
IBC Code	<input type="checkbox"/>
Classification society	<input type="checkbox"/>

8.



(1)



918022

©VEDA 2019

Among the following, what represents the letter X shown in the above image of Chemical tanker?

Inner hull	<input type="checkbox"/>
Webs	<input type="checkbox"/>
Tank bulkhead	<input checked="" type="checkbox"/>

Corrugated bulkhead

9.



(1)

Long-time exposure to sea water is not advisable, because it will unduly reduce the life span of coating of tanks coated with

Modified epoxy

Zinc silicates

Phenolic Resin

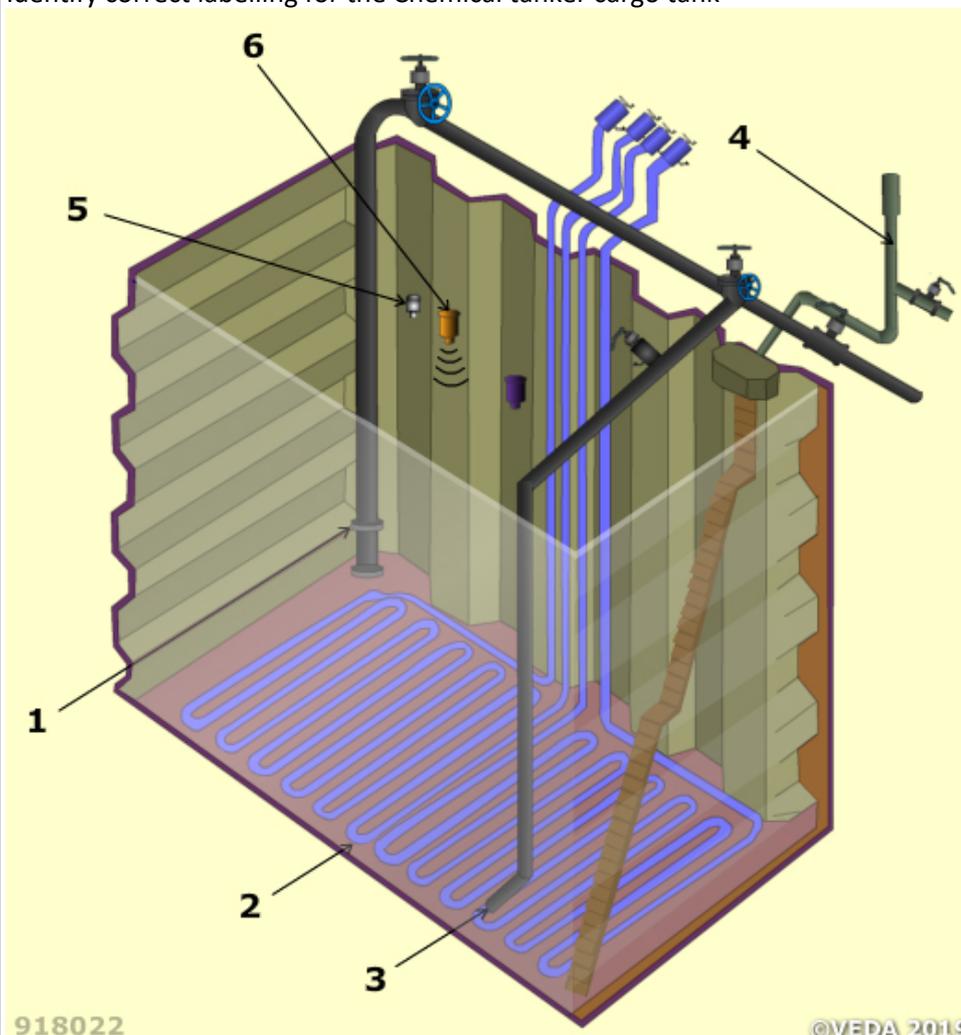
Epoxy

10.



(1)

Identify correct labelling for the Chemical tanker cargo tank



918022

©VEDA 2019

1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-Radar Gauge; 6- High Level Overflow Alarm;

1- Radar Gauge; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Temperature sensor fitted with Cargo Pump

1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Radar Gauge

1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3-Vapor Line; 4- Cargo Drop Line; 5-High Level Overflow Alarm; 6- Radar Gauge

1.



(1)

What precaution to be carried out before ballasting sea water in an epoxy coated cargo tank to avoid cathodic/bimetallic corrosion due stainless steel fittings in the tank ?

Damaged tank coating to be touched up

Welding of Zinc anode in the tank

Removal all stainless steel fitting

Passivate all stainless steel fittings

2.



(1)

Epoxy, zinc silicate and resins are used in a chemical tanker as

Fuel tank's coating

Cargo tank's coating

Ballast tank coating

Stabilizer for chemical cargoes

3.



(1)

How the operation of chemical tankers differs from any other bulk liquid transportation operations, in a single voyage?

The cargo carried in Chemical tankers is corrosive and Toxic

The cargo tanks are coated in Chemical Tankers

Large number of cargoes with different properties, characteristics and inherent hazards may be carried

4.



(1)

In a chemical tanker, where should all the operations with respect to slops resulting from NLS discharge into the sea or removal by ventilation or discharge to shore reception facility be recorded ?

Oil record book Part I

Engine Log book

Cargo record book

Garbage record book

5.



(1)

Tank Coatings have limitations with regard to,

Maximum temperature

pH values

Maximum storage time

Minimum storage time



6.



(1)

In a chemical tanker, accommodation, service and machinery spaces, drinking water and stores for human consumption should be segregated by means of a cofferdam, void space, cargo pump-room, pump-room, empty tank or other similar space from

Ballast tanks

Fresh water tanks

Cargo tanks

Fuel oil tanks



7.



(1)

What should you do, when washing of tanks is to be carried out in different cargo tanks containing different incompatible cargoes and the washings are to be pumped to the shore ?

All tanks should be washed collectively and pumped ashore collectively

Tanks can be washed separately or collectively and pumped ashore collectively

Each tank should be washed separately and pumped ashore collectively

Each tank should be washed separately and pumped ashore separately



8.



(1)

Many of the cargoes are reactive in nature, therefore many of tanks have

Common pump and individual lines

Individual pumps, pipe lines and valves

Common pump and common lines

Individual pumps and common pipe lines



9.



(1)

Which regulatory requirements of slop tanks under MARPOL, will apply if the chemical tanker carries a cargoes or even part cargo of oil (petroleum) in bulk?

Annex I

Annex II

Annex III

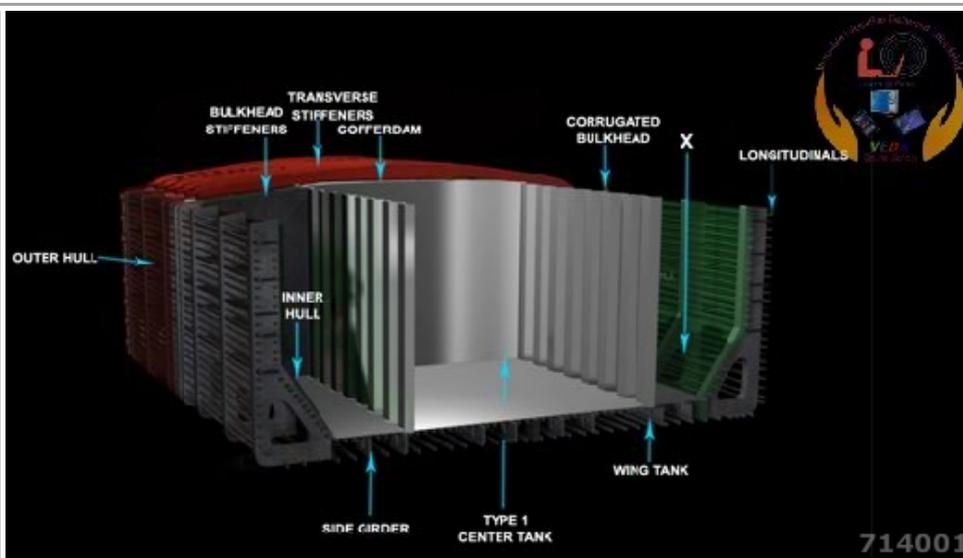
Annex IV



10.

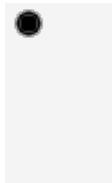


(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Double skin
- Tank bulkhead
- Transverse webs
- Webs



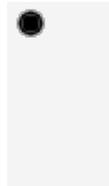
1.



(1)

What precaution to be carried out before ballasting sea water in an epoxy coated cargo tank to avoid cathodic/bimetallic corrosion due stainless steel fittings in the tank ?

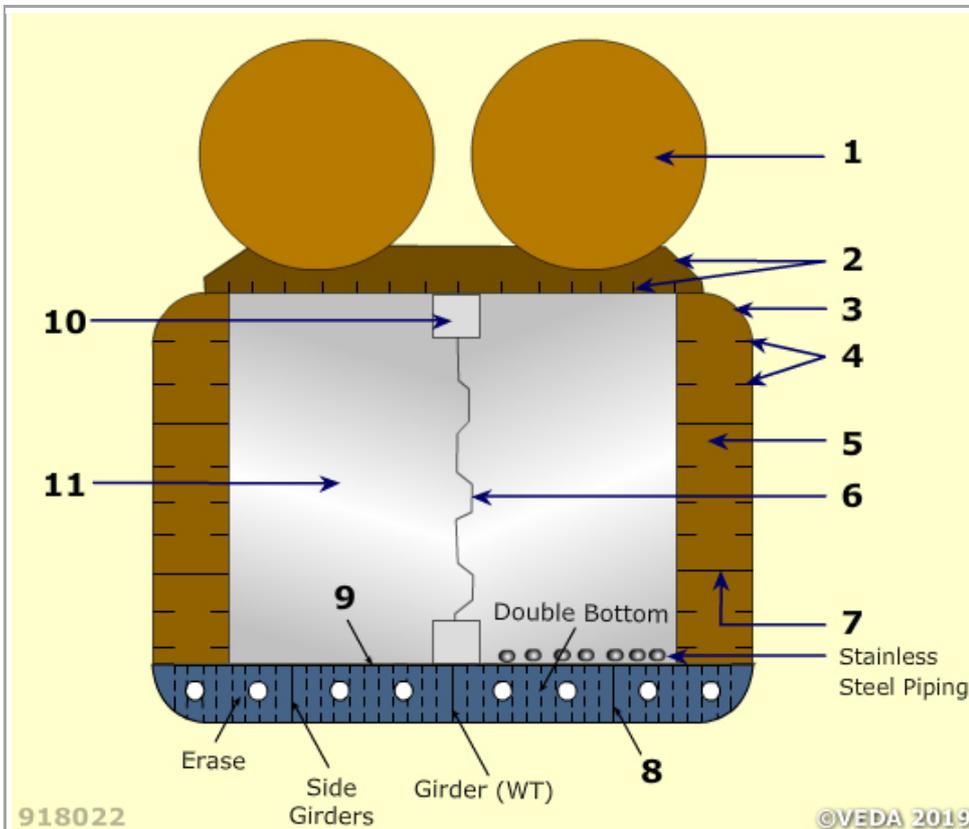
- Damaged tank coating to be touched up
- Welding of Zinc anode in the tank
- Removal all stainless steel fitting
- Passivate all stainless steel fittings



2.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Inner hull
- Webs
- Tank bulkhead
- Corrugated bulkhead



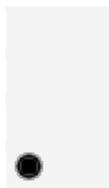
3.



(1)

Tank Coatings have limitations with regard to,

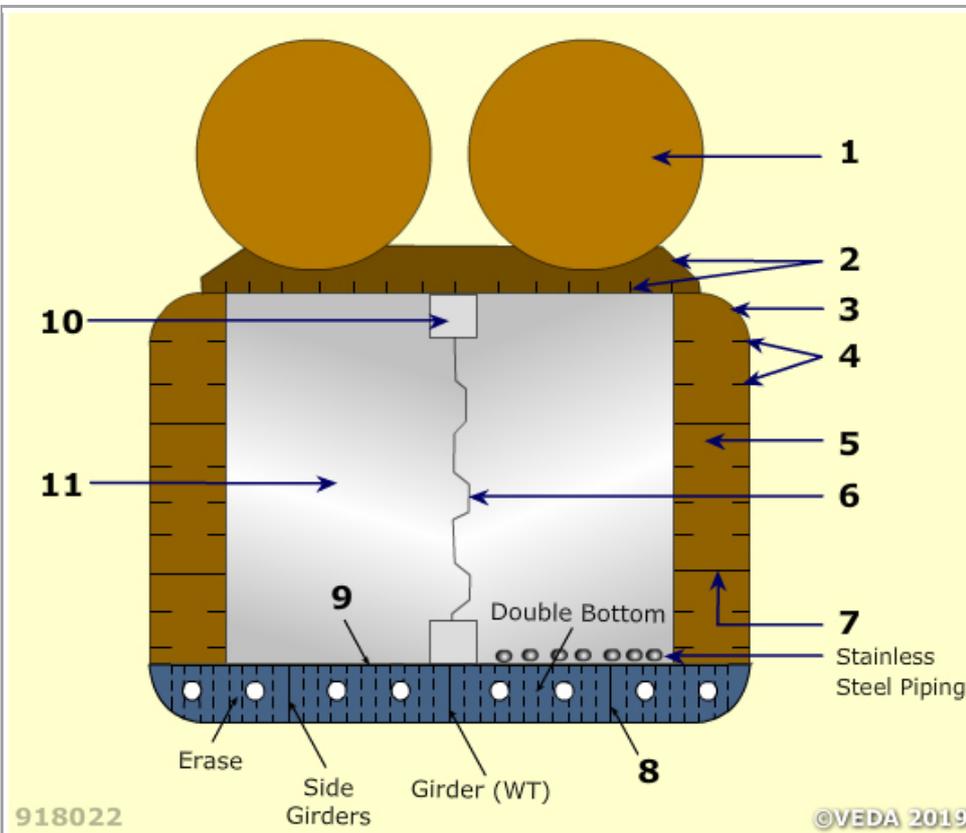
- Maximum temperature
- pH values
- Maximum storage time
- Minimum storage time



4.

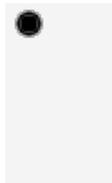


(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

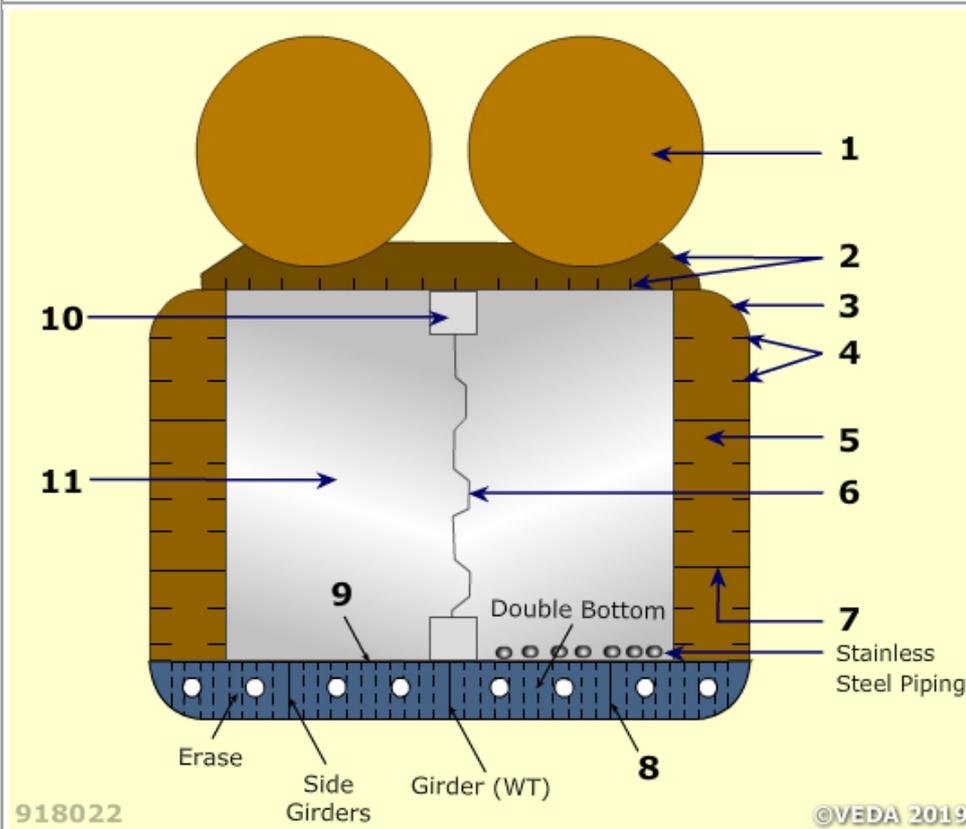
- Transverse webs
- Corrugated bulkhead
- Webs
- Type 1 center tank



5.

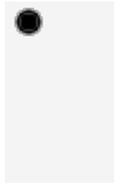


(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Double skin
- Tank bulkhead
- Transverse webs
- Webs



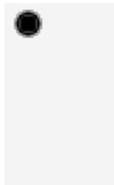
6.



(1)

Which regulatory requirements of slop tanks under MARPOL, will apply if the chemical tanker carries a cargoes or even part cargo of oil (petroleum) in bulk?

- Annex I
- Annex II
- Annex III
- Annex IV



7.



(1)

Many of the cargoes are reactive in nature, therefore many of tanks have

- Common pump and individual lines
- Individual pumps, pipe lines and valves
- Common pump and common lines
- Individual pumps and common pipe lines



8.



(1)

Long-time exposure to sea water is not advisable, because it will unduly reduce the life span of coating of tanks coated with

- Modified epoxy
- Zinc silicates
- Phenolic Resin
- Epoxy

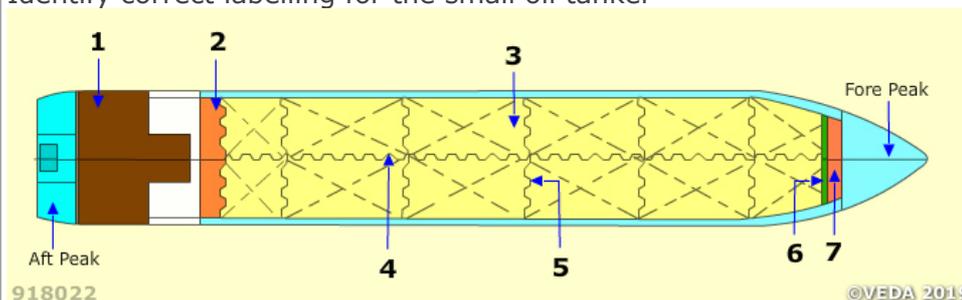


9.



(1)

Identify correct labelling for the small oil tanker



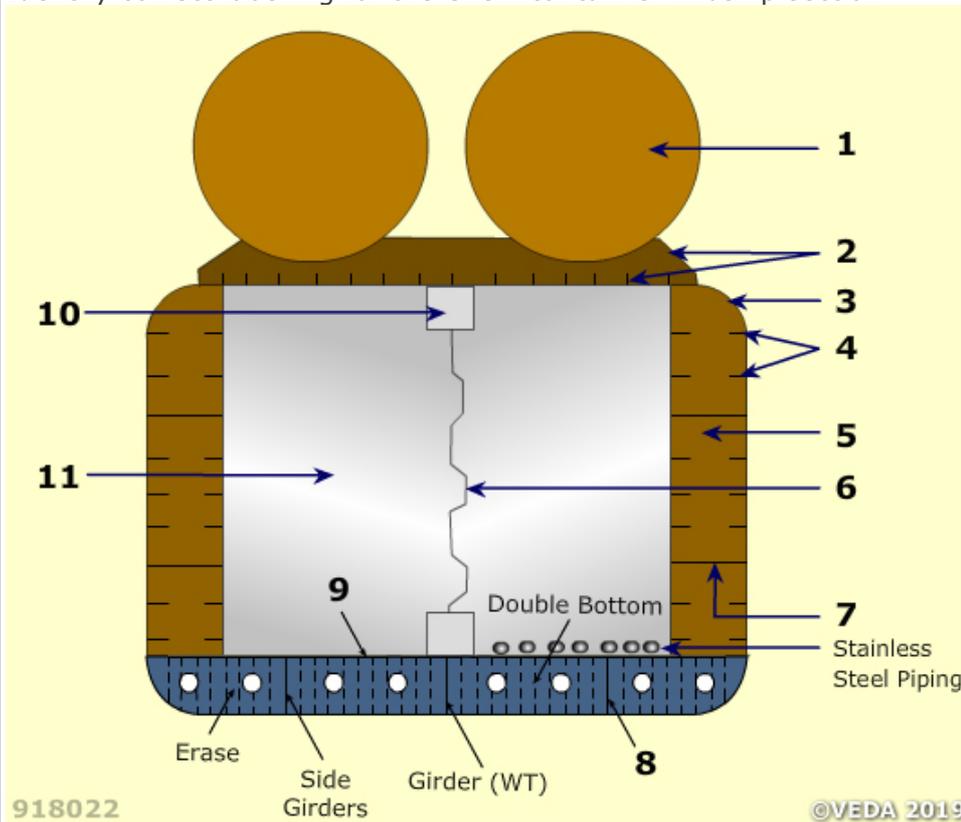
- 4 - Center line bulkhead; 5- Cofferdam; 6-Transverse bulkhead; 7- Deep Tank (F.O.)
- 4 - Center line bulkhead; 5- Transverse bulkhead; 6-Deep Tank (F.O.); 7- Cofferdam
- 4 - Center line bulkhead; 5- Transverse bulkhead; 6- Cofferdam; 7- Deep Tank (F.O.)
- 4-Transverse bulkhead; 5- Center line bulkhead; 6- Cofferdam; 7- Deep Tank (F.O.)

10.



(1)

Identify correct labelling for the Chemical tanker midship section



1-SS Type 1 Tank; 2-Deck Framing; 3-Sheer Strake; 4- Longitudinal Frame; 5-Segregated Ballast

1-Deck Framing; 2-Sheer Strake; 3-SS Type 1 Tank; 4- Longitudinal Frame; 5-Segregated Ballast

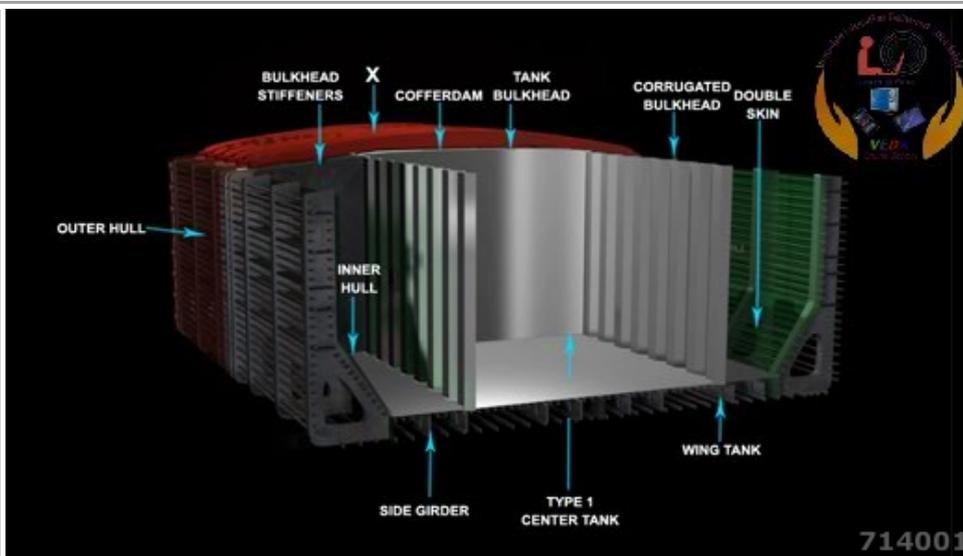
1-SS Type 1 Tank; 2-Deck Framing; 3-Sheer Strake; 4- Segregated Ballast; 5-Longitudinal Frame

1-SS Type 1 Tank; 2-Sheer Strake; 3-Deck Framing; 4- Longitudinal Frame; 5- Segregated Ballast

1.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

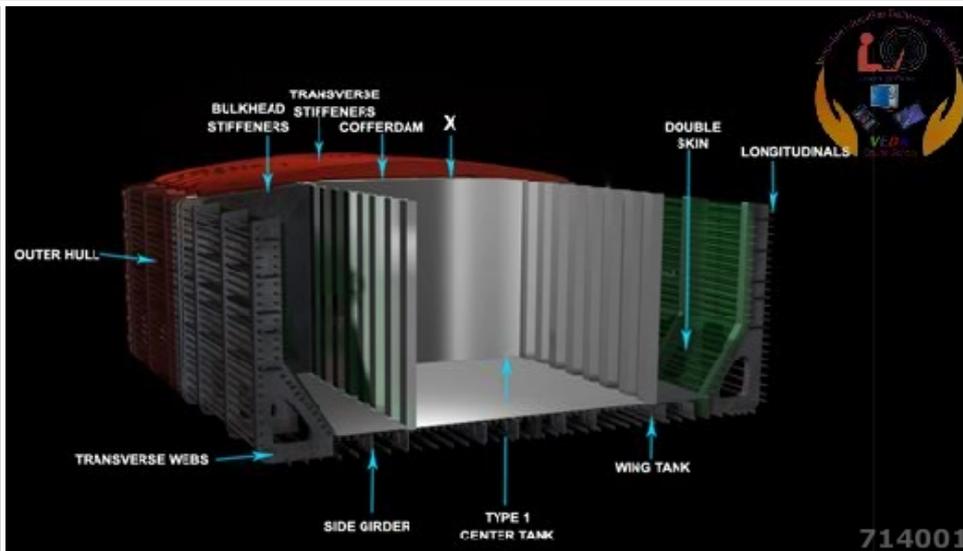
- Webs
- Transverse stiffeners
- Longitudinal
- Transverse webs



2.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

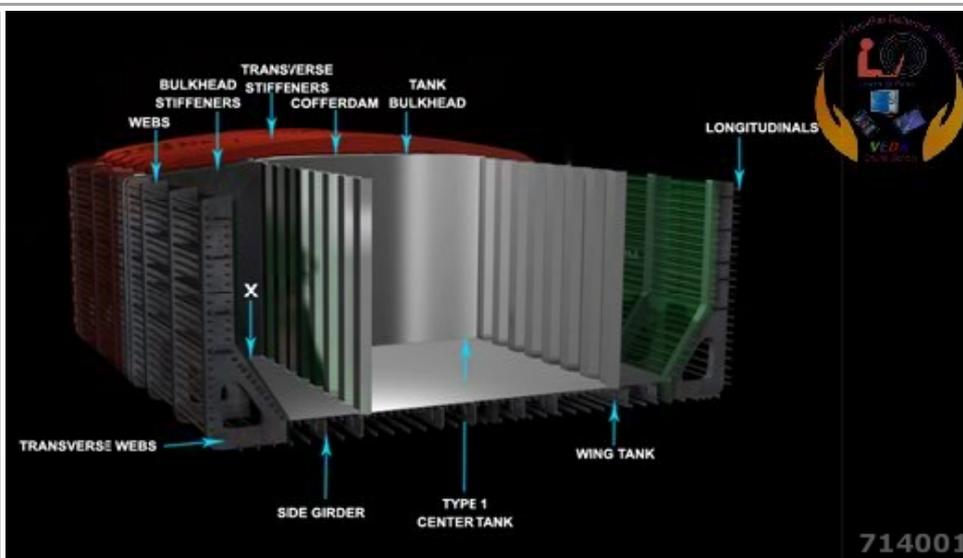
- Inner hull
- Webs
- Tank bulkhead
- Corrugated bulkhead



3.



(1)



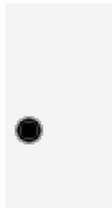
Among the following, what represents the letter X shown in the above image of Chemical tanker?

Outer hull

Corrugated bulkhead

Inner hull

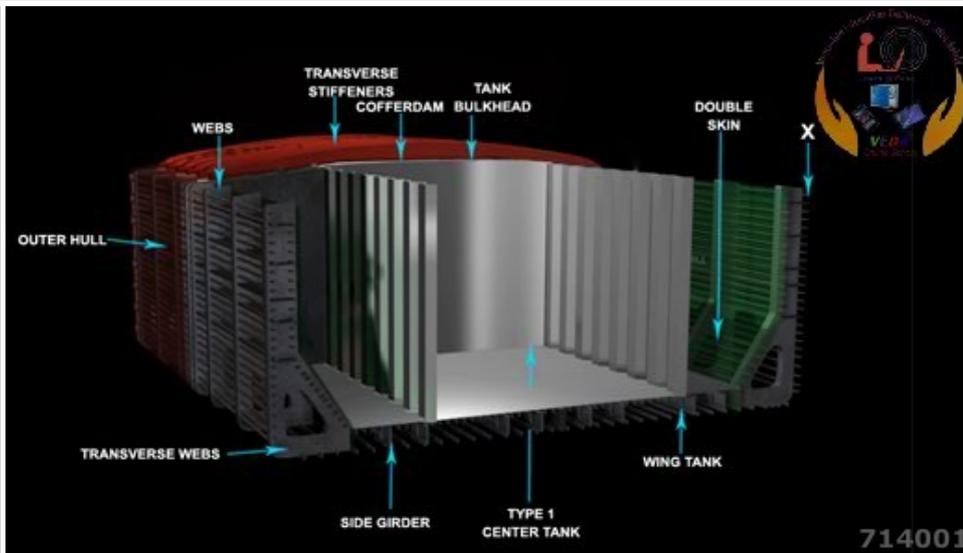
Double skin



4.



(1)



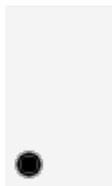
Among the following, what represents the letter X shown in the above image of Chemical tanker?

Bulkhead stiffener

Inner hull

Corrugated bulkhead

Longitudinal



5.



(1)

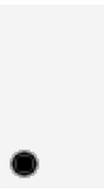
What is the distance requirement between the bottom of cargo tank and bottom shell plate at the center line of type 1 chemical tankers?

B/5 or 11.5m

NIL

Not less than 750mm

B/15 or 6m (whichever is less, but minimum 760mm)



6.



(1)

Many of the cargoes are reactive in nature, therefore many of tanks have

Common pump and individual lines

Individual pumps, pipe lines and valves

Common pump and common lines

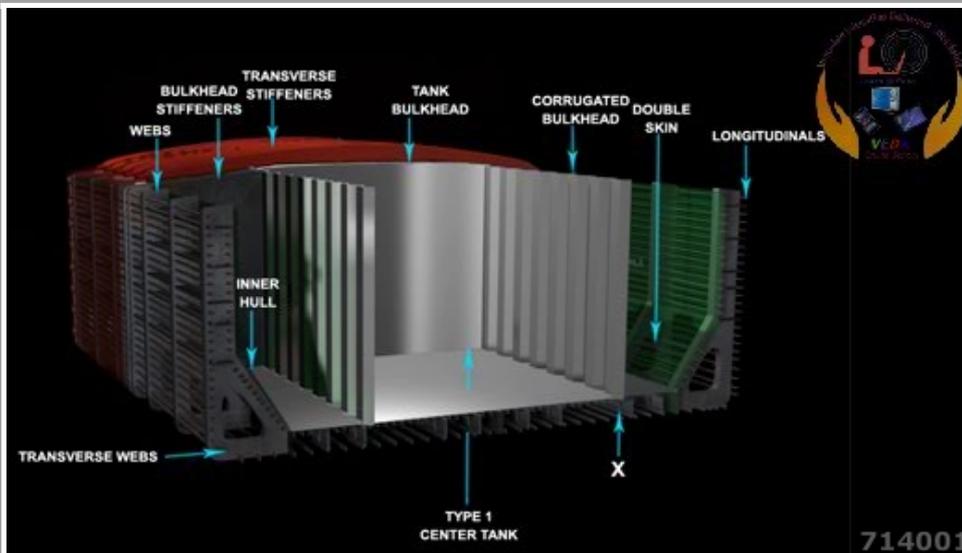
Individual pumps and common pipe lines



7.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Side girder

Wing tank

Cofferdam

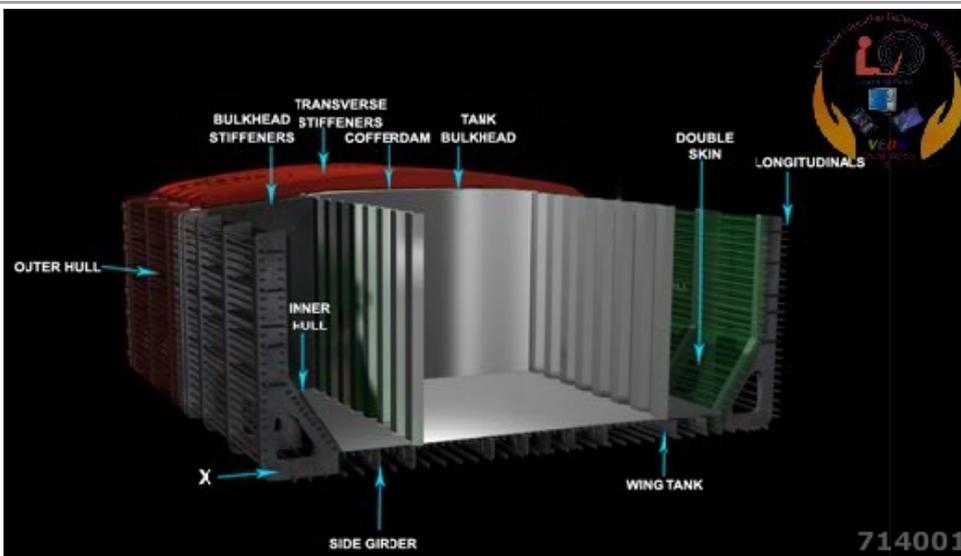
Outer hull



8.

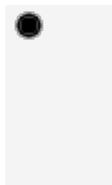


(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Transverse webs
- Corrugated bulkhead
- Webs
- Type 1 center tank



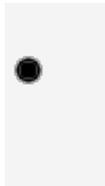
9.



(1)

Which type of chemical tanker should have a minimum distance of 760 mm between ship side plate and side plate of cargo tank?

- Ship Type 4
- Ship Type 2
- Ship Type 3
- Ship Type 1

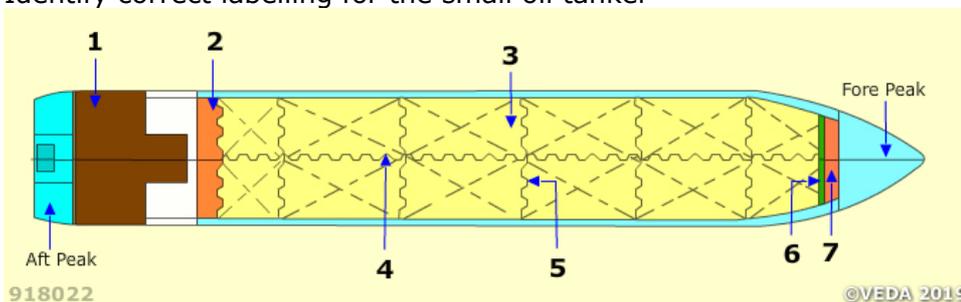


10.



(1)

Identify correct labelling for the small oil tanker



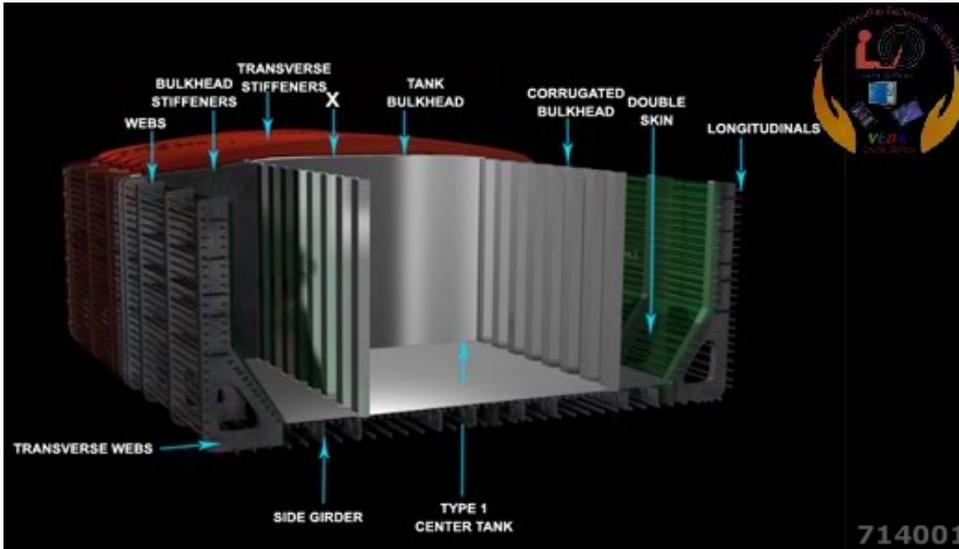
- 1-Engine room; 2-Pump Room; 3- Cargo Tank; 4-Center line bulkhead
- 1-Cargo Tank; 2-Pump Room; 3- Engine room; 4-Center line bulkhead
- 1-Pump Room; 2-Engine room; 3- Cargo Tank; 4-Center line bulkhead
- 1-Engine room; 2-Pump Room; 3- Center line bulkhead; 4-Cargo Tank



1.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Inner hull

Cofferdam

Wing tank

Outer hull



2.



(1)

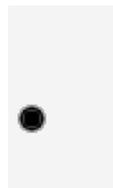
In a chemical tanker, accommodation, service and machinery spaces, drinking water and stores for human consumption should be segregated by means of a cofferdam, void space, cargo pump-room, pump-room, empty tank or other similar space from

Ballast tanks

Fresh water tanks

Cargo tanks

Fuel oil tanks



3.



(1)

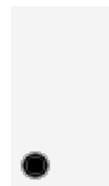
What is the distance requirement between the bottom of cargo tank and bottom shell plate at the center line of type 1 chemical tankers?

B/5 or 11.5m

NIL

Not less than 750mm

B/15 or 6m (whichever is less, but minimum 760mm)



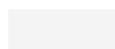
4.



(1)

Epoxy, zinc silicate and resins are used in a chemical tanker as

Fuel tank's coating



Cargo tank's coating
Ballast tank coating
Stabilizer for chemical cargoes



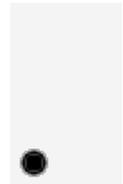
5.



(1)

What should you do, when washing of tanks is to be carried out in different cargo tanks containing different incompatible cargoes and the washings are to be pumped to the shore ?

- All tanks should be washed collectively and pumped ashore collectively
- Tanks can be washed seperately or collectively and pumped ashore collectively
- Each tank should be washed seperately and pumped ashore collectively
- Each tank should be washed seperately and pumped ashore seperately



6.



(1)

Many of the cargoes are reactive in nature, therefore many of tanks have

- Common pump and individual lines
- Individual pumps, pipe lines and valves
- Common pump and common lines
- Individual pumps and common pipe lines



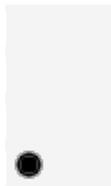
7.



(1)

Tank Coatings have limitations with regard to,

- Maximum temperature
- pH values
- Maximum storage time
- Minimum storage time

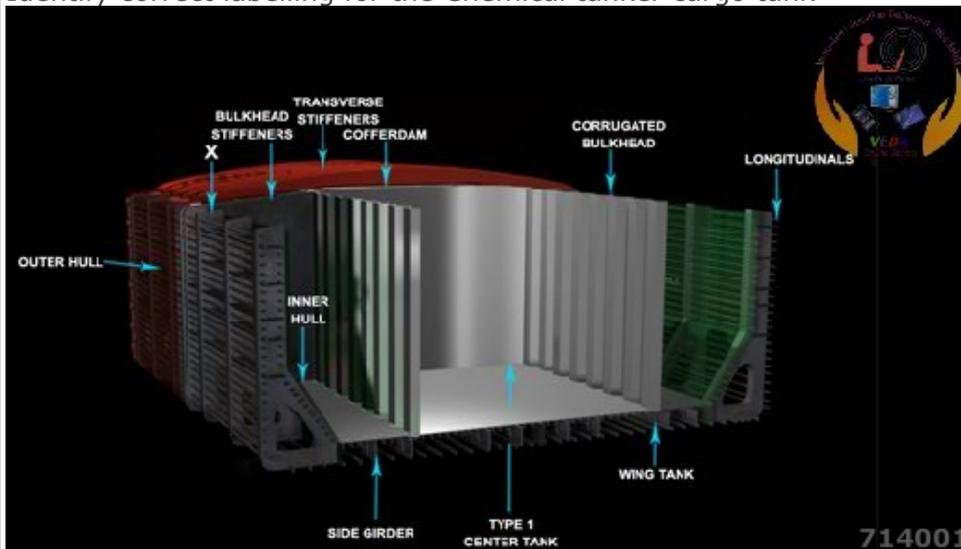


8.



(1)

Identify correct labelling for the Chemical tanker cargo tank



1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-Radar Gauge; 6- High Level Overflow Alarm;

1- Radar Gauge; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Temperature sensor fitted with Cargo Pump

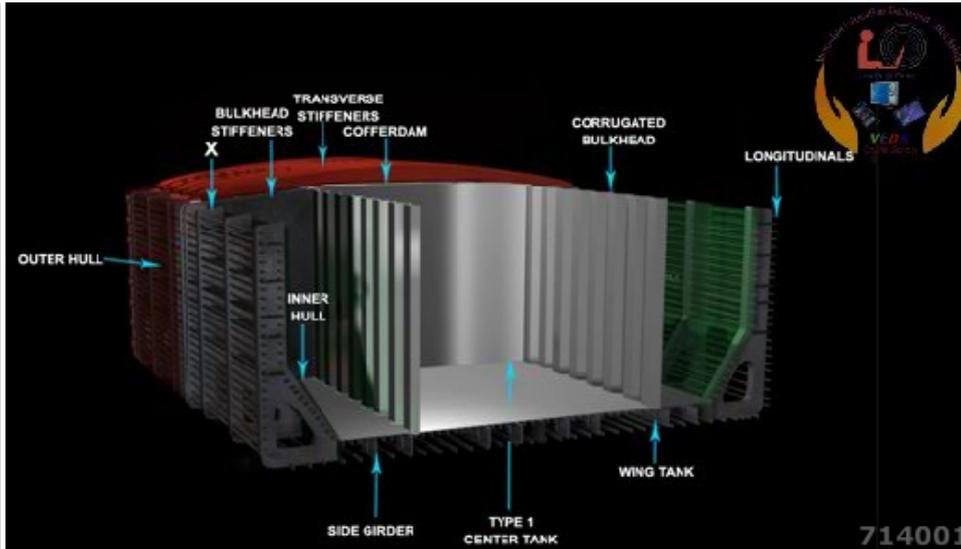
1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3- Cargo Drop Line; 4- Vapor Line; 5-High Level Overflow Alarm; 6- Radar Gauge

1- Temperature sensor fitted with Cargo Pump; 2-Heating Coil; 3-Vapor Line; 4- Cargo Drop Line; 5-High Level Overflow Alarm; 6- Radar Gauge

9.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Webs

Double skin

Tank bulkhead

Transverse webs

10.



(1)

What is the design pressure at the top of the tank of a pressure tank in chemical tanker?

Less than 0.7 bar gauge pressure

More than 7 bar gauge pressure

Less than 7 bar gauge pressure

More than 0.7 bar gauge pressure

1.



(1)

Tank Coatings have limitations with regard to,

Maximum temperature

pH values

Maximum storage time

Minimum storage time



2.



(1)

What provides a barrier between the mild steel of cargo tank surface & the corrosive cargo substance to avoid direct contact as well as to have smooth/slippery surface for easy tank cleaning operation?

Heat treatment

Passivation

Tank coating

Electroplating



3.



(1)

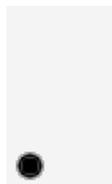
Which cargo tanks you would prefer to ballast with seawater in case of emergency or heavy weather?

Zinc silicate coated cargo tanks

Stainless steel cargo tanks

Cladded steel cargo tanks

Epoxy coated cargo tanks



4.



(1)

How the operation of chemical tankers differs from any other bulk liquid transportation operations, in a single voyage?

The cargo carried in Chemical tankers is corrosive and Toxic

The cargo tanks are coated in Chemical Tankers

Large number of cargoes with different properties, characteristics and inherent hazards may be carried



5.



(1)

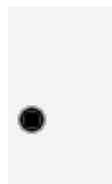
In a chemical tanker, accommodation, service and machinery spaces, drinking water and stores for human consumption should be segregated by means of a cofferdam, void space, cargo pump-room, pump-room, empty tank or other similar space from

Ballast tanks

Fresh water tanks

Cargo tanks

Fuel oil tanks



6.

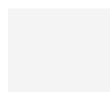


(1)

Which tank coating is called as organic coating?

Cement coating

Tar coating

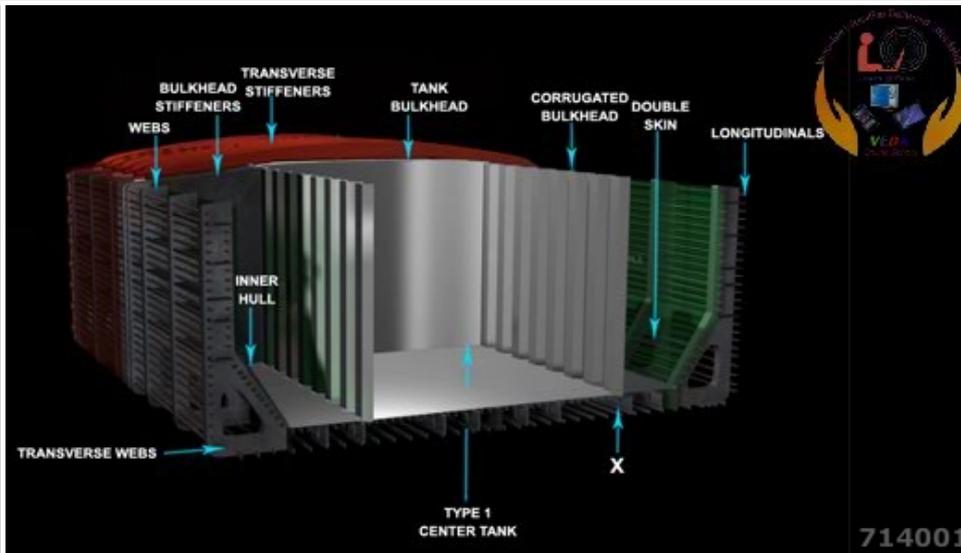


Epoxy coating
Silicate coating

7.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Side girder
Wing tank
Cofferdam
Outer hull

8.



(1)

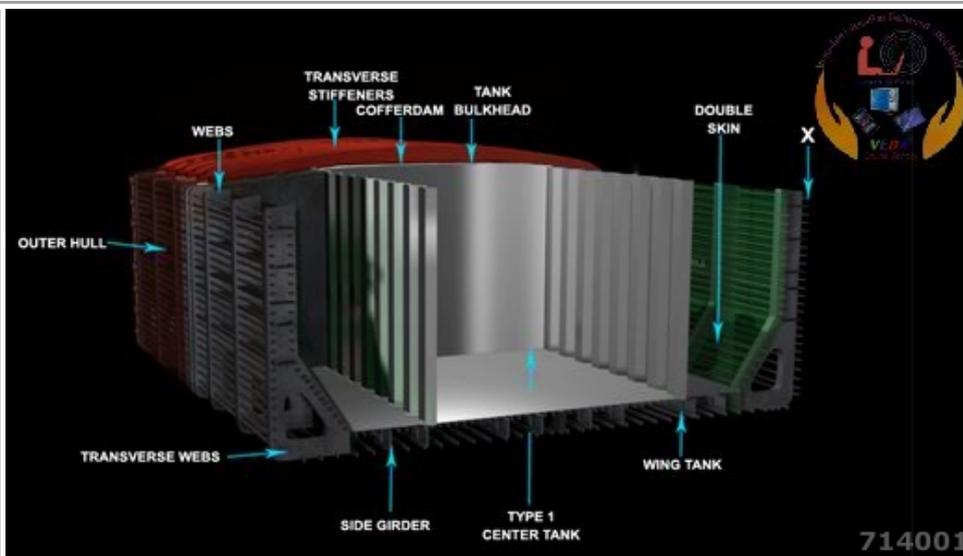
What other type of tank coating can accommodate almost all the chemical products which can be loaded in a zinc silicate coated tank ?

Phenolic resin coated tanks
Epoxy tanks
Tar coated tanks
Cement coated tanks

9.

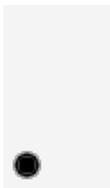


(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Bulkhead stiffener
- Inner hull
- Corrugated bulkhead
- Longitudinal



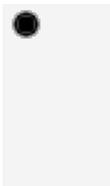
10.



(1)

Which regulatory requirements of slop tanks under MARPOL, will apply if the chemical tanker carries a cargoes or even part cargo of oil (petroleum) in bulk?

- Annex I
- Annex II
- Annex III
- Annex IV

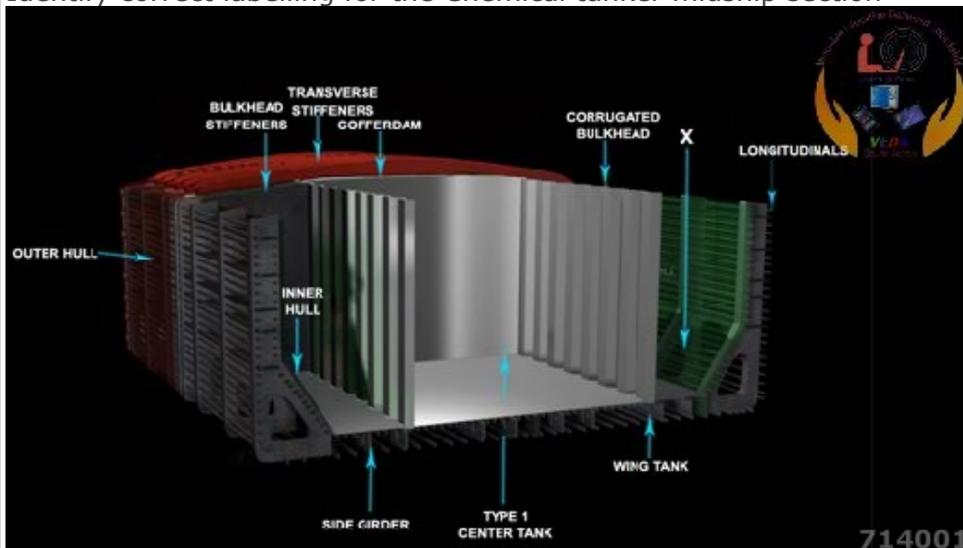


1.



(1)

Identify correct labelling for the Chemical tanker midship section



6-Cargo Tank Type 2 and 3 cargo; 7- Stringer; 8 -Longitudinal Framing; 9- Tank Top;10-Void Space; 11-Longitudinal Bulkhead

6-Longitudinal Bulkhead; 7- Stringer; 8 -Longitudinal Framing; 9- Tank Top;10-Void Space; 11-Cargo Tank Type 2 and 3 cargo

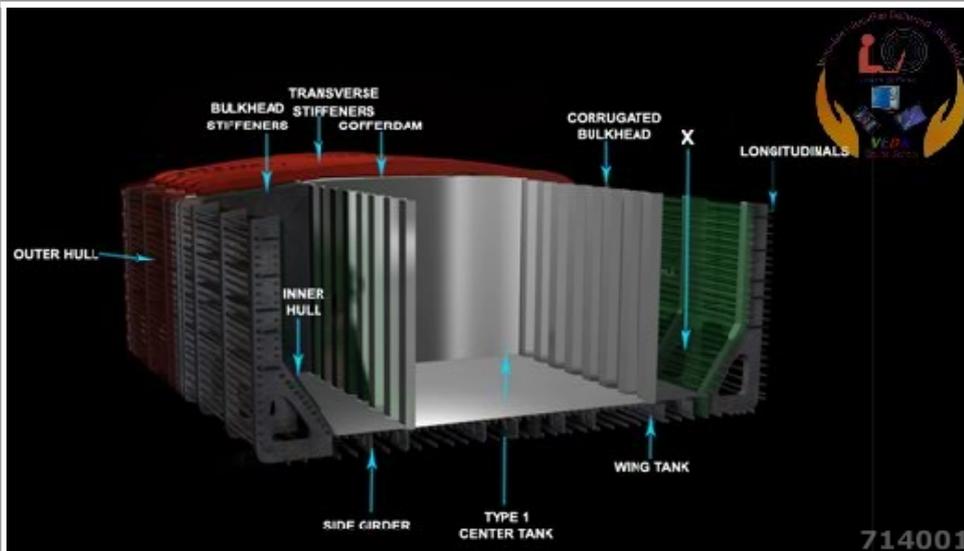
6-Longitudinal Bulkhead; 7- Longitudinal Framing; 8-Stringer;9- Tank Top;10-Void Space; 11-Cargo Tank Type 2 and 3 cargo

6-Stringer ;7- Longitudinal Bulkhead; 8 -Longitudinal Framing; 9- Tank Top;10-Void Space; 11-Cargo Tank Type 2 and 3 cargo

2.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

Webs

Double skin

Tank bulkhead

Transverse webs

3.



(1)

In a chemical tanker, where should all the operations with respect to slops resulting from NLS discharge into the sea or removal by ventilation or discharge to shore reception facility be recorded ?

Oil record book Part I

Engine Log book

Cargo record book

Garbage record book

4.



(1)

What other type of tank coating can accommodate almost all the chemical products which can be loaded in a zinc silicate coated tank ?

Phenolic resin coated tanks

Epoxy tanks

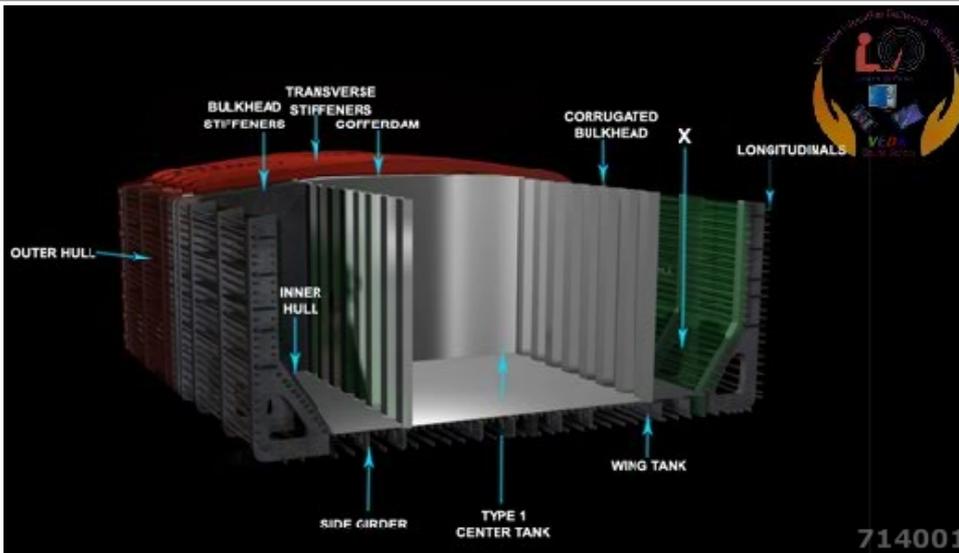
Tar coated tanks

Cement coated tanks

5.



(1)



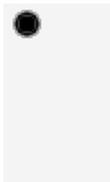
Among the following, what represents the letter X shown in the above image of Chemical tanker?

Transverse webs

Corrugated bulkhead

Webs

Type 1 center tank



6.



(1)

What should you do, when washing of tanks is to be carried out in different cargo tanks containing different incompatible cargoes and the washings are to be pumped to the shore ?

All tanks should be washed collectively and pumped ashore collectively

Tanks can be washed separately or collectively and pumped ashore collectively

Each tank should be washed separately and pumped ashore collectively

Each tank should be washed separately and pumped ashore separately



7.



(1)

How the operation of chemical tankers differs from any other bulk liquid transportation operations, in a single voyage?

The cargo carried in Chemical tankers is corrosive and Toxic

The cargo tanks are coated in Chemical Tankers

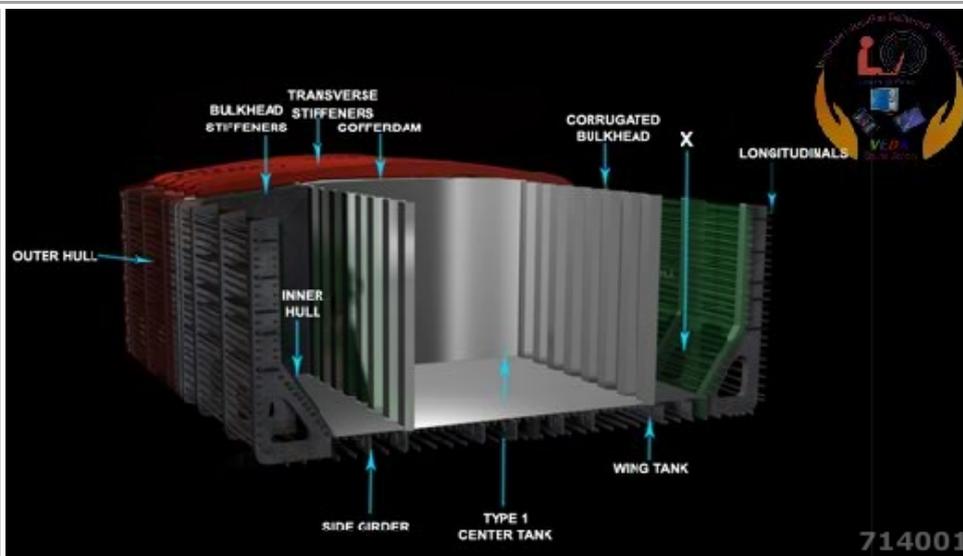
Large number of cargoes with different properties, characteristics and inherent hazards may be carried



8.



(1)



Among the following, what represents the letter X shown in the above image of Chemical tanker?

- Double skin
- Tank bulkhead
- Transverse webs
- Webs

9.



(1)

Transportation of bulk chemicals by sea on chemical tankers shall not require,

- Specialised ships
- Specialised onboard equipment
- Dedicated crew training and certification
- To have a certified Chemist on board for issuing gas-free certificate for tank entry

10.



(1)

Tank Coatings have limitations with regard to,

- Maximum temperature
- pH values
- Maximum storage time
- Minimum storage time

1.



(1)

If Toluene Disocynate is carried onboard, why DOP to be used to fill up the cofferdam?

To avoid Toluene Disocynate, filling the cofferdam which is highly solidifying	<input type="radio"/>
To avoid Toluene Disocynate, filling the cofferdam which is highly toxic	<input checked="" type="radio"/>
To avoid Toluene Disocynate, filling the cofferdam which is highly desolidifying	<input type="radio"/>
To avoid Toluene Disocynate, filling the cofferdam which is not highly toxic	<input type="radio"/>

2.



(1)

With respect to PTFE gaskets, select the correct statement from below?

Carbon fibre spindle packings do have the advantage of low friction	<input type="checkbox"/>
The drive liquid has to be same as the stripped cargo	<input type="checkbox"/>
Carbon fibre spindle packings do have the advantage chemical	<input type="checkbox"/>
PTFE does not adhere to other materials	<input checked="" type="checkbox"/>

3.



(1)

What is high capacity mode in a Framo hydraulic system?

When two hydraulic packs are running in parallel	<input type="checkbox"/>
Before the hydraulic pack starts the second feed pump is automatically switched on	<input type="checkbox"/>
The hydraulic pack runs with two feed pumps	<input checked="" type="checkbox"/>
When all three feed pumps are running when the hydraulic power pack is off	<input type="checkbox"/>

4.



(1)

Category Y noxious liquid substances are deemed to present a major hazard and therefore

Justify the prohibition of discharge into the marine environment	<input type="checkbox"/>
Justify a limitation on the quantity of the discharge into the marine environment	<input checked="" type="checkbox"/>
Justify less stringent restrictions of discharge into the marine environment	<input type="checkbox"/>

5.



(1)

After purging the cofferdam, you find that the viscous liquid cargo is leaking, how much of leakage of viscous liquid cargo is within tolerable limits?

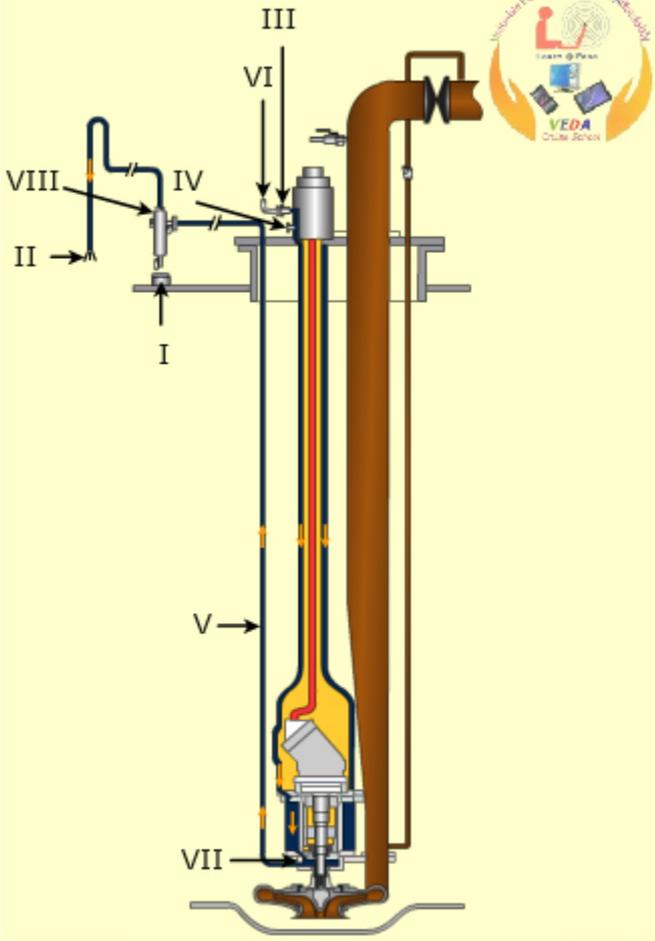
About 5 litres per day	<input type="checkbox"/>
About 2 litres per day	<input type="checkbox"/>
About 1 litre per day	<input type="checkbox"/>
About 0.25 litre per day	<input checked="" type="checkbox"/>

6.



(1)

From the below illustration, identify the name of the marking "V".



811091

(c) Veda

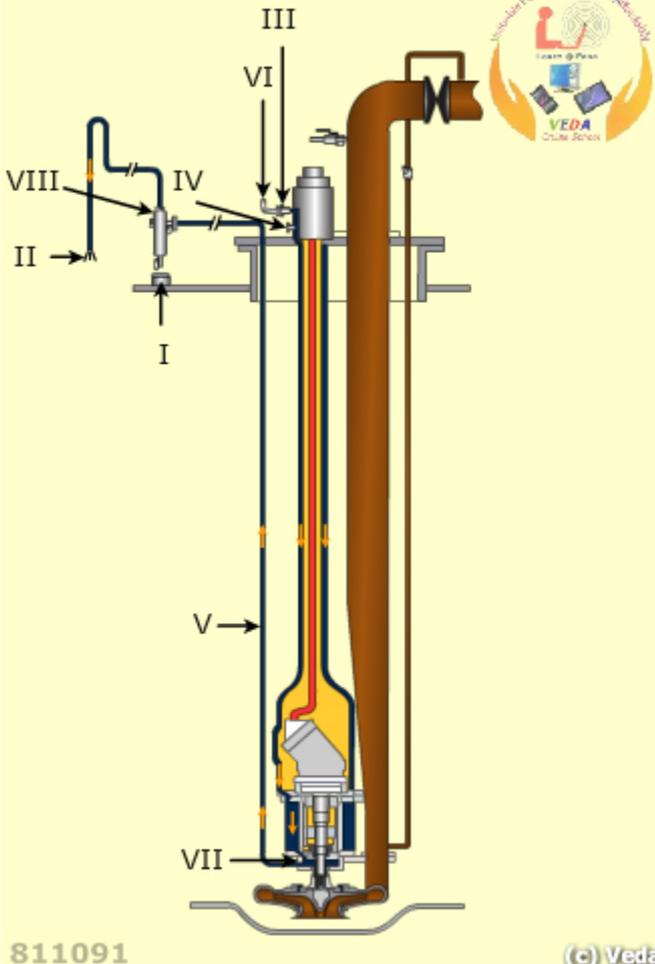
Diffuser	<input checked="" type="radio"/>
Shaft	<input type="radio"/>
Eye (Suction)	<input type="radio"/>
Impeller	<input type="radio"/>

7.



(1)

Identify the part "VI".



Exhaust trap	
Container to collect the leakage	
Exhaust gas	
Purging medium supply	●

8. 
(1)

How do you change the Framo pump bearing?

After the cargo is pumped out and tank entry is made possible, pump is dismantled and bearing changed	
Only pump assembly is taken out using the shore crane and then dismantled and bearing changed	
Entire pump and the hydraulic motor assembly is taken out using shore pump and then pump is dismantled and bearing replaced	●
In drydock, the pump assembly is removed, dismantled and the bearing is replaced	

9. 
(1)

How do you check the leakage of oil?

The liquid cargo leaks in the pump side of the cofferdam and fills the cofferdam and can be noticed.	
--	--

The hydraulic oil leaks in the cofferdam hydraulic motor side of the cofferdam and can be noticed.

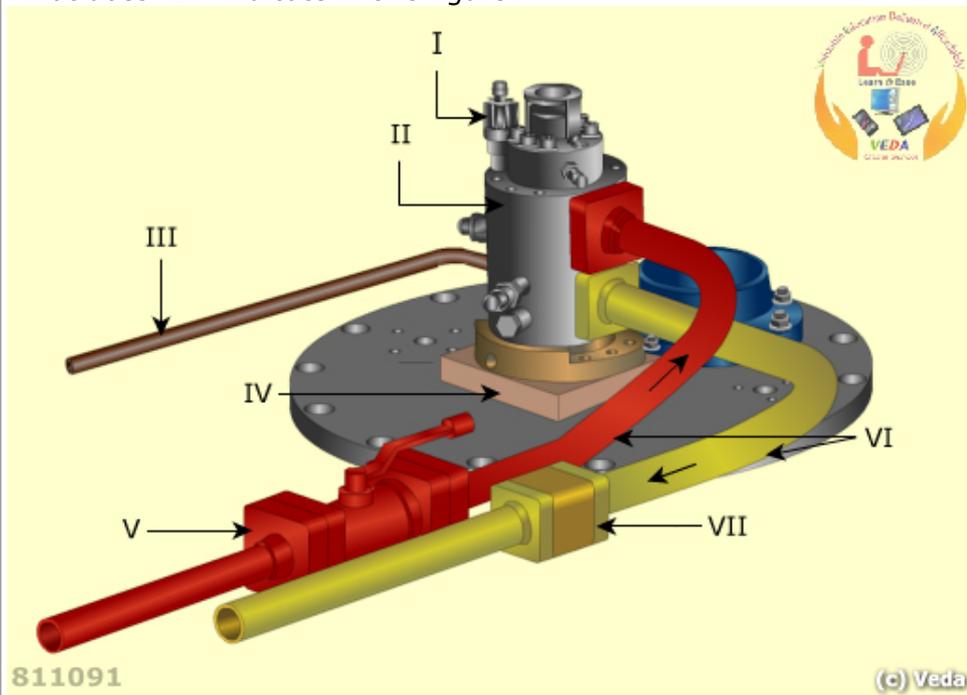
Air or inert gas, based on the type of cargo is blown through the pipe from the deck and if there is a leak on either side, oil comes out through the vent pipe and can be seen through the sight glass

10.



(1)

What does "IV" indicate in this figure?



Adaptor plate

Control line for Cargo Control Room (CCR)

Ball valve

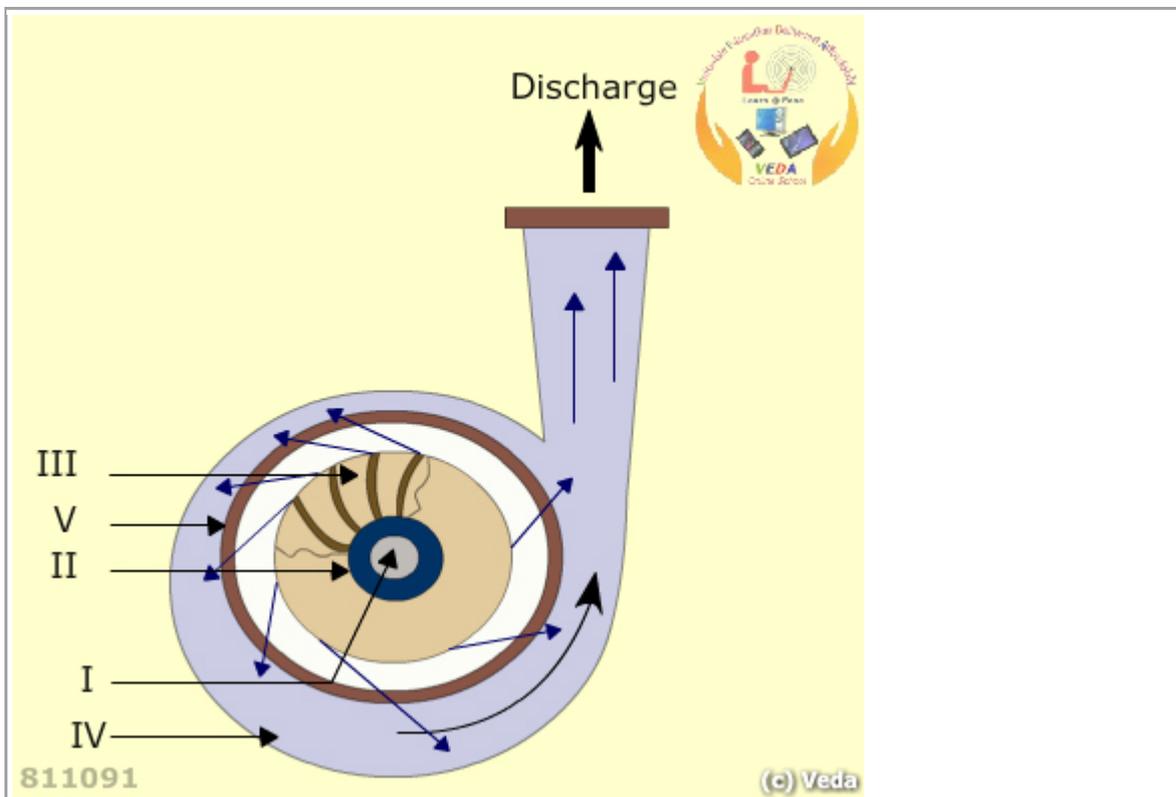
STC valve

1.



(1)

From the below illustration, identify the name of the marking "V".



Diffuser	<input checked="" type="checkbox"/>
Shaft	<input type="checkbox"/>
Eye (Suction)	<input type="checkbox"/>
Impeller	<input type="checkbox"/>

2.



(1)

Category X noxious liquid substances are deemed to present a major hazard and therefore

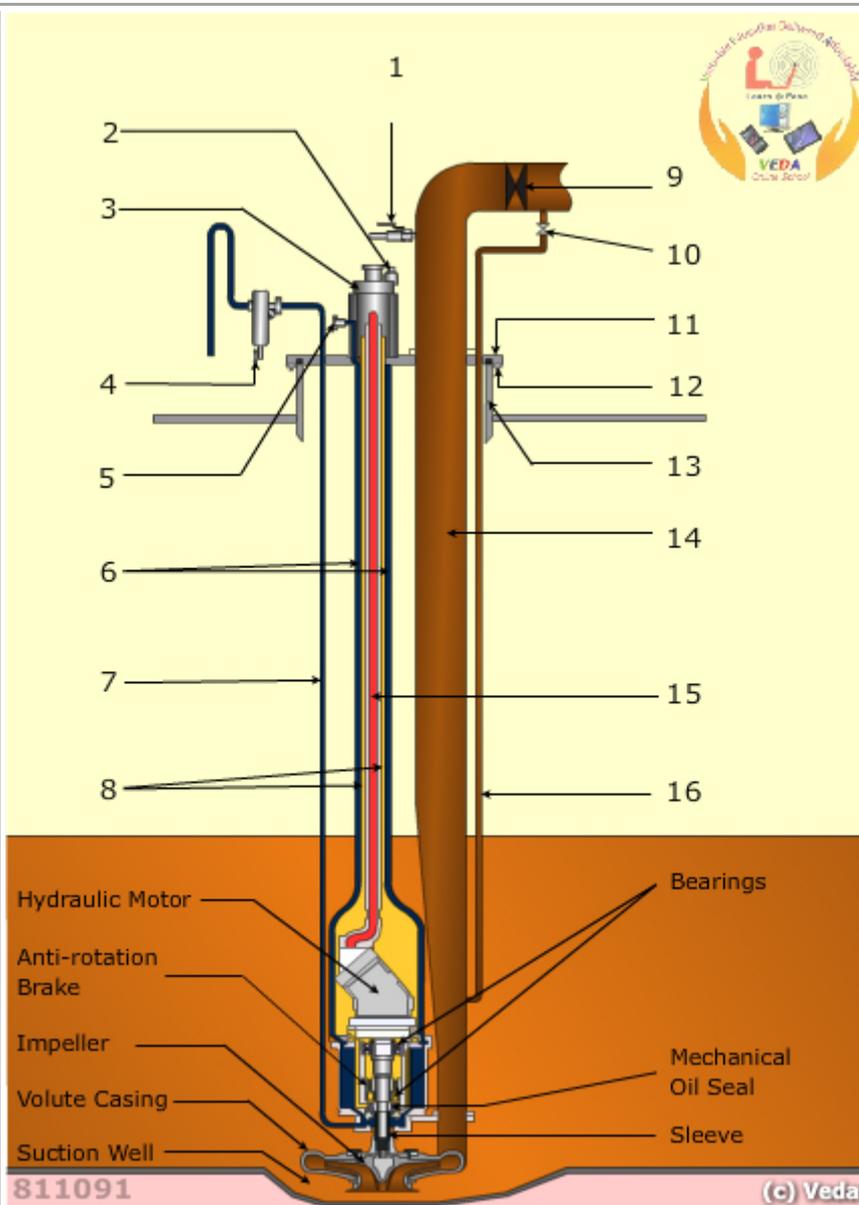
Justify the prohibition of discharge into the marine environment	<input checked="" type="checkbox"/>
Justify a limitation on the quantity of the discharge into the marine environment	<input type="checkbox"/>
Justify less stringent restrictions of discharge into the marine environment	<input type="checkbox"/>

3.



(1)

The area indicated by the number "III" is known as the _____.

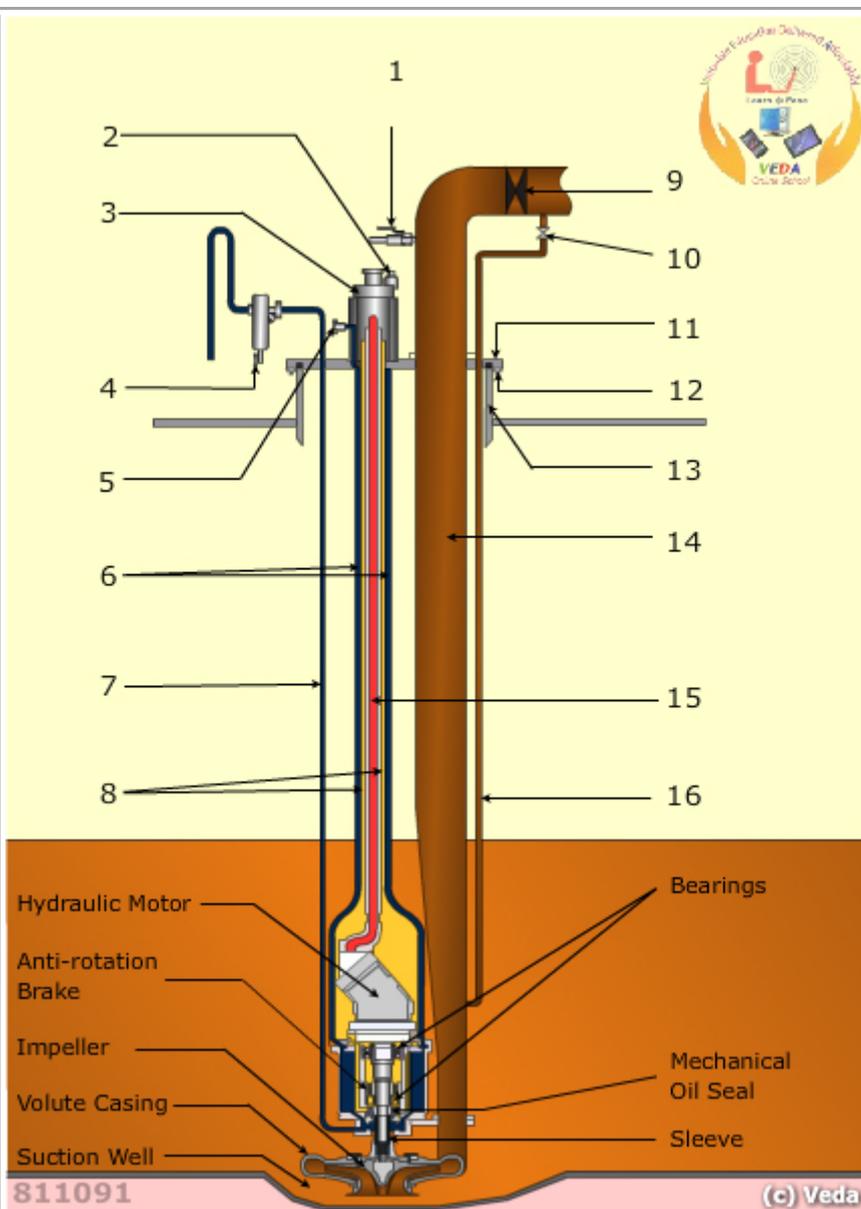


Speed Torque Control Valve	●
Cofferdam Purging	
Local Control Valve	
Cargo Purging Connection	

4.

 (1)

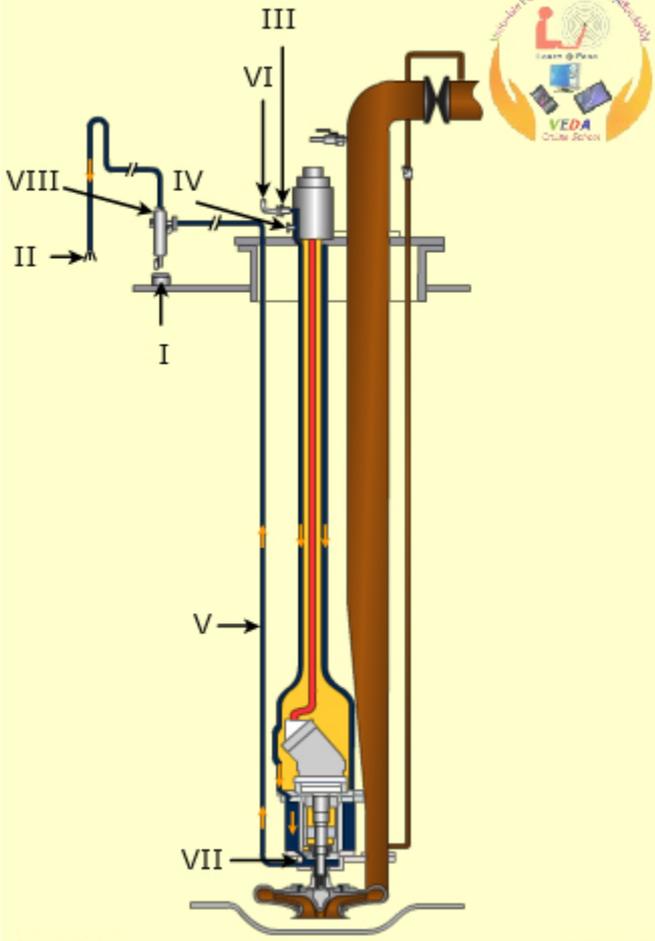
What does "V" indicate in the below diagram?



Speed Torque Control Valve	
Cofferdam Purging	●
Local Control Valve	
Cofferdam Check Pipe	

5.

 (1)
 In below diagram, "V" represents_____.



811091

(c) Veda

Exhaust gas	<input type="checkbox"/>
Relief valve	<input type="checkbox"/>
Cofferdam check pipe	<input checked="" type="checkbox"/>
Purging medium supply	<input type="checkbox"/>

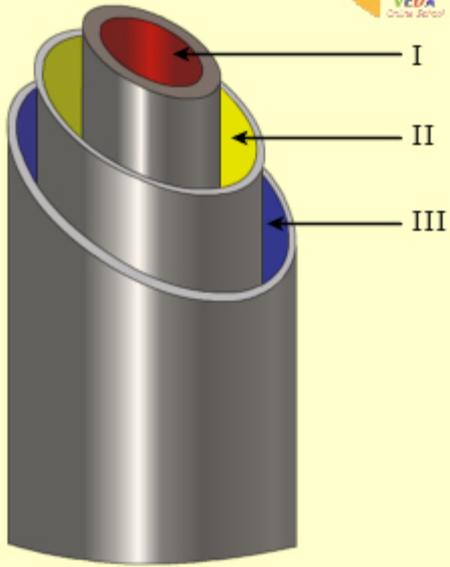
6. (1)

How the cargo seal is arranged on the cargo side of a Framo pump?

Upper single cofferdam lip seal	<input type="checkbox"/>
Lower single cofferdam lip seal	<input type="checkbox"/>
Upper double cargo lip seal	<input type="checkbox"/>
Lower double cargo lip seal	<input checked="" type="checkbox"/>

7. (1)

What does "II" indicate in the below diagram?



812050

(c) Veda

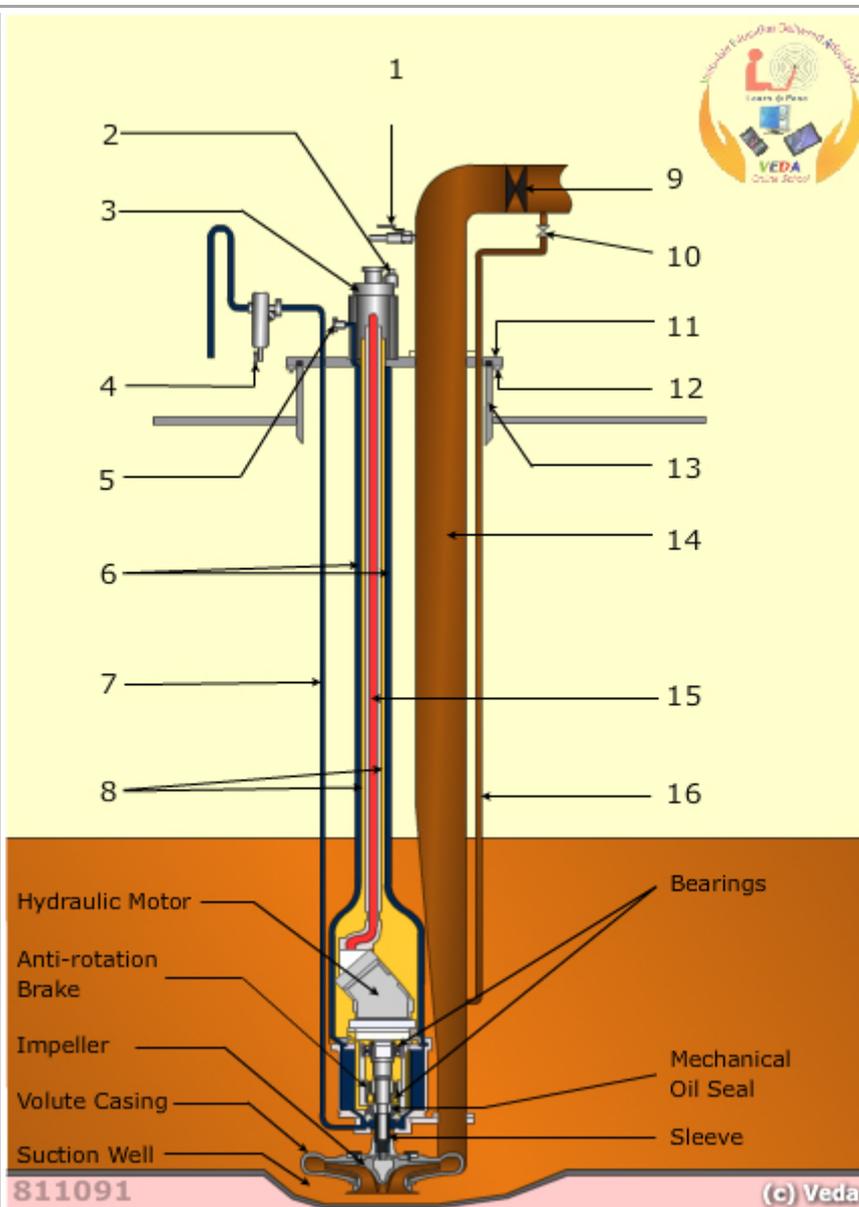
Hydraulic Oil inlet	<input type="checkbox"/>
Liquid cargo outlet	<input type="checkbox"/>
Hydraulic Oil return	<input checked="" type="checkbox"/>

8.



(1)

From the below illustration, identify the name of the marking "14".



Resilient Mounting	
Deck Trunk	
Cargo Pipe	●
Hydraulic Pressure Pipe	

9. (1)

The lowest temperature at which the liquid NLS cargo remains a fluid is called the:

The flow point	
The pour point	●
The melting point	
The Liquefaction point	

10. (1)

Why the cargo pump in the Framo cannot be overloaded?

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the flow is always kept constant

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pump runs at the optimum speed

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, when the pump over speeds, the flow of oil is reduced

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pressure can run the pump at 75% of the capacity

1.



(1)

How the volute casing in a centrifugal pump is designed for conversion of energy?

Volute casing has a cylindrical structure, having same area at the liquid entry and exit

Volute casing has a cycloid shaped structure, having a larger opening at the suction and the size gradually decreases along the passage of liquid

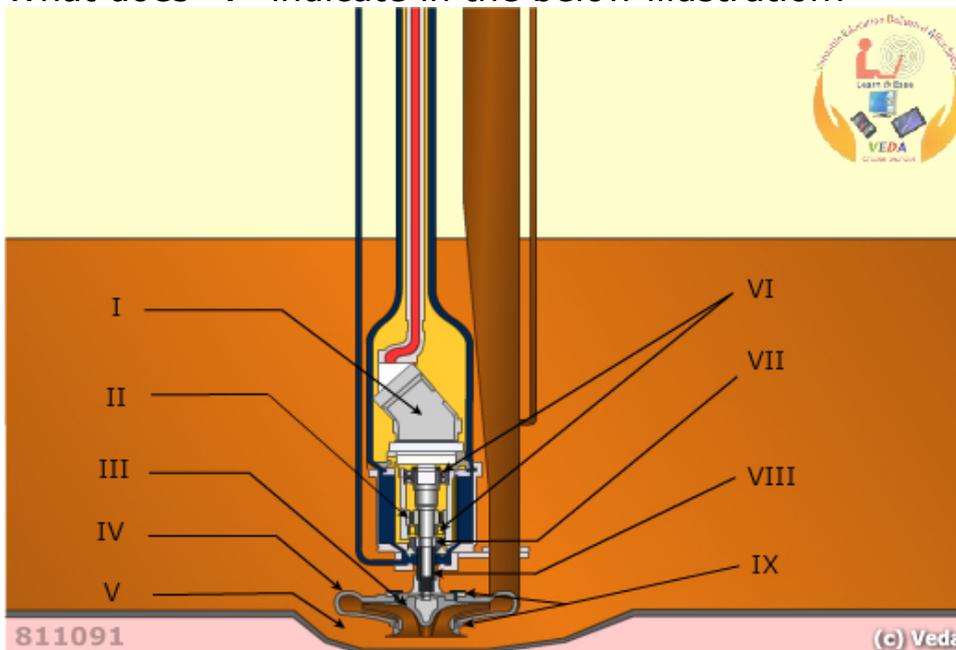
Volute casing has a spiral structure. It has narrow opening at the entry of liquid and the size of opening increases along the passage of liquid

2.



(1)

What does "V" indicate in the below illustration?



Bearings

Mechanical Oil Seal

Suction Well

Sleeve

3.



(1)

Who adjusts the adjusting screw on the STC?

By the chief officer during normal operation

By the cargo surveyor during the survey of the cargo tank and sealed

By the surveyor during the overhaul and survey of the Framo pump and the Framo system and sealed

By the Framo system manufacturers only and sealed

4.



(1)

The lowest temperature at which the liquid NLS cargo remains a fluid is called the:

The flow point

The pour point

The melting point

The Liquefaction point

5.



(1)

What does the sensor check to activate closed suction valve trip?

In the old version of Framo system, when the wheel on the valve stem touches the sensor in its closed position, the trip is activated. In the new version a proximity sensor does the same function

In the old version of Framo system, when the wheel on the valve stem touches the sensor in its midway position, the trip is activated. In the new version a proximity sensor does the same function

In the old version of Framo system, when the wheel on the valve stem touches the sensor in its open position, even when is slightly closed, the trip is activated. In the new version a proximity sensor does the same function

6.



(1)

From where the pilot pressure controller is remotely controlled?

From local station on the deck

From Cargo control room

From Engine control room

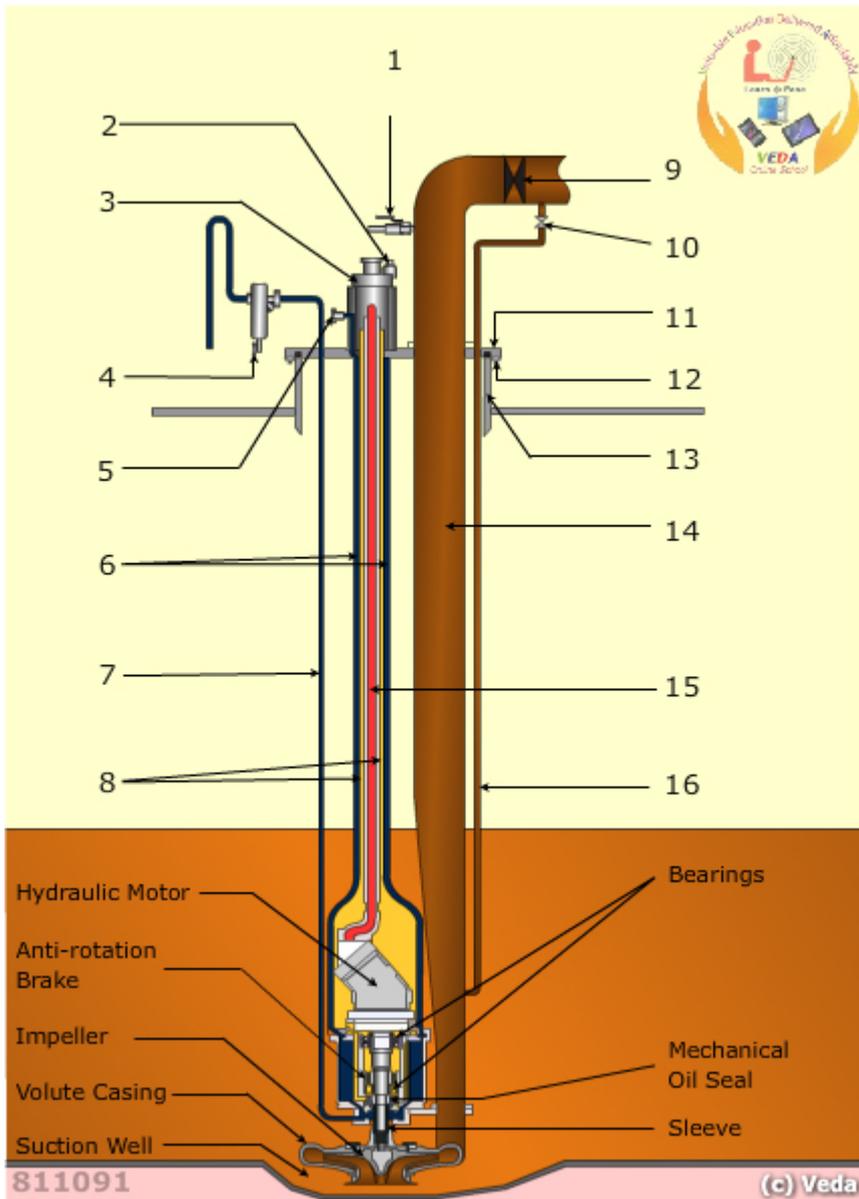
From the Bridge

7.

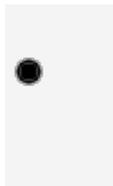


(1)

The number "10" indicates a_____.

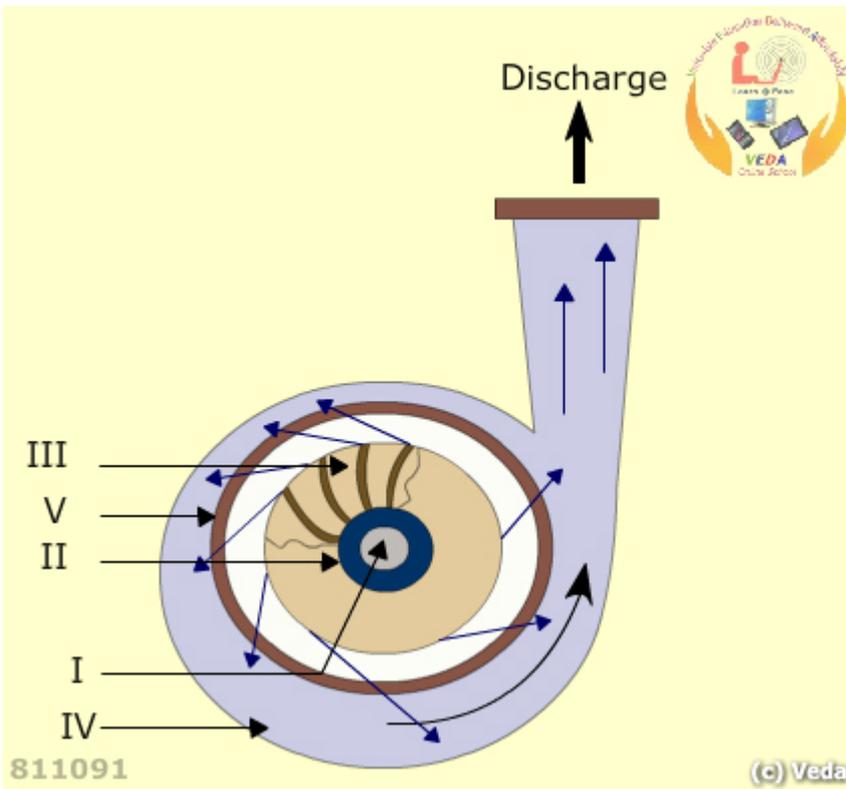


Top Plate
 Stripping Valve
 Resilient Mounting
 Deck Trunk



8.
 (1)

What does "I" stand for in the image given below?

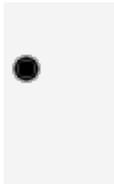


Eye (Suction)

Shaft

Impeller

Diffuser



9.



(1)

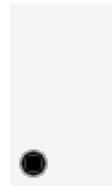
From which place the Framo pump can be started?

Framo pump can be started only from the Cargo control room

Framo pump can be started only from the Engine control pump

Framo pump can be started only from local control

Framo pump can be started either locally or from the cargo control room



10.



(1)

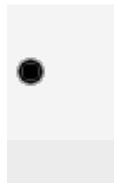
Where from the pilot pressure controller is remotely controlled?

From local station on the deck

From Cargo control room

From Engine control room

From the Bridge



1.



(1)

An inert gas system is required to be fitted:

On all tankers of above 20,000 tonnes deadweight
On product tankers of above 20,000 tonnes deadweight
On crude oil tankers of above 20,000 tonnes deadweight
On chemical tankers of above 20,000 tonnes deadweight

2.



(1)

What is the major reason for the cofferdam seals worn out?

Due to the lips rubbing against the shaft, lip seal worn out
Many times the lip seal edges get broken down, leading to larger wear
Due to improper assembly

3.



(1)

Submersible pumps found in chemical tankers are normally made of

Aluminium alloy
Fiber
stainless steel
nickel alloy

4.



(1)

The total capacity of the slop tank or tanks should be not less than what percentage of the oil-carrying capacity of the vessel ?

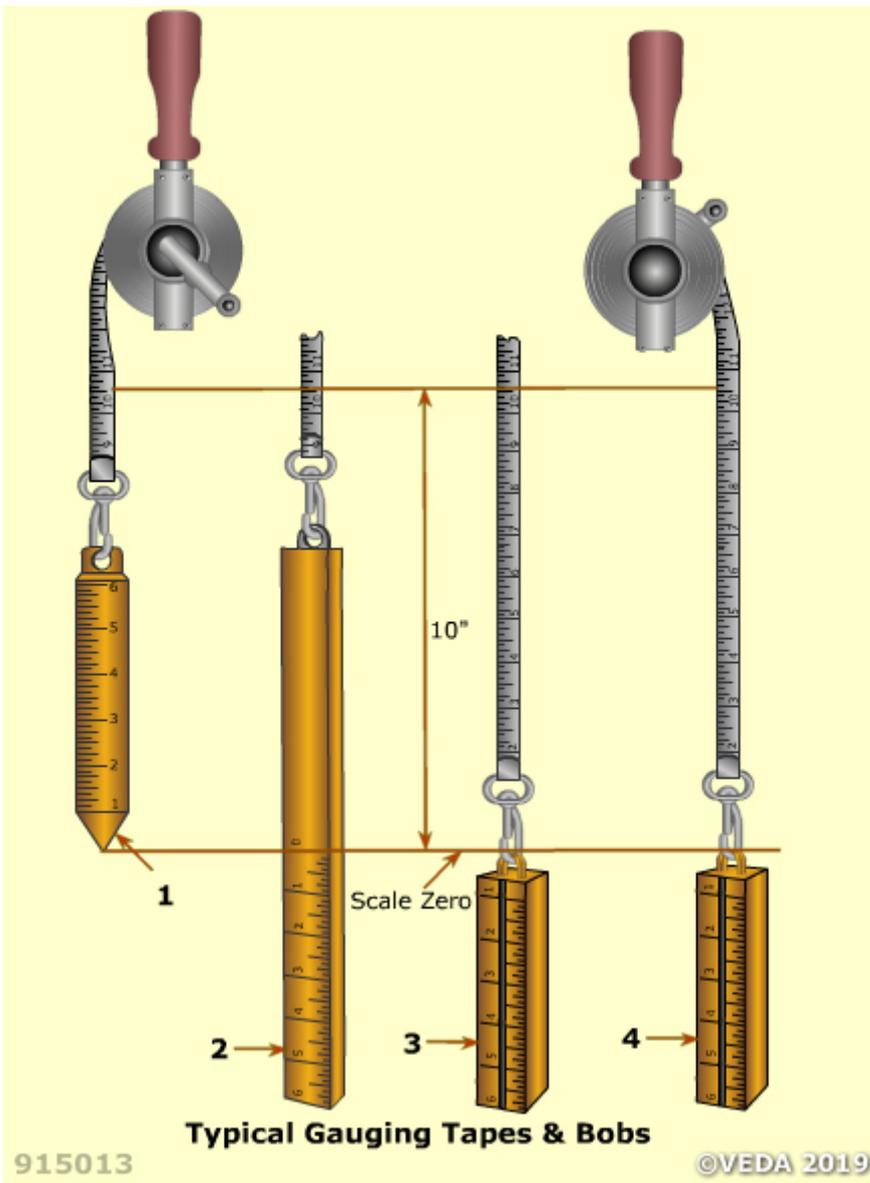
3%
5%
7%
10%

5.



(1)

Several types of bobs connected to handheld tapes: Identify those correctly,



1-Innage Bob; 2-Plain Ullage Bob; 3-Extension Outage Bob; 4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Deep-grooved ullaged Bob; 4-Plain Ullage Bob

1-Extension Outage Bob; 2-InnageBob ; 3-Plain Ullage Bob; 4-Deep-grooved ullaged Bob

1-Innage Bob; 2-Extension Outage Bob; 3-Plain Ullage Bob; 4-Deep-grooved ullaged Bob

6. (1)

With respect to Stainless steel tanks, select the correct statement from below?

Carbon fibre spindle packings not expensive

Stainless steel provides for a greater ease in tank cleaning and inspection.

The drive liquid has to be same as the stripped cargo

Fibre spindle packings not expensive

7. (1)

A type 1 chemical tanker is intended to transport cargoes that have

- Severe environmental and safety hazards
- Appreciably severe environmental and safety hazards
- Sufficiently severe environmental and safety hazards

8.



(1)

Statements on Float Gauges; identify the key statement of importance for maintenance,

Tapes should be checked regularly for free vertical movement of the float, and if damaged, should be replaced.

Particular care is necessary with the rewind mechanisms which are carefully balanced: if obstructed, the gauge readings will be inaccurate;

When tapes are renewed, or a gauge reassembled after maintenance, allowance should be made for the level at which the float begins to lift. Manufacturer's instructions should be consulted;

Parts should be securely assembled: special care is necessary with tape-to-float and tape-to-reel attachments.

9.



(1)

The lowest temperature at which the liquid NLS cargo remains a fluid is called the:

- The flow point
- The pour point
- The melting point
- The Liquefaction point

10.



(1)

A gas venting system on a tanker that has gas lines in each tank connected to a common gas main running the full length of the ship is called:

- A gas-main system
- A common-main system
- A vent-main system
- An independent system

1.



(1)

What is the purpose of the Feed Pump?

- To feed hydraulic oil to the Hydraulic oil system
- To remove excess oil from the hydraulic system to send back to the hydraulic tank
- To circulate hydraulic oil in the system continuously
- To remove air from the hydraulic system

2.



(1)

Is it necessary to maintain purging records of the cofferdam?

No the record need not be maintained

Yes, the record is to maintained only if there is leakage of the cargo oil

Yes, the record is to maintained only if there is leakage of the hydraulic oil

Yes, the purging record is to be maintained for the current and all the previous voyages

3.



(1)

How many alarms are there in the hydraulic tank for detecting the oil level?

One

Two

Three

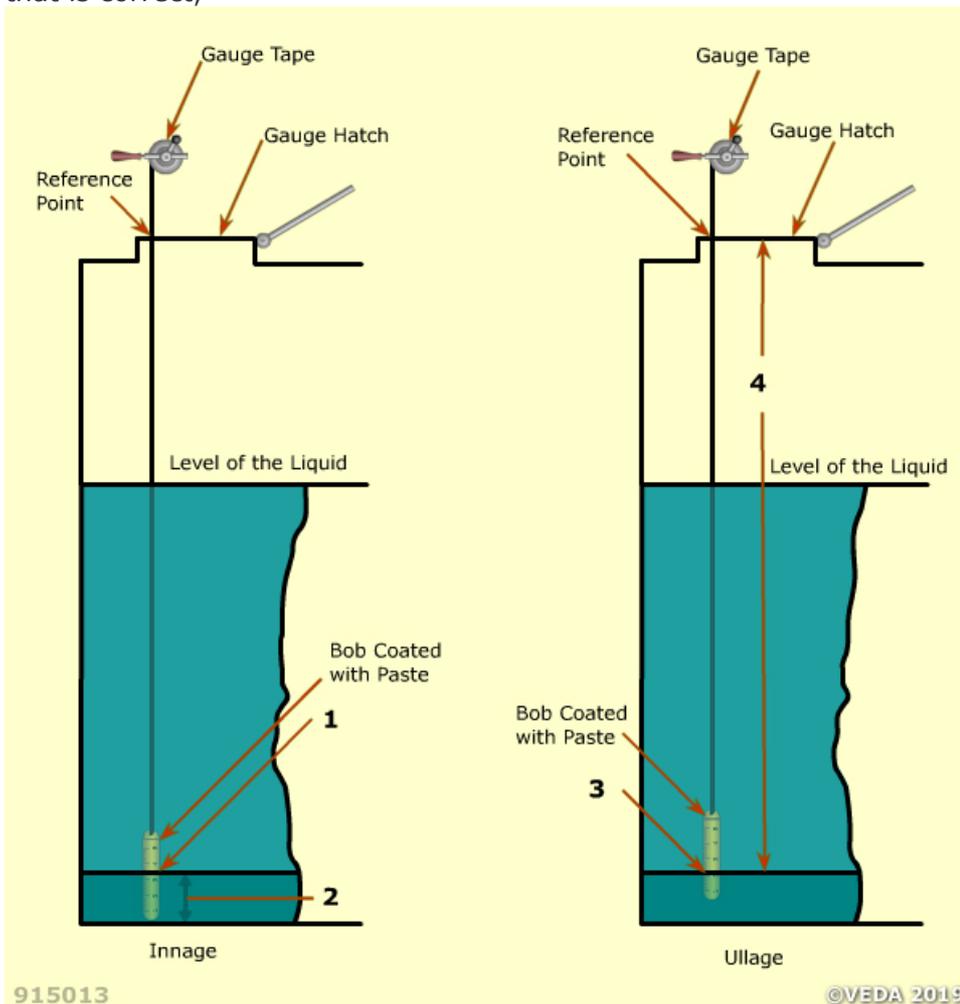
Four

4.



(1)

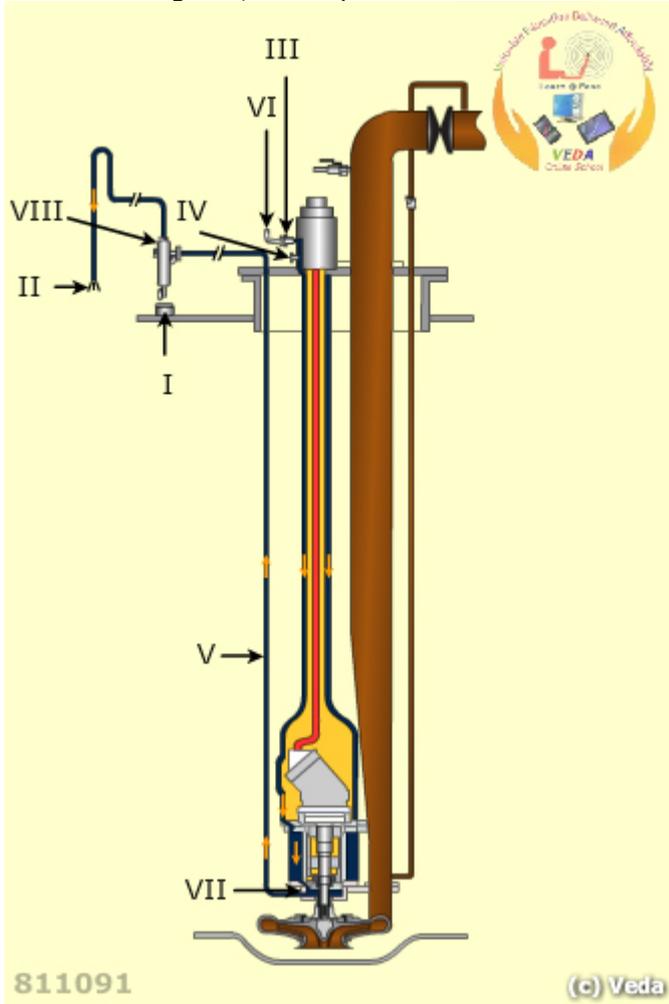
Tank level measurement of free water by gauging tape and plumb bob: find the labeling combination that is correct,



- 1 Water Innage; 2-Water Cut; 3- Water Cut; 4- Water Ullage
- 1- Water Cut; 2- Water Innage; 3- Water Cut; 4- Water Ullage
- 1- Water Cut; 2- Water Innage; 3- Water Ullage; 4- Water Cut
- 1- Water Cut; 2- Water Cut; 3- Water Innage ; 4- Water Ullage

5.  (1)

In below diagram, "V" represents _____.



- Exhaust gas
- Relief valve
- Cofferdam check pipe
- Purging medium supply

6.  (1)

Tanks of tankers do not exceed:

- 0.1 of ship's length
- 0.15 of ship's length
- 0.2 of ship's length
- 0.25 of ship's length

7.



(1)

Normally when do you use the local control valve?

In case of emergencies only

During stripping and tank cleaning operation

During normal operation



8.



(1)

Why cofferdam is to be filled with different liquid, if some solidifying cargo is carried?

Because cofferdam cannot be purged

Because we will not know if the other side seal also leaks

Because the cofferdam should not be filled with solidifying cargo even if the seal leaks



9.



(1)

How the Framo pump has almost eliminated cavitation for free flowing liquids?

Volute casing is designed in such a way, that its smoothness avoids cavitation

The backwards curved vanes eliminate the cavitation

The hydrofoil design of the curved vanes, eliminate cavitation

Since the suction pipe is eliminated, cavitation is also eliminated for liquids with free flow



10.



(1)

When the hydraulic pump lines to the hydraulic motor lines are slightly corroded, it is better to run?

One cargo pump at a time with more than 100% capacity

One or two cargo pumps at a time with 100%

More pumps at a time in parallel in such a way that each pump operates at 40 50% capacity

Do not run the cargo pump at all, else you get into pollution issues



1.



(1)

A deepwell pump is a type of _____.

screw pump

centrifugal pump

eductor

gear pump



2.



(1)

Ullaging precautions: Even though it is not difficult, close attention is necessary when measuring ullage since it can result in inaccuracies. Normally inaccuracy in ullage can result because of one of the following reasons: identify the most important one,

Measuring technique improper

Worn-out or non-standard equipment for measuring

Accuracy in ullage and temperature insufficient

The ship is floating on water and there is liquid cargo in the tanks and that results in motion of the surface of the cargo during measurement.

3.



(1)

The pipeline system that has valves fitted on bulkheads is called:

The direct line system

The free flow system

The ring main system

The free line system

4.



(1)

What is the pressure of the hydraulic oil in the inlet side for running the hydraulic motor?

Around 50 Bar

Around 170 bar

Around 100 bar

Around 25 bar

5.



(1)

What is the purpose of the Feed Pump?

To feed hydraulic oil to the Hydraulic oil system

To remove excess oil from the hydraulic system to send back to the hydraulic tank

To circulate hydraulic oil in the system continuously

To remove air from the hydraulic system

6.



(1)

What alarm comes when the hydraulic power pack is off and the running feed pump stops?

Hydraulic pressure high

Moisture ingress into the system

Air suction into the system

Protection pressure low

7.



(1)

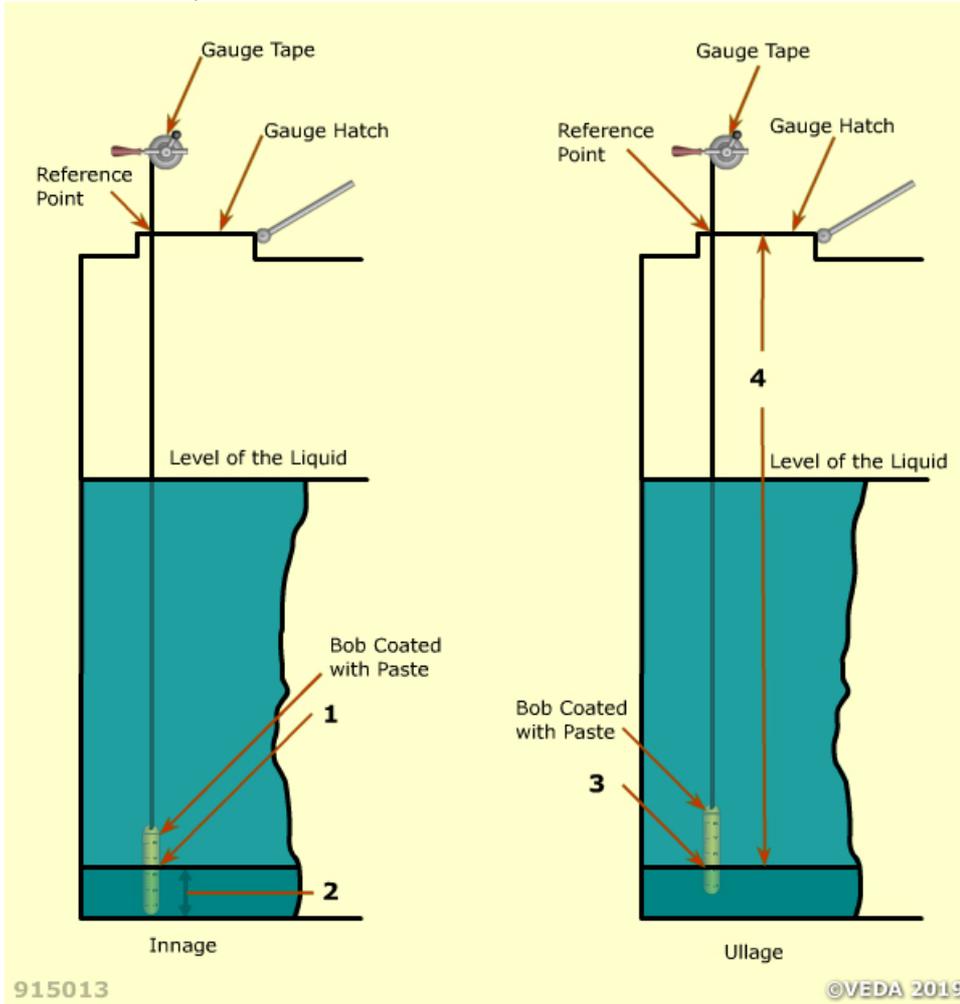
The ring main pipeline system is extensively used on:

- VLCCs
- Crude oil tankers
- Medium range tankers
- Product carriers

8.

 (1)

Tank level measurement of free water by gauging tape and plumb bob: find the labeling combination that is correct,

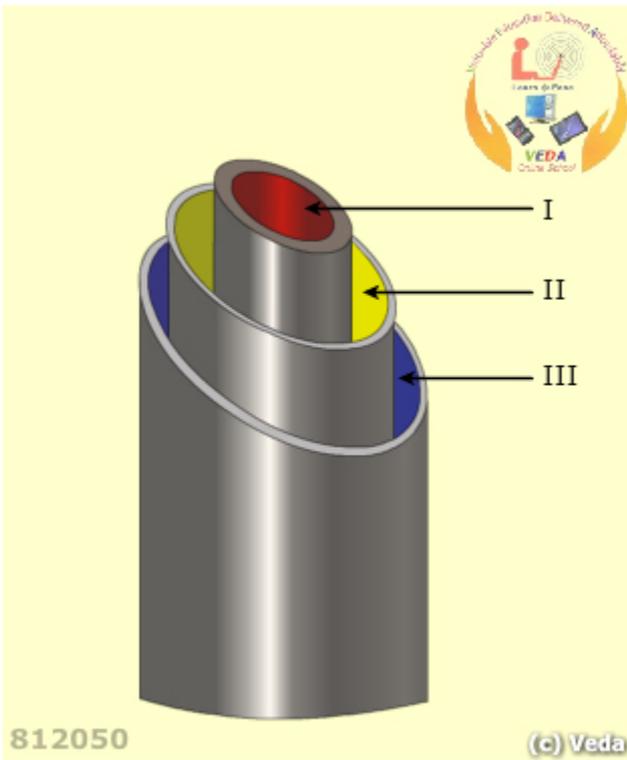


- 1 Water Innage; 2-Water Cut; 3- Water Cut; 4- Water Ullage
- 1- Water Cut; 2- Water Innage; 3- Water Cut; 4- Water Ullage
- 1- Water Cut; 2- Water Innage; 3- Water Ullage; 4- Water Cut
- 1- Water Cut; 2- Water Cut; 3- Water Innage ; 4- Water Ullage

9.

 (1)

Which number represents Liquid cargo outlet in the below illustration?



- III
- I
- II

10. (1)

How many alarms are there in the hydraulic tank for detecting the oil level?

- One
- Two
- Three
- Four

1. (1)

How the STC prevents pump from over speeding?

- By the use of the local control valve and reducing the flow to the Framo pump motor
- By the use of the control valve from the cargo control room and reducing the flow to the Framo pump motor
- STC regulates hydraulic oil pressure and prevents excess pressure or flow to the Framo pump motor
- By the use of the control valve from the engine control room and reducing the flow to the Framo pump motor

2. (1)

With respect to Stainless steel tanks, select the correct statement from below?

Low carbon contents are required to make the steel corrosion resistant near the welds. Carbon tends to bind chromium to form chromium carbide in the heat affected zone near the welds, reducing the corrosion resistance locally.

Carbon fibre spindle packings not expensive

Carbon fibre spindle packings do have the advantage of low friction

The drive liquid has to be same as the stripped cargo

3.



(1)

After purging the cofferdam, you find that the liquid cargo is leaking too much, what is to be done?

Find out where the leakage is from and change the corresponding seal, after pumping out the cargo using portable pump

Stop the pump and change the cofferdam seal, after pumping out the cargo using portable pump

Stop the pump and change the three seals namely cofferdam seal, cargo seal, pump head seal etc after pumping out the cargo using portable pump

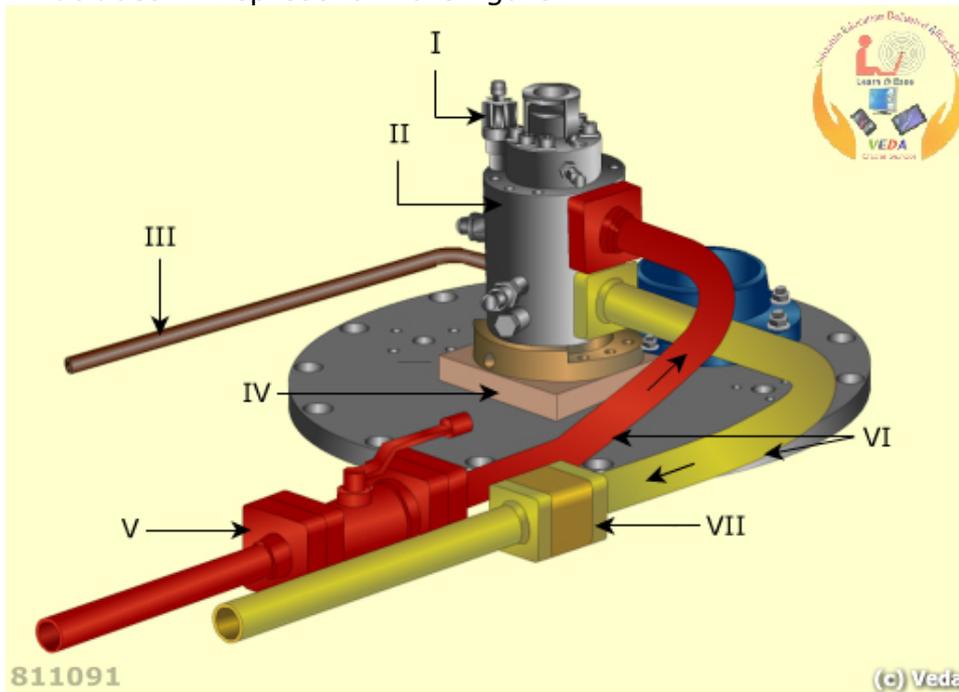
Keep running the pump till the cargo is pumped out and then change the seal

4.



(1)

What does 'V' represent in the figure?



Ball valve

Control line for Cargo Control Room (CCR)

Local control valve

Non return valve

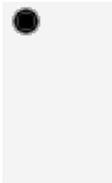
5.



(1)

When coating a patch as part of maintenance, the film thickness should be

200 to 300 microns
 300 to 400 microns
 not less than 400 microns
 If above 200 micron, it will flake off

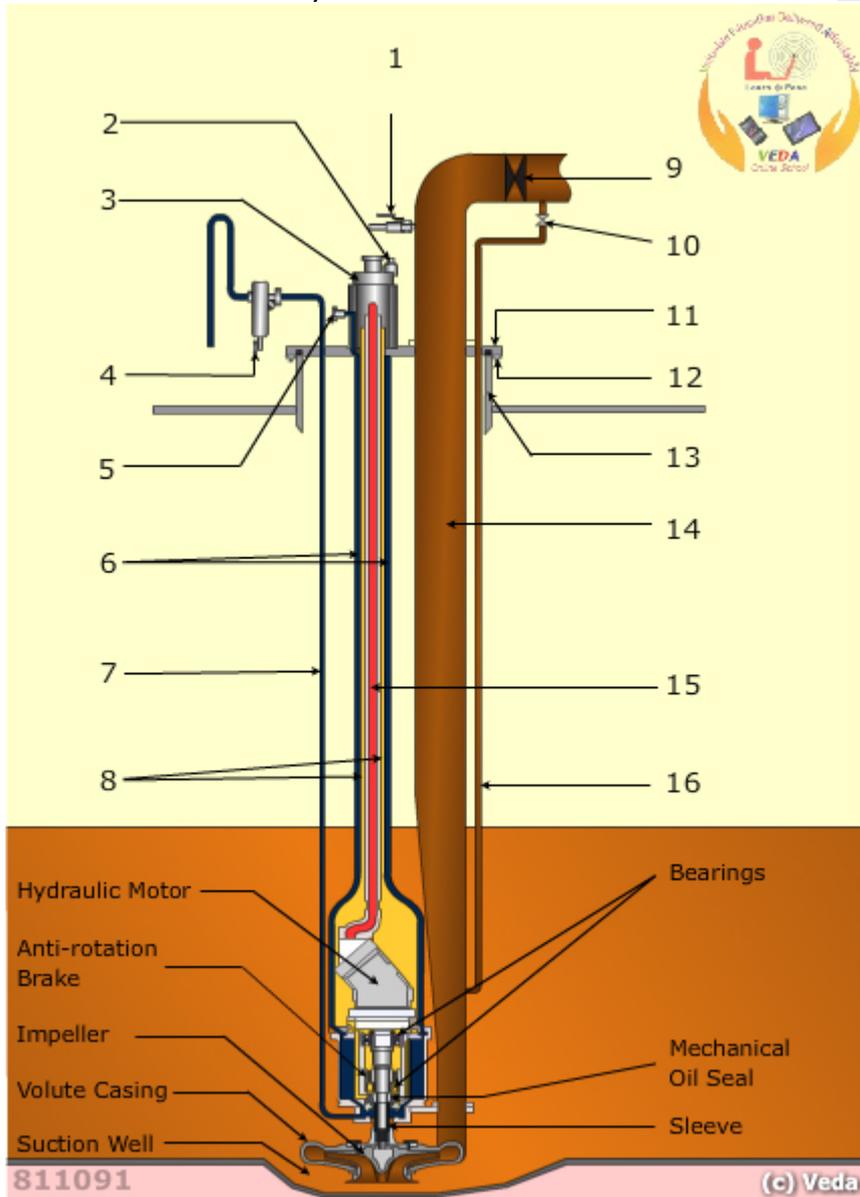


6.

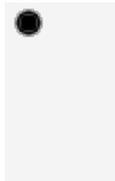


(1)

The area indicated by the number "III" is known as the _____.



Speed Torque Control Valve
 Cofferdam Purging
 Local Control Valve
 Cargo Purging Connection



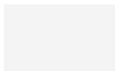
7.



(1)

Select the correct point regarding the operation of the portable pumps?

Before using portable pump, rig the pump on the deck and while pumping, lower the hose in the tank



When the liquid cargo level goes down, lower the hose accordingly, keeping the rigged pump on the deck

Make sure that the portable pump is completely submerged and lowered till the bottom of the tank and then start the pumping operation

Ensure that only the lower half of the pump is submerged and is lowered as the cargo level falls.

8.



(1)

Where is the sensor placed to activate the low level alarm and state the reason for the same?

The sensor for the oil level measurement in the hydraulic tank is kept just above the normal hydraulic oil level. This ensures that any leakage in the line will be immediately detected without the loss of much of hydraulic oil.

The sensor for the oil level measurement in the hydraulic tank is kept just below the normal hydraulic oil level. This ensures that any leakage in the line will be immediately detected without the loss of much of hydraulic oil.

The sensor for the oil level measurement in the hydraulic tank is kept at the 50% of the tank height. This ensures that oil can be filled in the hydraulic tank immediately before the pump loses suction.

The sensor for the oil level measurement in the hydraulic tank is kept at the 30% of the tank height. This ensures that oil can be filled in the hydraulic tank immediately before the pump loses suction.

9.



(1)

After purging the cofferdam, you find that the viscous liquid cargo is leaking, how much of leakage of viscous liquid cargo is within tolerable limits?

About 5 litres per day

About 2 litres per day

About 1 litre per day

About 0.25 litre per day

10.



(1)

Submersible pumps found in chemical tankers are normally made of

Aluminium alloy

Fiber

stainless steel

nickel alloy

1.



(1)

Why the cargo pump in the Framo cannot be overloaded?

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the flow is always kept constant

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pump runs at the optimum speed

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, when the pump over speeds, the flow of oil is reduced

The pressure of hydraulic oil to the motor driving the cargo pump is designed in such a way that, the pressure can run the pump at 75% of the capacity

2.



(1)

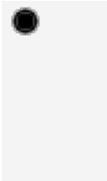
Normally at what pressure of hydraulic oil, the portable pumps work?

180 bar

120 bar

15 bar more than the manifold pressure

75 bar



3.



(1)

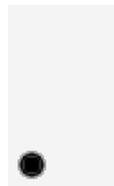
What alarm comes when the hydraulic power pack is off and the running feed pump stops?

Hydraulic pressure high

Moisture ingress into the system

Air suction into the system

Protection pressure low



4.



(1)

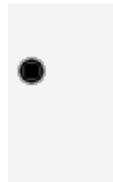
From where the pilot pressure controller is remotely controlled?

From local station on the deck

From Cargo control room

From Engine control room

From the Bridge



5.



(1)

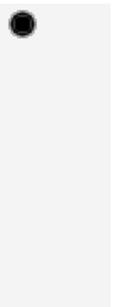
How stripping is done in Framo pumps?

Close cargo discharge valve, open ball valve on the stripping line and pressurise the discharge line by connecting the air or inert gas line. Press the cargo out through the stripping line into the cargo line

Keep cargo discharge valve opened, close ball valve on the stripping line and pressurise the discharge line by connecting the air or inert gas line. Press the cargo out through the stripping line into the cargo line

By using a separate stripping pump

Stripping is done by vacuum draining



6.



(1)

The total capacity of the slop tank or tanks should be not less than what percentage of the oil-carrying capacity of the vessel ?

3%



5%
7%
10%

7.



(1)

How many alarms are there in the hydraulic tank for detecting the oil level?

One
Two
Three
Four

8.



(1)

The vacuum strip system was developed on oil tankers to

remove all hydrocarbon gases from the tanks after discharging
prevent cavitation in centrifugal cargo pumps
quickly remove rain water collecting on deck
discharge cargo without any human intervention

9.



(1)

With respect to maintenance of coatings, select the correct statement from below?

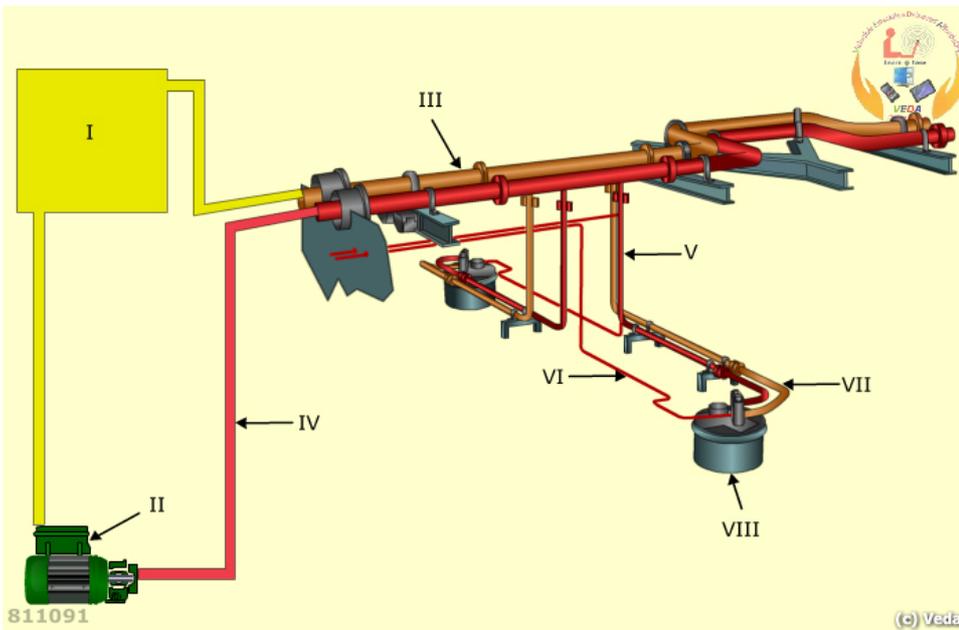
The drive liquid has to be same as the stripped cargo
It is very efficient in striping crude oil of high vapour pressure
The tank wall may have to be warmed up (preferably from behind) in order to insure that there is no risk for condensation on the surface.
The discharge from eductor leads to pump room bilge

10.

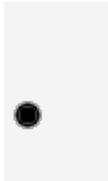


(1)

Identify the part "III".



- Return line from the pump
- Cargo pump
- Low pressure main hyd oil line
- HP line to the pump



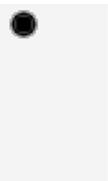
1.



(1)

How the cargo seal is arranged on the hydraulic motor side of a Framo pump?

- Upper single cofferdam lip seal
- Lower single cofferdam lip seal
- Upper double cargo lip seal
- Lower double cargo lip seal



2.



(1)

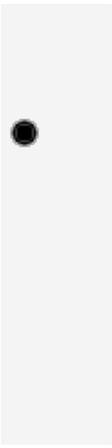
Where is the sensor placed to activate the low level alarm and state the reason for the same?

The sensor for the oil level measurement in the hydraulic tank is kept just above the normal hydraulic oil level. This ensures that any leakage in the line will be immediately detected without the loss of much of hydraulic oil.

The sensor for the oil level measurement in the hydraulic tank is kept just below the normal hydraulic oil level. This ensures that any leakage in the line will be immediately detected without the loss of much of hydraulic oil.

The sensor for the oil level measurement in the hydraulic tank is kept at the 50% of the tank height. This ensures that oil can be filled in the hydraulic tank immediately before the pump loses suction.

The sensor for the oil level measurement in the hydraulic tank is kept at the 30% of the tank height. This ensures that oil can be filled in the hydraulic tank immediately before the pump loses suction.



3.



(1)

Where is STC fitted?

Inside the tank, above the hydraulic motor

Between the hydraulic motor and the Framo pump

It is on the Power pack

It is fitted on top plate of the pump's hydraulic oil inlet on main deck



4.



(1)

Ullaging precautions: Even though it is not difficult, close attention is necessary when measuring ullage since it can result in inaccuracies. Normally inaccuracy in ullage can result because of one of the following reasons: identify the most important one for a small new tankship engaged in lightering operation,

The datum point for ullage may be eroded due to years of service.

An old ullaging tape may be elongated or the eye connecting the bob may be worn out increasing the overall length.

Bad weather or darkness can increase the inaccuracies if observed by tired or inexperienced crew

Steps must be taken to minimize these inaccuracies so that the ship's figure of cargo quantity correlates with the shore figures.



5.



(1)

With respect to Stainless steel tanks, select the correct statement from below?

Carbon fibre spindle packings not expensive

Stainless steel provides for a greater ease in tank cleaning and inspection.

The drive liquid has to be same as the stripped cargo

Fibre spindle packings not expensive



6.



(1)

Which pump must always be primed?

Centrifugal pump

Reciprocating pump

Rotary pump



7.



(1)

The ring main pipeline system is extensively used on:

VLCCs

Crude oil tankers

Medium range tankers

Product carriers

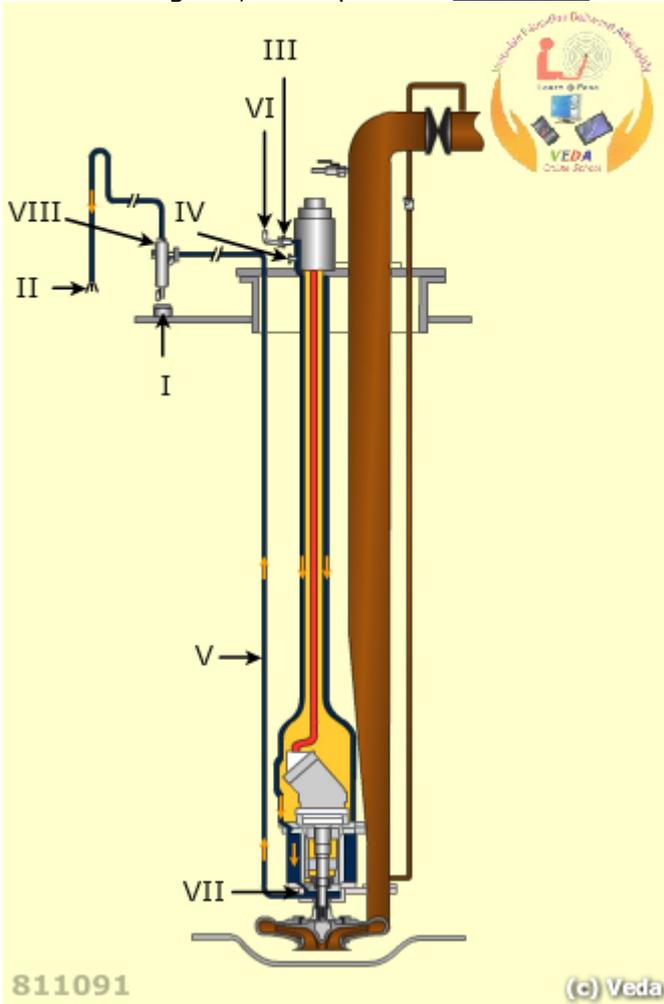


8.



(1)

In below diagram, "V" represents _____.

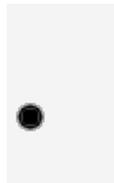


Exhaust gas

Relief valve

Cofferdam check pipe

Purging medium supply



9.



(1)

Back flow of inert gas is prevented by:

An isolating valve

The deck water seal

A valve provided in the scrubber

The deck mechanical non-return valve



10.



(1)

A liquid-filled pressure vacuum breaker

is fitted on the tank dome

is fitted on the main deck a tanker

is fitted on the inert gas main line of a tanker

is fitted in the pump room



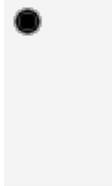
1.



(1)

Tank bulkheads on a tanker are strengthened using:

- Web frames, transverse webs and stringers.
- Longitudinals, transverse webs and stringers.
- Web frames, transverse webs and gusset plates.
- Gusset plates, transverse webs and longitudinals

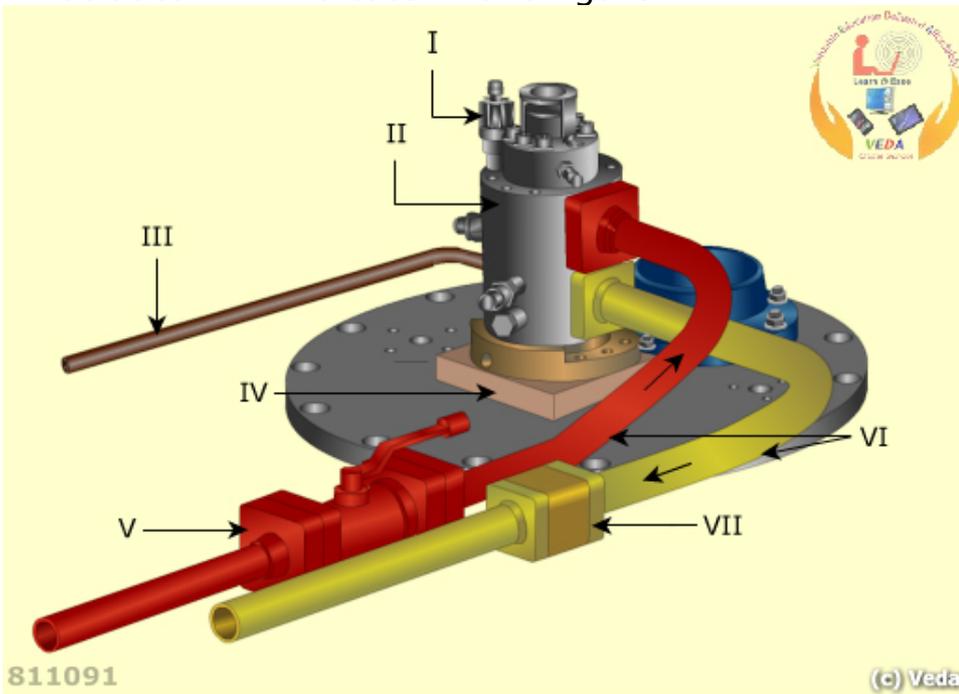


2.

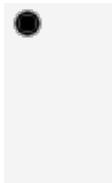


(1)

What does "IV" indicate in this figure?



- Adaptor plate
- Control line for Cargo Control Room (CCR)
- Ball valve
- STC valve



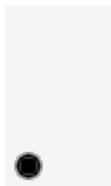
3.



(1)

Normally where are the other emergency stops for the hydraulic system located?

- On the Bridge
- Engine control room
- In the forecastle
- Manifold both port and starboard side

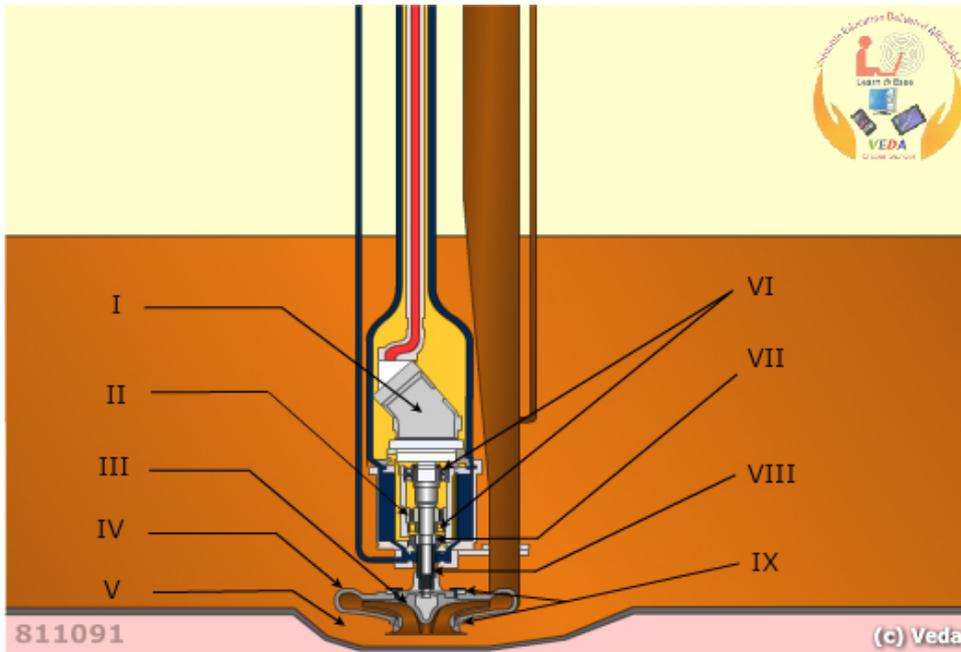


4.

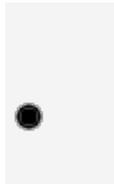


(1)

What does "V" indicate in the below illustration?



- Bearings
- Mechanical Oil Seal
- Suction Well
- Sleeve



5.



(1)

Normally when do you use the local control valve?

- In case of emergencies only
- During stripping and tank cleaning operation
- During normal operation



6.



(1)

Normally when do you use the local control valve?

- In case of emergencies only
- During stripping and tank cleaning operation
- During normal operation



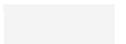
7.



(1)

Ullaging precautions: Even though it is not difficult, close attention is necessary when measuring ullage since it can result in inaccuracies. Normally inaccuracy in ullage can result because of one of the following reasons: identify the most important one for a small new tankship engaged in lightering operation,

The datum point for ullage may be eroded due to years of service.



An old ullaging tape may be elongated or the eye connecting the bob may be worn out increasing the overall length.

Bad weather or darkness can increase the inaccuracies if observed by tired or inexperienced crew

Steps must be taken to minimize these inaccuracies so that the ship's figure of cargo quantity correlates with the shore figures.

8.



(1)

Select the correct point regarding the operation of the portable pumps?

Before using portable pump, rig the pump on the deck and while pumping, lower the hose in the tank

When the liquid cargo level goes down, lower the hose accordingly, keeping the rigged pump on the deck

Make sure that the portable pump is completely submerged and lowered till the bottom of the tank and then start the pumping operation

Ensure that only the lower half of the pump is submerged and is lowered as the cargo level falls.

9.



(1)

How do you normally clear a blocked cofferdam?

Purge with very high pressure air / nitrogen

Run the cargo pump at a high speed

Run the booster cargo pump

Use steam/ solvent to clear the block

10.



(1)

How the volute casing in a centrifugal pump is designed for conversion of energy?

Volute casing has a cylindrical structure, having same area at the liquid entry and exit

Volute casing has a cycloid shaped structure, having a larger opening at the suction and the size gradually decreases along the passage of liquid

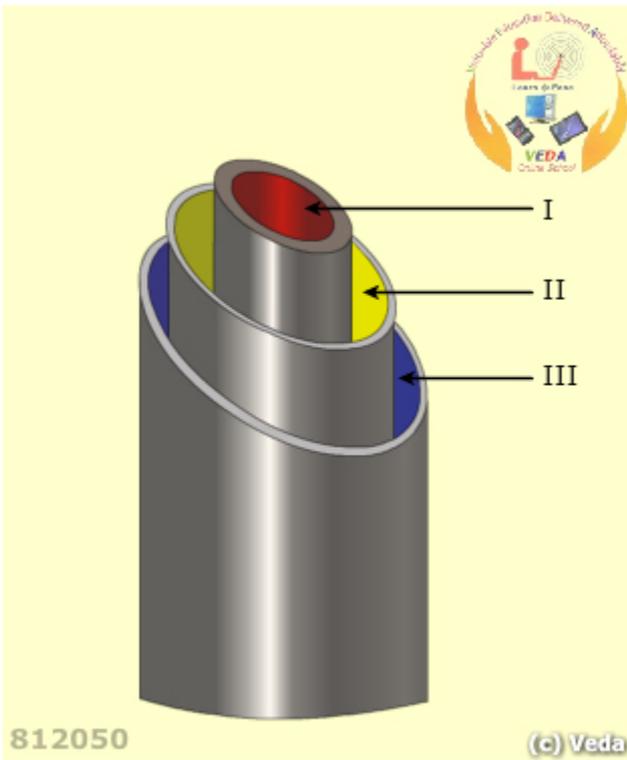
Volute casing has a spiral structure. It has narrow opening at the entry of liquid and the size of opening increases along the passage of liquid

1.



(1)

From the below illustration, identify the part marked - "I".



- Liquid cargo outlet
- Hydraulic Oil return
- Hydraulic Oil inlet

2.



(1)

In a Chemical tanker hydraulically operated submerged centrifugal cargo pump is driven by?

- Submerged electrical motor
- Electrical motor placed on deck with extended shaft
- Submerged hydraulic motor
- Hydraulic motor placed on deck with extended shaft

3.



(1)

During loading/unloading operations on a tanker the accommodation ventilation is set to:

- 70% recirculation and 30% intake from atmosphere.
- 80% recirculation and 20% intake from atmosphere.
- 90% recirculation and 10% intake from atmosphere.
- 95% recirculation and 5% intake from atmosphere.

4.



(1)

In a Chemical tanker for Framo systems, why there is a feed pump?

- To feed hydraulic oil to the variable delivery pump
- To circulate the hydraulic oil to the hydraulic tank
- To keep the hydraulic circuit pressurised at all times

To supply oil to the motor to run the cargo pump

5.



(1)

A gas venting system on a tanker that has gas lines in each tank connected to a common gas main running the full length of the ship is called:

A gas-main system

A common-main system

A vent-main system

An independent system

6.



(1)

You keep the discharge valve shut and start the Framo pump, then when do you open the discharge valve?

As the discharge pressure is building up, start to open the discharge valve

Start to crack open, when the pump starts and as it picks up keep opening the discharge valve

Open discharge valve when the pressure is more than the manifold pressure to avoid back flow

Open the discharge valve when the pressure is more than 2 bar

7.



(1)

When the hydraulic pump lines to the hydraulic motor lines are slightly corroded, it is better to run?

One cargo pump at a time with more than 100% capacity

One or two cargo pumps at a time with 100%

More pumps at a time in parallel in such a way that each pump operates at 40 50% capacity

Do not run the cargo pump at all, else you get into pollution issues

8.



(1)

From which place the Framo pump can be started?

Framo pump can be started only from the Cargo control room

Framo pump can be started only from the Engine control pump

Framo pump can be started only from local control

Framo pump can be started either locally or from the cargo control room

9.



(1)

A liquid-filled pressure vacuum breaker

is fitted on the tank dome

is fitted on the main deck a tanker

is fitted on the inert gas main line of a tanker

is fitted in the pump room

10.



(1)

If the cofferdam of a Framo pump is blocked, what can be done?

- Use the pump at the normal pressure and keep purging
- Use the pump at a higher pressure so that the blockage is removed
- Use the pump at a lower pressure so that the blockage is affected
- Never use the Framo pump with blocked cofferdam

SET 7

1.



(1)

Severe airway burns will cause _____ .

- nausea
- reddening of cheeks
- complete obstruction of respiratory passages
- nosebleed

2.



(1)

If the injection site is hypodermis, at what angle the needle should be?

- 10°
- 20°
- 45°
- 90°

3.



(1)

For what minimum duration can an EEBD be used ?

- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes

4.



(1)

Vapours having low relative density than air will be found at the _____ of the enclosed space.

- middle

top
bottom

5.



(1)

Heat stroke affects the bodies vital organs except:

Brain
Heart
Kidney
Bones

6.



(1)

Where should you place your fist on the casualty in the CPR

Right side Ribs
Left side Ribs
Middle of the sternum
lower of the sternum

7.



(1)

What is the defibrillation energy level for the third shock

100 J
200 J
200-300 J
360 J

8.



(1)

What is the type of gas detection system fitted for spaces with air?

Spot metering type fixed inside the individual insulation spaces
Infrared type using sequential measurement
Portable gas detection system due to mobility of this method
Catalytic combustion type

9.



(1)

If a deficiency of oxygen or the presence of toxic gases, vapours or fumes is suspected in any space, then that space should be considered as

Enclosed space

Confined space
Dangerous space
Inter barrier space



10.



(1)

When performing abdominal thrusts on a patient who has a completely blocked airway, where should you position yourself?

On their side
Straddle their thighs
On their back



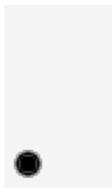
1.



(1)

What is the defibrillation energy level for the third shock

100 J
200 J
200-300 J
360 J



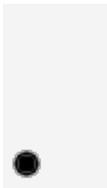
2.



(1)

If a victim is unconscious, you should first look for evidence of _____.

high fever
head injury
broken limbs
irregular breathing



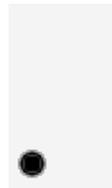
3.



(1)

Which of the following precautions should be taken when treating burns caused by contact with dry lime?

Water should be applied in a fine spray.
The burned area should be immersed in water.
The entire burn area should be covered with ointment.
Before washing with water, the lime should be brushed away gently and removed from skin contact.



4.



(1)

A rescuer can most easily determine whether or not an adult victim has a pulse by checking the pulse at the _____.

carotid artery in the neck
femoral artery in the groin
brachial artery in the arm



radial artery in the wrist

5.



(1)

How many types of sutures are available

1

2

3

4

6.



(1)

The accepted treatment for a sprained ankle is:

Remove the shoe and check for swelling using the capillary reflex method

Keep the shoe on, apply an ankle bandage for support, elevate and apply cold towels

Keep the shoe on, apply an ankle splint and apply heat if possible

Have the victim walk or move as soon as possible to prevent stiffness

7.



(1)

With reference to breathing apparatus, what is the Whistle pressure

When the pressure is low, it gives a noise like blowing a whistle and the pressure at which this happens is the whistle pressure

The pressure at which the wearer of the breathing apparatus should be out of the space and in fresh air when the whistle sounds.

When the pressure in the breathing apparatus is low, the wearer should have time to leave the space to reach out safely

8.



(1)

Severe airway burns will cause _____ .

nausea

reddening of cheeks

complete obstruction of respiratory passages

nosebleed

9.



(1)

What do you understand by left and right hand search

The team members holding each other's hand in a particular way.

This is to follow our hand against a bulkhead to guide us through that space.

Method of following 'Officer in Charge' as per his oral instruction of left or right

10.



(1)

If a person is experiencing heavy bleeding you should?

Apply pressure and elevate the wound to slow blood flow

Attempt to burn the wound to stop bleeding

Clean and Rinse the wound

Remove bandages and wraps

1.



(1)

The symptoms of heat exhaustion are _____.

slow and strong pulse

flushed and dry skin

slow and deep breathing

pale and clammy skin

2.



(1)

Physical data on a Material Safety Data Sheet (MSDS) which describes chemicals that produce health effects requiring medical attention where damage may be permanent but is neither life-threatening nor seriously disabling, is called _____.

moderate exposure level

high toxicity

high exposure level

moderate toxicity

3.



(1)

Severe airway burns will cause _____.

nausea

reddening of cheeks

complete obstruction of respiratory passages

nosebleed

4.



(1)

Heimlich maneuver is used for

partial airway obstructions

complete airway obstruction

chronic bronchial asthma

acute bronchial asthma

5.



(1)

What treatment does a victim who's life threatening condition is "not breathing" need?

The Heimlich Maneuver, two rescue breaths and CPR

Start CPR immediately

Twelve to fifteen rescue breaths per minute and correct CPR

You should follow the steps for rescue breathing

6.



(1)

When providing Rescue Breathing a breath should be given every _____?

1 second

5 seconds

10 seconds

30 seconds

7.



(1)

For the non-catalytic heated filament gas indicator

After the instrument has been initially set at zero with fresh air in contact with the sensor filament, a sample is drawn into the meter by means of a rubber aspirator bulb.

The bulb should be operated until the meter pointer comes to rest on the scale (usually within 15-20 squeezes) then aspirating should be stopped and the final reading taken.

It is important that the reading should be taken with no flow through the instrument and with the gas at normal atmospheric pressure.

The non-catalytic filament is not affected by gas concentrations in excess of its working scale.

8.



(1)

What instrument is used for air enter to the lungs

Endotracheal tube

Intravascular access

Defibrillator

9.



(1)

Airways obstruction is known as

pocking

hacking

choking

picking

10.



(1)

CPR consists of

Two full breaths and 10 compressions

Four full breaths and 20 compressions

Two full breaths and 15 compressions

Four full breaths and
30 compressions

1.



(1)

First aid treatment for battery acid or alkali burns is

flushing with large amounts of fresh water and seeking medical attention ashore or by radio

wiping the affected area with a clean dry cloth and resting quietly for several hours

drying the acid or alkali with a rag followed by applying a light cream

2.



(1)

If the injection site is dermis, at what angle the needle should be?

10°

20°

45°

90°

3.



(1)

If someone faints, the first thing you should do is:

place cool water on their face

have them lie on their tummy

raise their feet

give them something to drink

4.



(1)

Tank Scope: Identify a statement that identifies its working principle that is not similar to explosimeter

It is used to detect the presence of hydrocarbon vapor during inerting operations when Oxygen content in the atmosphere is low.

It uses the same principle as that of an explosimeter except that the gas does not burn inside the sample chamber (as oxygen is insufficient or not present)

It measures hydrocarbon content by the detection of an alteration in the temperature of the heated filament which enhances the change in resistance

Filament is heated by the instrument battery and it cools when the hydrocarbon gas passes through it.

5.



(1)

For the non-catalytic heated filament gas indicator

After the instrument has been initially set at zero with fresh air in contact with the sensor filament, a sample is drawn into the meter by means of a rubber aspirator bulb.

The bulb should be operated until the meter pointer comes to rest on the scale (usually within 15-20 squeezes) then aspirating should be stopped and the final reading taken.

It is important that the reading should be taken with no flow through the instrument and with the gas at normal atmospheric pressure.

The non-catalytic filament is not affected by gas concentrations in excess of its working scale.

6.



(1)

When a rescuer discovers an electrical burn victim in the vicinity of electrical equipment or wiring, his first step is to _____.

flush water over any burned area of the patient

apply ointment to the burned areas on the patient

shutdown electrical power in the area

remove the patient from the vicinity of the live electrical equipment or wiring

7.



(1)

choking is commonly caused by all except

swallowing large pieces of improperly chewed food.

Drinking alcohol before or during meals.

Laughing while eating.

Bending during meals.

8.



(1)

Physical data on a Material Safety Data Sheet (MSDS) which describes chemicals that produce health effects requiring medical attention where damage may be permanent but is neither life-threatening nor seriously disabling, is called_____.

moderate exposure level

high toxicity

high exposure level

moderate toxicity

9.



(1)

What is the proper treatment for Heat Stroke?

Rapid cooling of the body

Covering with a blanket

Exercise

Drinking Alcohol

10.



(1)

What is hypothermia?

low body temperature

high body temperature

blood vessels move closer to skin

blood vessels move away from the skin

1.



(1)

After an accident the victim may go into shock and die. What should be done to help prevent shock?

Slightly elevate the head and feet.

Keep the person awake.

Keep the person lying down and at a comfortable temperature.

Give the person a stimulant to increase blood flow.

2.



(1)

The duct keel is strengthened by

Engine room forward bulk head

Collision bulkhead

Tank top

Keel plating to maintain a continuity of strength of the transverse floors.

3.



(1)

Select the correct statement.

TMSA is the acronym for Tanker Managers Self-Assessment

TMSA is the acronym for Tanker Management and Self-Assessment

TMSA does not allow companies to align their policies and procedures with industry best practices.

Sustainability of the maritime industry is not one of the goals of a Safety Management System (SMS).

4.



(1)

The measurement of hydrocarbon gas as a percentage by volume of the total atmosphere being measured.

On board a tanker, this is usually carried out to measure the percentage of hydrocarbon vapor in an oxygen deficient (inerted) atmosphere.

The readings obtained are expressed as the percentage of hydrocarbon vapor by volume and are recorded as % Vol.

Electronic instrument using infra-red sensors do not have the same function as the Tankscope.

Instruments used to measure hydrocarbon vapors in an inert gas atmosphere: Refractive Index Meters.

5.



(1)

What is the proper treatment for Heat Stroke?

Rapid cooling of the body

Covering with a blanket

Exercise

Drinking Alcohol

6.



(1)

Which one is the first step in chest compression for infants

Place the middle and index fingers on the breast bone

Place the index and small fingers on the breast bone

Place the heel of one hand on the sternum and the heel of the other on top

Place the heel of one hand on the Ribs and the heel of the other is near the first hand

7.



(1)

Which should NOT be a treatment for a person who has received a head injury and is groggy or unconscious?

Give a stimulant.

Elevate his head.

Stop severe bleeding.

Treat for shock.

8.



(1)

At what degree angle the catheter should be inserted?

10

30

45

90

9.



(1)

The manifold pressure when loading oil cargo should be

Above the cargo tank pressure

Below the cargo tank pressure

Above atmospheric pressure

'Zero'



10.



(1)

If the injection site is hypodermis, at what angle the needle should be?

10°

20°

45°

90°



1.



(1)

What does Respiratory arrest mean?

A person can breath on their own

A person is struggling to breath

A person has stopped breathing



2.



(1)

Which of the following gases represents the greatest threat to personnel safety in an engine room where the exhaust gas is leaking from a diesel engine?

Nitrogen

Carbon monoxide

Carbon trioxide

Hydrogen sulfite



3.



(1)

With reference to the entering of the rescue team, under normal circumstances, at what time the rescue team should start to enter

When the first team fails to re-appear at the exit after calculated exit time then rescue team should be sent in to find them.

When the first team fails to re-appear at the exit even after their whistle pressure

About 20 mins after the first team has entered



4.



(1)

Which of the following is NOT a treatment for traumatic shock?

Keep the patient warm, but not hot.

Have the injured person lie down.

Massage the arms and legs to restore circulation.

Relieve the pain of the injury.



5.



(1)

Which of the following is not required to have a communication link with pump room?

Engine control room

Chief officer's cabin

Bridge

Cargo control room



6.



(1)

If a person is experiencing heavy bleeding you should?

Apply pressure and elevate the wound to slow blood flow

Attempt to burn the wound to stop bleeding

Clean and Rinse the wound

Remove bandages and wraps



7.



(1)

Dry chemical extinguishes a fire by

Heat removal or cooling

Smothering or oxygen exclusion

Flame inhibition



8.



(1)

For Oxygen analyzer, identify the statement that explains the working principle succinctly,

Electrochemical Sensors: Analyzers of this type determine the oxygen content of a gas mixture by measuring the output of an electrochemical cell.

Oxygen diffuses through a membrane into the cell and current flows between two special electrodes separated by a liquid or gel electrolyte.

The current flow is related to the oxygen concentration in the sample and the scale is arranged to give a direct indication of oxygen content.

The analyzer readings are directly proportional to the pressure in the measuring cell, and only small errors are caused by normal variations in atmospheric pressure.



9.



(1)

What is first aid?

Completing a primary survey

The first help given to the victim of an accident

Assessing a victim's vital signs

Treating a victim for shock



10.



(1)

Chemical burns are caused by the skin coming in contact with _____.

acids or alkalies

diesel oil

acids, but not alkalies

alkalies, but not acids



1.



(1)

What is the maximum interval of time between sampling and analysing for each sampling head location sequentially?

Not exceeding 50 minutes interval

Not exceeding 40 minutes interval

Not exceeding 30 minutes interval

Not exceeding 60 minutes interval



2.



(1)

What is the most severe type of burn?

1st Degree Burn

2nd Degree Burn

3rd Degree Burn



3.



(1)

The ratio of compression and breath for infant is

30:2

15:2

15:1

5:1



4.



(1)

finger sweep choking is

- sweeping with the finger
- slipping the finger into the mouth
- hooking motion to dislodge object
- to push the object deeper

5.



(1)

What is Toxicity ?

- It is the poisonous effect of gases
- It is the degree to which a substance or mixture of substances can harm humans
- It is caused by lack of oxygen in the atmosphere
- It is effect of gases in contact with the skin

6.



(1)

What is your main objective, while carrying Toxic chemicals?

- Containment
- Toxic vapour detection
- Provide protective clothing to all

7.



(1)

If the injection site is hypodermis, at what angle the needle should be?

- 10°
- 20°
- 45°
- 90°

8.



(1)

A man has suffered a burn on the arm. There is extensive damage to the skin with charring present. How is this injury classified using standard medical terminology?

- Dermal burn
- Third-degree burn
- Major burn
- Lethal burn

9.



(1)

When providing Rescue Breathing a breath should be given every _____?

1 second

5 seconds

10 seconds

30 seconds

10.



(1)

Symptoms of sugar diabetes include _____ .

increased appetite and thirst

decreased appetite and thirst

gain in weight

elevated temperature

1.



(1)

Which statement about the hospital space on a cargo ship is TRUE?

The hospital may be used for disciplinary confinement if it is not being used for treatment.

The hospital space must have both a bathtub and shower.

A hospital is required on all vessels with a crew of 12 or more if it makes overnight voyages.

If a ship has a crew of forty-five who do not have their own room, the hospital must have four berths.

2.



(1)

Severe exposure to chlorine gas can be fatal. Chlorine gas is primarily a_____.

respiratory irritant

skin burning agent

blood poisoning agent

nerve paralyzing irritant

3.



(1)

Where there are multiple accident victims, which injuries should be the FIRST to receive emergency treatment?

Major multiple fractures

Eye injuries

Back injuries with spinal cord damage

Airway and breathing difficulties

4.



(1)

What are the non-absorbable sutures made of

Dexon

Nylon

Vicryl

5.



(1)

Treatment(s) of heat exhaustion consist(s) of

moving to a shaded area and lying down

bathing with rubbing alcohol

placing the patient in a tub of cold water

6.



(1)

Maintenance and cure is

The duty of the ship owners

The job of the doctor

The job of the nurse

A contractual form of compensation given by general maritime law to a seamen

7.



(1)

Identify a statement that provides significant advantage to a particular instrument,

When selecting an instrument that uses an infra-red sensor for measuring the percentage by volume of hydrocarbon in an inert gas atmosphere, care should be taken to ensure that the sensor will provide accurate readings over the spectrum of gases likely to be present in the atmosphere to be measured.

It may be prudent to make comparison readings with a Tankscope to verify the acceptability of the readings provided by the infra-red sensor instrument

A tankscope can measure HC content in an inerted atmosphere which makes it very useful in an oil tanker.

A tankscope is an instrument used to measure the hydrocarbon content by percentage volume in a given atmosphere

8.



(1)

The sorting of accident victims according to the severity of their injuries is called _____ .

evaluation

triage

surveying

prioritizing

9.



(1)

Heimlich maneuver is used for

- partial airway obstructions
- complete airway obstruction
- chronic bronchial asthma
- acute bronchial asthma

10.



(1)

How is the drug epinephrine administered if not attainable of intravascular access

- Intra muscular
- Oral
- Tracheal tube

1.



(1)

Treatment(s) of heat exhaustion consist(s) of

- moving to a shaded area and lying down
- bathing with rubbing alcohol
- placing the patient in a tub of cold water

2.



(1)

Which of the following conditions is NOT a symptom of traumatic shock?

- Slow deep breathing
- Pale and cold skin
- Weak and rapid pulse
- Restlessness and anxiety

3.



(1)

What does the ABC's for first aid standfor?

- The letters in the alphabet
- Air, Breathing, Concentration
- Airway, Breathing, Circulation

4.



(1)

Which of the following steps should normally be taken first by those who have boarded a lifeboat in an emergency situation?

- Ration food and water supplies

Search for survivors

Determine position and closest point of land

Check pyrotechnic supplies



5.



(1)

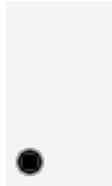
Some people are very allergic to insect bites and stings. This condition is called:

Septic shock

Cardiac arrest

Toxic shock syndrome

Anaphylactic shock



6.



(1)

For Oxygen analyzer, identify the statement that explains the working principle succinctly,

Electrochemical Sensors: Analyzers of this type determine the oxygen content of a gas mixture by measuring the output of an electrochemical cell.

Oxygen diffuses through a membrane into the cell and current flows between two special electrodes separated by a liquid or gel electrolyte.

The current flow is related to the oxygen concentration in the sample and the scale is arranged to give a direct indication of oxygen content.

The analyzer readings are directly proportional to the pressure in the measuring cell, and only small errors are caused by normal variations in atmospheric pressure.



7.



(1)

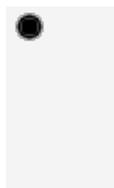
First aid is required when

The person next to you is injured

The person next to you is dead

The person next to you is behaving abnormally

The person next to you is angry



8.



(1)

Which form of hyperthermia (high body temperature) is more severe?

heat stress

cramps

heat stroke

heat exhaustion



9.



(1)

When applying chest compressions on an adult victim during CPR, the sternum should be depressed about _____.

- 1/2 inch or less
- 1/2 to 1 inch
- 1 to 1-1/2 inches
- 1-1/2 to 2 inches

10.



(1)

The symptoms of heat exhaustion are _____.

- slow and strong pulse
- flushed and dry skin
- slow and deep breathing
- pale and clammy skin

1.



(1)

Who provides necessary information for implementing ISM to the shipboard personnels

- Classification Society
- Internal auditor
- External auditor
- The company

2.



(1)

The objective of first aid is:

- To diagnose and injures and conditions
- To determine priorities
- To give immediate treatment
- To shift patient to hospital

3.



(1)

Heimlich maneuver is used for

- partial airway obstructions
- complete airway obstruction
- chronic bronchial asthma
- acute bronchial asthma

4.



(1)

With reference to the engine room equipment on the chemical tanker during cargo operation especially flammable products

Boiler tubes, uptakes, exhaust manifolds and combustion equipment must be maintained in good condition as a precaution against funnel fires.

Boiler tubes, uptakes, exhaust manifolds and combustion equipment must be maintained in good condition as a precaution against funnel fires and sparks.

Auxiliary boiler and engines should be stopped during cargo operations of flammable cargo in the chemical tanker

5.



(1)

Provided every effort is made to preserve body moisture content by avoiding perspiration, how long is it normally possible to survive without water?

Up to 3 days

8 to 12 days

15 to 20 days

25 to 30 days

6.



(1)

Which of the following steps should normally be taken first by those who have boarded a lifeboat in an emergency situation?

Ration food and water supplies

Search for survivors

Determine position and closest point of land

Check pyrotechnic supplies

7.



(1)

Class A fires involve

Solid cellulosic materials such as wood, paper, clothing, etc.

Vapour/air mixture over the surface of flammable liquids

Energised electrical equipment

Combustible materials such as magnesium, sodium, etc.

8.



(1)

The duct keel is strengthened by

Engine room forward bulk head

Collision bulkhead

Tank top

Keel plating to maintain a continuity of strength of the transverse floors.

9.



(1)

Poisoning can occur by the following except:

Injection

Inhalation

Infection

Ingestion

10.



(1)

The manifold pressure when loading oil cargo should be

Above the cargo tank pressure

Below the cargo tank pressure

Above atmospheric pressure

'Zero'



1.



(1)

Treatment of sunstroke consists principally of

cooling, removing to shaded area, and lying down

bathing with rubbing alcohol

drinking ice water



2.



(1)

What instrument is used for air enter to the lungs

Endotracheal tube

Intravascular access

Defibrillator



3.



(1)

For the non-catalytic heated filament gas indicator, identify one of its most important advantages,

The checking of a non-catalytic heated filament instrument requires the provision of gas mixtures of a known total hydrocarbon concentration.

The carrier gas may be air, nitrogen or carbon dioxide or a mixture of these.

Non-catalytic heated filament instrument may be required to measure accurately either low concentrations (1%-3% by volume) or high concentrations (greater than 10% by volume) it is desirable to have either two test mixtures, say 2% and 15% by volume, or one mixture between these two numbers, say 8% by volume.

Test gas mixtures may be obtained in small aerosol type dispensers or small pressurized gas cylinders, or may be prepared in a special test kit.



4.



(1)

Treatment(s) of heat exhaustion consist(s) of

moving to a shaded area and lying down



bathing with rubbing alcohol

placing the patient in a tub of cold water

5.



(1)

Which one is the first step in chest compression

Place the heel of one hand on the Ribs and the heel of the other on top

Place the heel of one hand on the sternum and the heel of the other is near the first hand

Place the heel of one hand on the sternum and the heel of the other on top

Place the heel of one hand on the Ribs and the heel of the other is near the first hand

6.



(1)

Atmosphere tests to be carried out prior to entry into an enclosed space for

Oxygen content to be 21% by volume

Hydrocarbon vapour concentration to be less than 1% LFL

No toxic or other contaminants to be present

Nitrogen content to be above 20%

7.



(1)

What is an EEBD used for ?

For escape from machinery or accommodation spaces in the event of an emergency

For safety when entering a tank

For rescuing a person from a tank

For supplying oxygen to a victim

8.



(1)

What is the average size for adult male endotracheal tube

ID= 7.0 mm

ID= 8.0 mm

ID= 9.0 mm

ID= 6.0 mm

9.



(1)

When performing abdominal thrusts how many thrusts do you do?

1 to 5 thrusts

6 to 10 thrusts

15 to 20 thrusts

30 to 40 thrusts

10.



(1)

What is the primary purpose of a splint applied in first aid?

Control bleeding

Reduce pain

Immobilize a fracture

Reset the bone

SET 8

1.



(1)

The volatility of a flammable liquid is indicated by its

ignition temperature

flash point

flammable range

conversion index

2.



(1)

The flash point of a liquid means the temperature

at which a liquid will give off flammable vapors

at which a liquid will burn steadily

at which a liquid will explode

that a liquid must reach before it will flow readily

3.



(1)

With respect to precision measurement, the instruments are calibrated with

Xylene

Propane or Butane

Carbomate

4.



(1)

With respect to oxygen and paramagnetism

Oxygen is strongly paramagnetic

Oxygen is mildly paramagnetic

Oxygen is not at all paramagnetic

5.



(1)

The standard unit of liquid volume used in the petroleum industry, as well as the tanker industry, is a _____.

barrel



drum

gallon

liter

6.



(1)

What is the minimum percentage of oxygen required before making an entry into an enclosed space?

20%

18%

11%

21%



7.



(1)

The purpose of inert gas systems aboard tank vessels is to

allow sufficient oxygen in the tank to sustain life

prevent outside air from entering the tank

provide increase in cargo discharge pressure

comply with double hull pollution prevention regulations



8.



(1)

Inert gas systems must be capable of maintaining inert gas with an oxygen content by volume in the cargo tanks of not more than

2%

5%

8%

11%



9.



(1)

With respect to calibration / checking the accuracy of oxygen analyser for 0% oxygen level,

Calibration can be carried out in the tank space.

Calibration can be carried out anywhere onboard

Calibration should only be carried out in well ventilated areas.



10.



(1)

Cargo pump relief valves are piped to the _____.

cargo pump pressure gauges
crossover lines interconnecting two pumps
suction side of pumps
atmosphere through pump vents



1.



(1)

If the cargo is loaded at a temperature higher than mentioned in Charter Party, what is to be done?

Allow the temperature to fall to that temperature as mentioned in the Charter party and maintain it
Maintain the cargo at the same loaded temperature
Maintain the cargo at 10°C more than the pour point
Let the cargo be at a higher temperature



2.



(1)

With respect to working of Oxygen analyser, what is paramagnetism?

Paramagnetism is the property of a substance to be distracted towards a magnetic field.
Paramagnetism is the property of a substance to be attracted towards a magnetic field.
Paramagnetism is the property of a substance to create a magnetic field.



3.



(1)

In order to improve the accuracy and reliability the pressure gauging systems are provided with

Additional sensor is mounted near mid-depth in a tank.
Sensors for cargo density measurement are placed at known levels, with temperature sensors.
Tank pressure gauges operate on different principles and do not require density measurement sensors.
Heated cargo will not impact pressure measurement



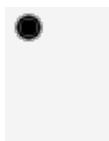
4.



(1)

An oxygen indicator can be used to determine if there is

sufficient oxygen in a compartment to support life
combustible gases present
hydrogen gas present



6.



(1)

The component in an inert gas system used for cleaning the gas of solid and sulfur combustion products, while simultaneously cooling the inert gas, is called the

- filter
- cooler
- scrubber
- purifier



8.



(1)

As per MARPOL Annex -1 definition, Special area means

- Some specific areas where coastal state legislation doesn't allow any bilge water/slop discharges
- Areas as defined by Annex-1 where no bilge water/slop discharges are allowed
- Areas as defined by Annex-1, where special mandatory methods are adopted for the prevention of sea pollution by oil
- Areas as defined by Coastal state regulations(e.g. OPA-90), where special mandatory methods are adopted for the prevention of sea pollution by oil



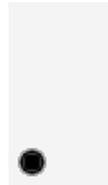
9.



(1)

Ullage measurements are taken from the top of the liquid to _____.

- the base of the expansion trunk
- the base of the ullage port
- a line scribed within the ullage port
- an above-deck datum, usually the top of the ullage hole



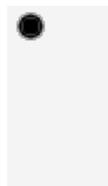
1.



(1)

Pyrophoric ignition may occur

- On introduction of air in tanks deficient in oxygen.
- In oxygen rich atmospheres.
- In nitrogen rich atmospheres.
- Only when an ignition source is introduced



3.



(1)

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
- Shut down the transfer operation
- Sound the fire alarm



4.



(1)

You are crude oil washing on a tanker with an inert gas system. What percentage of oxygen must the inert gas system produce and deliver to the tanks?

- 0%
- 5%
- 8%
- 11%

5.



(1)

While using a combustible gas indicator, if the hydrocarbon content of the atmosphere exceeds the U.E.L., the needle of the indicator will

- remain at zero without moving
- move to the maximum reading and stay there
- move halfway up the scale
- move to the maximum reading and immediately return to zero

6.



(1)

The wedge formula is used to calculate:

- Cargo quantity in an almost full tank
- Cargo quantity in an empty or a full tank
- Cargo quantity in an almost empty tank
- The amount of fresh water in oil

7.



(1)

In which of the following conditions, the IG blower fans should shut down automatically?

- Oxygen content above 8%
- Low water level in deck seal
- Low water level in the scrubber tower
- High scrubber water level

8.



(1)

When loading high vapour pressure cargoes:

- One must load and top off with load or top off with very high loading rates
- Use close loading procedures
- Wind speeds can exceed 5 knots
- If the oil cargo is hot they can be loaded in tanks close to the accommodation

9.



(1)

A single fitting installed in a pipeline that either blanks off the pipe or allows a full flow passage of a liquid through the pipe is referred to as a ____.

- blind flange
- pivot coupling
- quick-release coupling
- spectacle flange

10.



(1)

What is the generally accepted method of determining whether the atmosphere within a cargo tank is explosive, too rich, or too lean to support combustion?

- Use the open flame test on a small sample that has been taken from the tank
- Send a gas sample ashore for laboratory analysis
- Enter the tank with an oxygen analyzer
- Use an explosimeter

1.



(1)

Chemical cargoes are classified as Static accumulators if electrical conductivities are less than.... Select the correct one from below

- 50 picoSiemens/metre (pS/m)
- 100 picoSiemens/metre (pS/m)
- 150 picoSiemens/metre (pS/m)

2.



(1)

One of the requirements of a vessel's intact stability criteria is that:

- The GZ should be at least 0.15 metres at an angle of 25 degrees or more
- The GZ should be at least 0.15 metres at an angle of 30 degrees or more
- The GZ should be at least 0.20 metres at an angle of 25 degrees or more
- The GZ should be at least 0.20 metres at an angle of 30 degrees or more

3.



(1)

A relief valve for a cargo pump is generally installed _____.

- after the discharge valve
- between the pump and discharge valve
- after the suction valve
- between the pump and suction valve

4.



(1)

You are in a tank wearing the self-contained breathing apparatus and you desire to return topside. How many tugs of the lifeline mean to take up the slack?

- One
- Two
- Three
- Four

5.



(1)

To prevent oil from escaping into the sea when ballasting through the cargo piping system, you should FIRST

- open sea suction valves, then start the cargo pump
- start the cargo pump, then open sea suction valves
- open block valves, then start the cargo pump
- open sluice valves, then start the cargo pump

7.



(1)

The advantages of using an inert gas system on a tank vessel is that it provides

- for faster loading
- tank atmosphere with low oxygen content
- better fuel economy

8.



(1)

After allowing for pressure losses, the pressure-volume capacity of an inert gas blower must be able to maintain a pressure, in any cargo tank, at a minimum of

- 50 millimeters of water pressure
- 100 millimeters of water pressure
- 150 millimeters of water pressure
- 200 millimeters of water pressure

9.



(1)

Cargo hose carried on tank vessels must be designed to withstand the pressure of the shutoff head of the cargo pump or pump relief valve setting, but in no case should it be less than

- 100 psi
- 150 psi
- 200 psi
- 250 psi

10.



(1)

Petroleum cargo tanks should not be topped off at deck level when loading on a cold day because _____.

a subsequent temperature rise will cause the cargo to overflow
air pockets may cause the cargo to bubble out of the ullage hole
the increased viscosity of the product requires higher loading pressure which increases the chances of a spill
the tank valve may be stiff and a spill will occur before the valve can be closed

3.



(1)

Which method is used to supply inert gas from a flue gas system to the cargo tanks?

Exhaust gas pressure from the stack

High capacity fan

Inert gas compressor

Natural aspiration

4.



(1)

Which statement is TRUE concerning the "flash point" of a substance?

It is lower than the ignition temperature.

It is the temperature at which a substance will spontaneously ignite.

It is the temperature at which a substance, when ignited, will continue to burn.

It is the temperature at which the released vapors will fall within the explosive range.

5.



(1)

On a hydrocarbon flammability chart the line which extends from 0% to 21.8% oxygen, lying tangent to the flammability range, is called the

minimum oxygen content line

critical displacement line

critical dilution line

upper threshold limit

7.



(1)

In which of the following conditions, the IG blower fans should shut down automatically?

Oxygen content above 8%

Low water level in deck seal

Low water level in the scrubber tower

High scrubber water level

8.



(1)

With respect to oxygen analyser, used for measurement of oxygen level in enclosed spaces

Oxygen analyser is used to measure oxygen level only in inert condition, below 5% oxygen

Oxygen analyser is used to measure oxygen level only in rich condition, above 21% oxygen

Oxygen analyser is used to measure oxygen level both lean and rich condition, below and above 5 - 21% oxygen

9.



(1)

An inert gas system installed on a tanker is designed to

aid in the stripping and cleaning of cargo tanks

increase the rate of discharge of cargo

force toxic and explosive fumes from a cargo tank to vent to the outside atmosphere

lower the oxygen levels inside cargo tanks, making explosion nearly impossible

10.



(1)

What is the major function of the deck water seal in an inert gas system?

Relieves excessive pressures from the system.

Isolates hazardous areas from nonhazardous areas.

Prevents the flow of inert gas into closed or isolated tanks.

Removes any leftover water or soot after the gas has been scrubbed.

1.



(1)

Under OPA 90, who is responsible for mobilizing Oil Spill Removal Organization (OSRO), in the event of spill of oil or Noxious liquid Substances?

Master

USCG

Qualified Individual

Technical Superintendent

2.



(1)

The maneuvering vessel normally berths on which side during STS operations ?

Any side to

Port side to

Starboard side to

As instructed by the mother vessel

3.



(1)

Which statement is TRUE of a gasoline spill?

It is visible for a shorter time than a fuel oil spill

- It is not covered by the pollution laws
- It does little harm to marine life
- It will sink more rapidly than crude oil

5.  (1)

What best describes for how long a gas-free test is good?

- For as long as is indicated on the gas-free certificate
- For the instant that it is made
- Until valves in line with the tank or compartment are reopened
- Until changes in temperature or pressure affect the vapor content in the space

6.  (1)

The approval period for a shipboard Oil Pollution Emergency Plan expires after

- two years
- three years
- four years
- five years

7.  (1)

The vapor pressure of a substance _____

- decreases as temperature increases
- increases with the temperature
- is not affected by temperature
- may increase or decrease as the temperature rises

8.  (1)

An on-board monitoring system, using level sensors permanently installed in each vessel compartment, will have a high level alarm set at not more than

- 90% of compartment capacity
- 95% of compartment capacity
- 97% of compartment capacity
- 99% of compartment capacity

9.  (1)

An inert gas system installed on a tanker is designed to

- aid in the stripping and cleaning of cargo tanks

increase the rate of discharge of cargo

force toxic and explosive fumes from a cargo tank to vent to the outside atmosphere

lower the oxygen levels inside cargo tanks, making explosion nearly impossible

10.



(1)

Which is the most accurate instrument for measuring the amount of oxygen in the atmosphere of a confined space?

Combustible gas indicator

Oxygen indicator

Flame safety lamp

2.



(1)

For FAME (fatty acid methyl ester) cargoes, what is the normal limit for moisture content?

100mg per kg.

200mg per kg.

300mg per kg.

600mg per kg.

3.



(1)

For the purposes of cargo oil containment, the fixed container under the manifold of an eight-inch loading line must hold a minimum of

three barrels

four barrels

six barrels

eight barrels

4.



(1)

As per MARPOL annex-1, the instantaneous rate of discharge of oil content means

The rate of discharge of oil-water mixture in litres per hour at any instant divided by the speed of the ship in knots at the same instant

The rate of discharge of oil in litres per hour at any instant divided by the speed of the ship in knots at the same instant

The average rate of discharge of oil-water mixture in litres per hour divided by the average speed of the ship in knots

The average rate of discharge of oil mixture in litres per hour divided by the average speed of the ship in knots

5.



(1)

The maneuvering vessel normally berths on which side during STS operations ?

Any side to
Port side to
Starboard side to
As instructed by the mother vessel

7.



(1)

Hydrocarbon gas normally encountered in petroleum tankers cannot burn in an atmosphere containing oxygen less than

2%
5%
8%
11%

8.



(1)

Which is a mandatory section of the shipboard Oil Pollution Emergency Plan?

Reporting requirements
Removal equipment list
Planned exercises
List of individuals required to respond

10.



(1)

When checking the oxygen content of the cargo tanks prior to loading cargoes requiring vapor recovery, the atmosphere must be sampled

one meter from the tank bottom and one meter below the tank top
one half the ullage of the tank and one meter below the tank top
one half the ullage of the tank and one meter above the tank bottom
at three meter intervals from the tank top

1.



(1)

Under OPA 90, who is responsible for mobilizing Oil Spill Removal Organization (OSRO), in the event of spill of oil or Noxious liquid Substances?

Master
USCG
Qualified Individual
Technical Superintendent

2.



(1)

With respect to measurement using chemical indicator tubes

Measurement errors may occur if high concentration of toxic gases are present.

Measurement errors may occur if several gases are present at the same time as one gas can interfere with the measurement of another.

Measurement errors may occur if toxic gases are not present

3.



(1)

The explosive range of a fuel lies between the lower explosive limit and the _____.

flash point

ignition temperature

upper explosive limit

fire point

4.



(1)

An on-board monitoring system, using level sensors permanently installed in each vessel compartment, will have a high level alarm set at not more than

90% of compartment capacity

95% of compartment capacity

97% of compartment capacity

99% of compartment capacity

5.



(1)

Static accumulator oils have an electrical conductivity of:

less than 50 picoSiemens/metre

greater than 50 picoSiemens/metre

less than 100 picoSiemens/metre

greater than 100 picoSiemens/metre

6.



(1)

As per MARPOL annex-1, the instantaneous rate of discharge of oil content means

The rate of discharge of oil-water mixture in litres per hour at any instant divided by the speed of the ship in knots at the same instant

The rate of discharge of oil in litres per hour at any instant divided by the speed of the ship in knots at the same instant

The average rate of discharge of oil-water mixture in litres per hour divided by the average speed of the ship in knots

The average rate of discharge of oil mixture in litres per hour divided by the average speed of the ship in knots

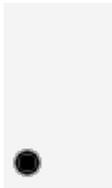
8.



(1)

Annex I collection of residue tank washing and also oily mixture to be

- Bilge tank
- Sludge tank
- Oily bilge tank
- Slop tank



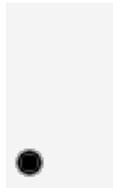
9.



(1)

Deficient oxygen content inside a confined space can be detected with

- litmus paper
- a combustible gas indicator
- an oxygen breathing apparatus
- an oxygen indicator



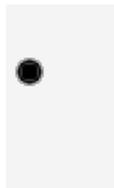
10.



(1)

Which operation may cause the pressure in an inert tank to fall below the prescribed limits?

- Loading
- Discharging
- Crude oil washing
- Steaming tanks



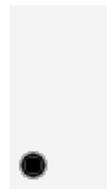
1.



(1)

One of the requirements of a vessel's intact stability criteria is that:

- The GZ should be at least 0.15 metres at an angle of 25 degrees or more
- The GZ should be at least 0.15 metres at an angle of 30 degrees or more
- The GZ should be at least 0.20 metres at an angle of 25 degrees or more
- The GZ should be at least 0.20 metres at an angle of 30 degrees or more



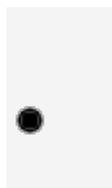
2.



(1)

Insulating flanges minimize the dangers arising from ____.

- A, smoking on deck
- loading asphalt
- accumulations of electrostatic charges
- tank over-pressurization



4.



(1)

Combustible gas indicators operate by drawing an air sample into the instrument

over an electrically heated platinum filament
where it is mixed with nitrogen
where it is ignited by a sparking device
where its specific gravity is measured

5.



(1)

Which statement is TRUE of a gasoline spill?

It is visible for a shorter time than a fuel oil spill
It is not covered by the pollution laws
It does little harm to marine life
It will sink more rapidly than crude oil

6.



(1)

The approval period for a shipboard Oil Pollution Emergency Plan expires after

two years
three years
four years
five years

7.



(1)

The deck water seal of the inert gas system

cools the inert gas and prevents soot from entering the cargo tanks
acts as an emergency system shutdown when the inlet pressures exceed the safe working pressure in the hazardous zone
prevents the backflow of hydrocarbon gasses into nonhazardous areas
relieves sudden large overpressures in the system

8.



(1)

Spanning a gas detecting equipment would mean:

Testing the equipment in air
Testing the equipment in an inert atmosphere
Testing the equipment with special gas mixtures
Testing the equipment with cargo vapour

9.



(1)

When loading high vapour pressure cargoes:

One must load and top off with load or top off with very high loading rates

Use close loading procedures

Wind speeds can exceed 5 knots

If the oil cargo is hot they can be loaded in tanks close to the accommodation



10.



(1)

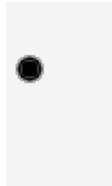
As required by Reg.31 of Annex 1 of Marpol the ODMCS should be provided with a recording device for _____ recording the discharge in litres per nautical mile and total quantity discharged. This discharge should be kept onboard at least for a period of

Intermittent, 1 year

Continuous, 1 year

Intermittent, 3 years

Continuous, 3 years



2.



(1)

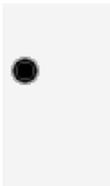
The explosive range of petroleum vapors mixed with air is

0% to 1%

1% to 10%

10% to 15%

12% to 20%



3.



(1)

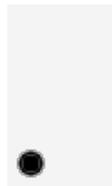
In which of the following conditions, the IG blower fans should shut down automatically?

Oxygen content above 8%

Low water level in deck seal

Low water level in the scrubber tower

High scrubber water level



4.



(1)

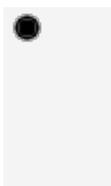
The pipe used to connect two separate piping systems on a tank vessel is known as a _____.

crossover

transfer

connection

junction



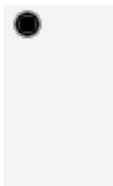
5.



(1)

What must be located on the discharge side of the pump in a fire main system?

Pressure gauge
Strainer
Reduction valve
International shore connection



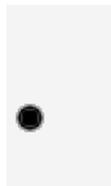
6.



(1)

Insulating flanges minimize the dangers arising from ____.

A, smoking on deck
loading asphalt
accumulations of electrostatic charges
tank over-pressurization



7.



(1)

If the pour point temperature is more than the temperature mentioned in the charter party, what is to be done?

Maintain the cargo at 10°C more than the pour point
Maintain the cargo at a temperature mentioned in the Charter party
Charterer should be consulted and the agreed temperature should be maintained to minimise any shortage claims.
Maintain the cargo in liquid form



8.



(1)

What type of liquid is used in the liquid P/V breaker?

Hydraulic oil
Water-antifreeze mixture
Distilled water
Oil from the cargo



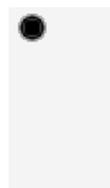
9.



(1)

In oil cargo calculations, Gross Standard Volume is obtained by

Multiplying Gross Observed Volume by a volume correction factor (VCF)
Multiplying Total Observed Volume by a volume correction factor (VCF)
Multiplying Net Standard Volume by a volume correction factor (VCF)
Multiplying Total Calculated Volume by a volume correction factor (VCF)



10.



(1)

Under OPA 90, who is responsible for mobilizing Oil Spill Removal Organization (OSRO), in the event of spill of oil or Noxious liquid Substances?

Master
USCG
Qualified Individual
Technical Superintendent

SET 9

1.



(1)

With reference to free fall, select the correct statement from below?

It is essential to avoid the free fall of water or slops into a tank

The liquid level should always be such that the discharge inlets in the slop tank are covered to a depth of at least one metre to avoid splashing

The above is necessary even when the slop and cargo tanks are fully inerted

2.



(1)

With reference to the direct addition of cleaning chemical to the washing water but chemical consumption tends to be high and its full cleaning effect is not always utilized, how this can be normally addressed?

Recirculation of the washing water

Reducing the chemical dosage after some time

Reducing the chemical dosage from the beginning

3.



(1)

How wall wash inspection is done?

Applying solvent to selected areas of the cargo tank bulkheads and thereafter analysing the recaptured solvent for 'key' quality parameters

Cleaning the selected areas of the cargo tank bulkheads with the solvent and visually look for cleanliness of the selected areas by the Surveyors

Cleaning the selected areas of the cargo tank bulkheads with the solvent and visually look for any chemical residue of the previous cargo in the selected areas

4.



(1)

Who normally carries out testing of cleanliness of the tanks

Ship staff

Independent surveyor

As per written agreement in the charter party, as accepted by shipper, receiver and owner

Master

5.



(1)

The majority of cleaning operations on board chemical tankers are being carried out by means of... select the correct one from below?

Cleaning chemicals

Water

Cleaning foam

6.



(1)

With reference to tank washing and testing of Tank Cleaning Hoses, select the correct precaution from below?

All hoses supplied for tank washing machines should be tested for electrical continuity in a dry condition prior to use, and the resistance should not exceed 4 ohms per meter length.

All hoses supplied for tank washing machines should be tested for electrical continuity in a dry condition prior to use, and the resistance should not exceed 6 ohms per meter length

All hoses supplied for tank washing machines should be tested for electrical continuity in a dry condition prior to use, and the resistance should not exceed 8 ohms per meter length

7.



(1)

What happens when a tank has been closed for a long time after the oils or fats have been discharged?

Oxidisation takes place, due to absorption of oxygen and may not have enough oxygen to support life.

Various toxic gases are produced

Various asphyxiating gases are produced

8.



(1)

With reference to the cargo tank cleaning for a product with a flash point less than 60°C, it must be checked if the tank is under inert condition or not, select the correct one from below?

'under inert conditions' means less than 6% O₂ by volume

'under inert conditions' means less than 8% O₂ by volume

'under inert conditions' means less than 10% O₂ by volume

9.



(1)

How odours remaining after a thorough tank cleaning are completely removed?

Steaming

Ventilation

Ventilation and Steaming of tank and pipelines

10.



(1)

With reference to tank cleaning is done with the cargo operation, select the correct statement from below?

Tank cleaning and gas freeing should not take place concurrently with cargo handling

Tank cleaning and gas freeing can take place concurrently with cargo handling

Tank cleaning and gas freeing can take place concurrently with cargo handling based on the agreement with the charterer, terminal representative and the Port authority and after taking all precautions



1.



(1)

Which is the most hazardous operation on a chemical tanker, select the correct one from below?

Multiple chemical loading and unloading

Cleaning and inspection of fuel tanks

Cleaning and inspection of ballast tanks

Gas freeing and cargo tank cleaning



2.



(1)

Why sometimes it is essential to sweep the tank during / after discharging of the vegetable, animal oils and fats?

Many residues can remain on the walls of a tank and start to oxidise

Many residues can remain on the bottom of a tank and start to oxidise

Sweeping the tank during / after discharging of the vegetable, animal oils and fats need not be done



4.



(1)

When prewashing with water to remove the residues of insoluble, how emulsion is formed?

Water and Chemical residues form an emulsion

Water and insoluble chemical residues do not form an emulsion

Water and insoluble chemical residues are churned an emulsion is formed



9.



(1)

The tank cleanliness survey is to assess the surface cleanliness of the entire cargo tank

Wall wash survey provides a true picture of the cleanliness of the tanks

Since samples are drawn from the lower 2m of the vertical bulkheads, creating the possibility of non-representative wall-wash samples being obtained

Ship's crew tend to clean the lower 2 meter more effectively as these are being tested



10.



(1)

How normally recirculation of washing water is done?

A mixture of 5 - 50 tons of hot water with the recommended amount of cleaning chemical is made and used

A mixture of 5 - 50 tons of hot water with the recommended amount of cleaning chemical is made and used with the washing water

A mixture of 5 - 50 tons of sea / fresh water with the recommended amount of cleaning chemical is made and used from a separate tank and is recirculated



2.



(1)

Wall wash inspection for a particular standard, subsequent to cleaning is difficult in select the correct one from below?

Stainless steel tanks

Epoxy coated tanks

Zinc coated tanks



9.



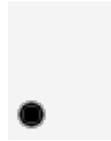
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



6.



(1)

With reference to the cleaning chemical is injected into the washing water by means of a dosage pump, normally how long this chemical addition is done.

10 Hours

5 Hours

1-2 Hours base on the previous cargo and the new cargo to be loaded

As long as the water washing is done



10.



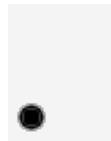
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



4.



(1)

With reference to the cleaning chemical is injected into the washing water by means of a dosage pump, normally how long this chemical addition is done.

10 Hours

5 Hours

1-2 Hours base on the previous cargo and the new cargo to be loaded

As long as the water washing is done



10.



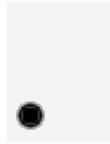
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



7.



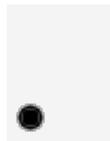
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



1.



(1)

Which is the most common test for cleanliness of the tanks in a chemical tanker?

Testing the chemical as per ASTM(American Standard for Testing and Materials) onboard

Take the samples and send the same for testing ashore

Testing tank walls for cleanliness



4.



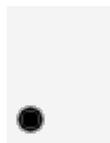
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



4.



(1)

Which is the most common test for cleanliness of the tanks in a chemical tanker?

Testing the chemical as per ASTM(American Standard for Testing and Materials) onboard

Take the samples and send the same for testing ashore

Testing tank walls for cleanliness



5.



(1)

Why washing can be effective only if simultaneous stripping is carried out?

When washing is done with simultaneous stripping, the residues at the bottom of the tank flow towards the suction and stripped out



When washing is done with simultaneous stripping, the residues at the bottom of the tank flow towards the suction and clog the filter

When washing is done with simultaneous stripping, the residues at the sides of the tank flow towards the bottom and settles there

8.



(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains

10.



(1)

With reference to the cleaning chemical is injected into the washing water by means of a dosage pump, normally how long this chemical addition is done.

10 Hours

5 Hours

1 -2 Hours base on the previous cargo and the new cargo to be loaded

As long as the water washing is done

1.



(1)

Which is the most common test for cleanliness of the tanks in a chemical tanker?

Testing the chemical as per ASTM(American Standard for Testing and Materials) onboard

Take the samples and send the same for testing ashore

Testing tank walls for cleanliness

3.



(1)

With reference to the cleaning chemical is injected into the washing water by means of a dosage pump, normally how long this chemical addition is done.

10 Hours

5 Hours

1 -2 Hours base on the previous cargo and the new cargo to be loaded

As long as the water washing is done

5.



(1)

How wall wash inspection is done?

Applying solvent to selected areas of the cargo tank bulkheads and thereafter analysing the recaptured solvent for 'key' quality parameters

Cleaning the selected areas of the cargo tank bulkheads with the solvent and visually look for cleanliness of the selected areas by the Surveyors

Cleaning the selected areas of the cargo tank bulkheads with the solvent and visually look for any chemical residue of the previous cargo in the selected areas

6.



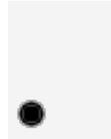
(1)

Where these toxic and asphyxiating gases are present, when residual oil or fat on the structures in the tank starts to decompose?

On the bulk heads

On the four walls of the tank starting from middle of the tank

Sumps and drains



SET 10

1.



(1)

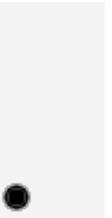
The emergency plan for a ship will be influenced by a number of factors: which one will have the largest impact?

Risk assessment of the ship type and cargo (a vessel could be old, or specialized like a combination carrier; the type of cargo that may cause hazard etc)

Known accident and incidents in shipping and other company vessels

Experience and expertise of vessel master

Experience and expertise of ship board personnel and shore management



2.



(1)

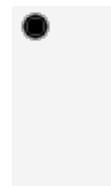
Deepsea Oil Pollution Reporting procedures; Who to report that is mandatory,

Nearest Coastal State Harbor and terminal operators (in port)

Shipowner 's manager; P & I insurer

Head Charterer; Cargo owner

Refer to contact lists



3.



(1)

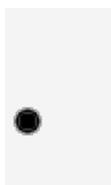
Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech



4.



(1)

Emergency Squad Action; Each damage or casualty is different and unique, and has a different set of parameters. The following guidelines are intended to help the early stages of the occurrences. Identify the most important one

Initially attempt to avoid escalation of the damage/casualty

Eliminate the cause of the damage/casualty

Restore, at least temporarily, damages

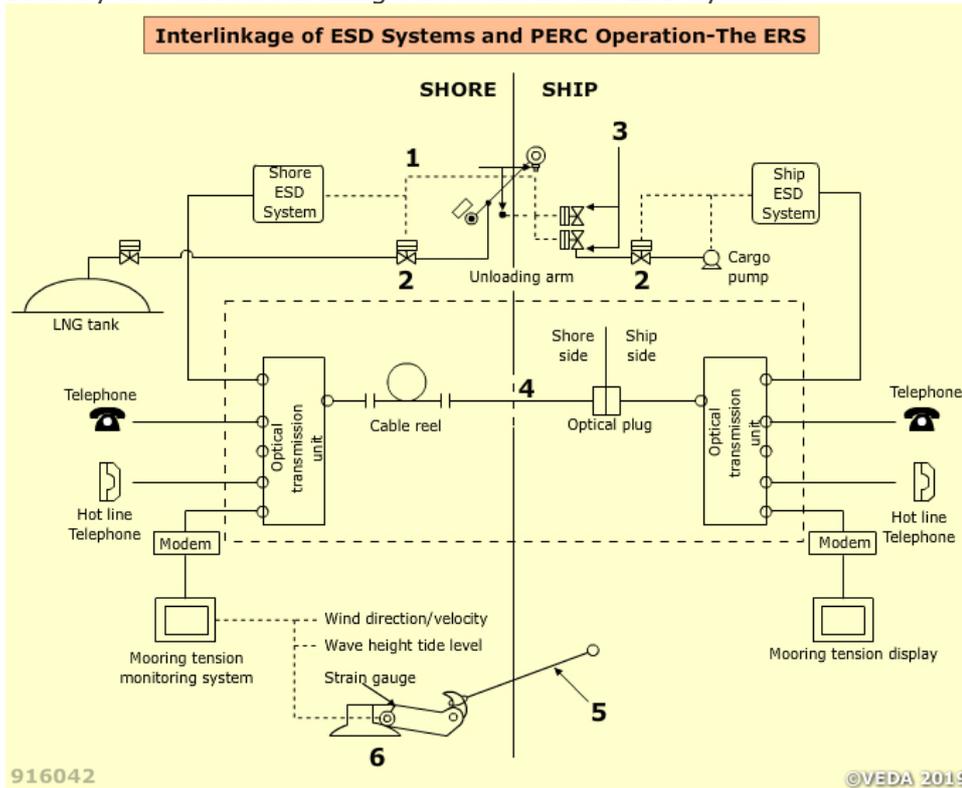
Prevent recurrence of the casualty/damage

5.



(1)

Identify the correct labelling selections in the ESD system



1 - PERC ; 2-ESD Valve; 3- Detection for ship movement; 4-Optical Fiber Cable

1-Detection for ship movement; 2- PERC; 3 - ESD Valve ; 4-Optical Fiber Cable

1-Detection for ship movement; 2-ESD Valve; 3-PERC; 4-Optical Fiber Cable

1-Optical Fiber Cable ; 2-ESD Valve; 3-PERC; 4- Detection for ship movement

6.



(1)

In any emergency, the contingency plan should include many steps: which one of the actions in your opinion, has the best chance to reduce the risk of the vessel getting into a serious danger?

Raising the alarm.

Control the situation, if possible, until help arrives

Locating and assessing the emergency and the dangers involved, and identifying actions already taken.

Organizing manpower and equipment: follow the Emergency Response Plan and mastering crew on pre-assigned roles and stations

7.



(1)

Deepsea Oil Pollution Reporting procedures; What you can request as part of the Assistance required by ships will not include,

Salvage

Weather and sea conditions

Lightening capacity

Mechanical equipment

8.



(1)

The Master shall ensure that drills are carried out for identified emergencies. Identify the value of the drill for crew readiness: The purpose of these drills is to:

Improve the speed of response to identified potential emergency situations

Establish individual training needs

Take into account lesson learnt from drill and exercise when updating the emergency response plans.

To fully test the effectiveness of the existing contingency plans.

10.



(1)

Select the correct statement.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port, under certain circumstances.

A tanker with a defective oil discharge monitoring and control system cannot undertake a ballast voyage.

A tanker with a defective oil discharge monitoring and control system need only repair the system before the next annual MARPOL survey of the IOPP Certificate.

A tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage and one loaded voyage before proceeding to a repair port, provided permission is taken from the relevant authority.

1.



(1)

In case of a collision, the following, amongst other steps are considered as a general plan of action; which one will be a priority in case of an underwater hull damage?

Assessing possible pollution due to rupture of fuel and or cargo (oil or chemical) tanks;

Taking corrective action to minimize the quantum of pollution; reporting the incident.

Assembling the emergency party.

Preparing for or implementing fire-fighting measures (in the event of a fire).

2.



(1)

Identify the statement of a Shipboard Marine Pollution Emergency Plan toward a comprehensive preparedness onboard in facing such an emergency

Coastal State contacts (Focal Points) and Port Contact Lists to be contacted in the event of a pollution incident

Response to reduce or control the discharge of oil / NLS following an incident

Coordination with national and local Authorities in combating pollution

The Plan allows co-ordination between the ship and shore-based Authorities/ Organizations in mitigating the effects of any pollution incident.

5.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors

A

CO₂

discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

High level of oil residues in overboard discharge

8.



(1)

Identify the purpose of a Shipboard Marine Pollution Emergency Plan,

The Shipboard Marine Pollution Emergency Plan is done in accordance with the requirements of regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978

As recommended by IMO the Shipboard Marine Pollution Emergency Plan is a combination of a Shipboard Oil Pollution Emergency Plan (SOPEP) and a Shipboard Marine Pollution Emergency Plan (SMPEP) for Noxious Liquid Substances (NLS).

The Plan contains all information and operational instructions as required by the "Guidelines for the development of the Shipboard Oil Pollution Emergency Plan" as developed by the Organization (IMO), published under MEPC.85(44) and MEPC.54(32) amended by MEPC.86(44).

The plan provides the Master, officers and certain crew members with a practical guide to the prevention of spills and in carrying out the responsibilities associated with regulation 37 of Annex I to MARPOL 73/ 78 and Regulation 17 of Annex II to MARPOL 73/78

9.



(1)

When doing an enclosed space rescue, the person in charge must co-ordinate the rescue:

From inside the space

From the Bridge

From outside the space

From the Engine Control Room

10.



(1)

Fire control plans etc., for emergency; find a statement that is vital when the tanker is at the terminal.

Fire control plans must be permanently displayed in prominent positions showing clearly, for each deck, the location and particulars of all fire-fighting equipment, dampers, controls etc.

Fire control plans should also be displayed, or be readily available, outside the accommodation block for the assistance of shore-based fire-fighting personnel.

The ship's emergency contingency plan should align with a broader plan held by the company management

The procedures developed should anticipate and cover the types of emergency which might be encountered in the activities and trade of the tanker or at terminals regularly visited.

3.



(1)

The Convention that allows States to intervene in a pollution incident at sea is the

MARPOL Convention

SOLAS Convention

CLC Convention

Intervention Convention

5.



(1)

Emergency organization; find a statement from the following that will encompass the emergency duties of the crew in case the vessel is carrying any guests, like a ship surveyor or a guarantee engineer on board:

The station bill must set forth the special duties and duty station of each member of the ship's crew for the various emergencies.

The emergency duties must include those as per the station bill and any other duties necessary for the proper handling of an emergency

The duties include, closing of airports, watertight doors, scuppers, sanitary and other discharges which lead through the vessel's hull below the margin line, etc., the stopping of fans and ventilating systems, and the operating of all safety equipment.

The duties include, the preparing and launching of lifeboats and liferafts.

7.



(1)

Deepsea Oil Pollution Reporting procedures; What to report is listed and identify one that might not be mandatory,

Initial report (Res. A.851(20) as amended by MEPC.138(53))

Assistance required

Characteristics of oil spilled

Cargo/ ballast/ bunker dispositions

9.



(1)

Identify the purpose of a Shipboard Marine Pollution Emergency Plan toward an immediate onboard action

Procedures to report an oil / marine pollution incident

Coastal State contacts (Focal Points) and Port Contact Lists to be contacted in the event of a pollution incident

Response to reduce or control the discharge of oil / NLS following an incident

Coordination with national and local Authorities in combating pollution

7.



(1)

The MFAG is published by the:

International Maritime Organisation

World Health Organisation

United Nations

International Labour Organisation

2.



(1)

In case of a collision, the following, amongst other steps are considered as a general plan of action; which one will be a priority in case of an underwater hull damage?

Stopping engines, sounding the general alarm (and fire alarm, if necessary).

Mustering the crew and searching for any missing person.

Closing all water-tight doors (to contain any possible flooding).

Assessing possible hull damage and its effect on stability.

9.



(1)

Emergency alarm signals are provided on tankers in case of the following; which one of these alarms will be of major importance on a double-hull tankship with empty ballast tanks?

High concentration of toxic or flammable vapors

A

CO₂

discharge in engine-room or pumproom

When level of oxygen in inert gas entering tanks exceeds 5%

High level of oil residues in overboard discharge

10.



(1)

Deepsea Oil Pollution Reporting procedures; Who to report that is mandatory,

Nearest Coastal State Harbor and terminal operators (in port)

Shipowner's manager; P & I insurer

Head Charterer; Cargo owner

Refer to contact lists

2.



(1)

Lung inflammation will cause:

Breathlessness and drowsiness

Breathlessness and confusion

Breathlessness and a dry cough

Breathlessness and slurred speech

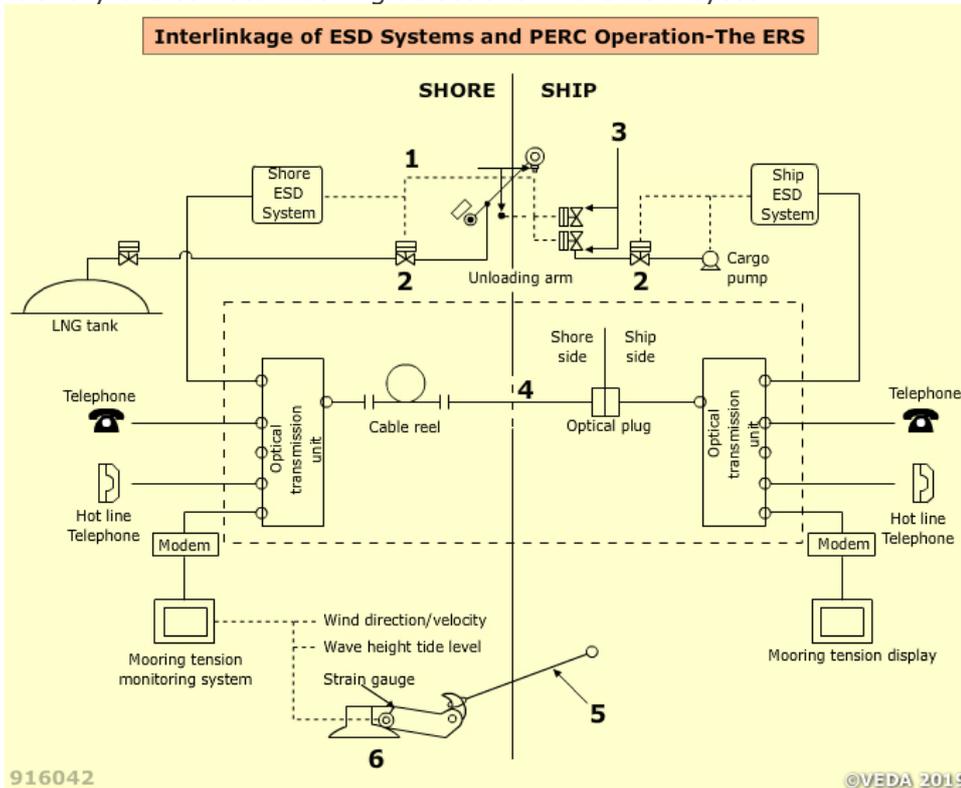


9.



(1)

Identify the correct labelling selections in the ESD system



6 -Optical Fiber Cable ; 5-Mooring Line; 4-PERC; 3- Mooring Hook

3 -Optical Fiber Cable ; 4-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 3-Mooring Line; 5-PERC; 6- Mooring Hook

4 -Optical Fiber Cable ; 5-Mooring Line; 3-PERC; 6- Mooring Hook

