



IFIA Chemical Cargo Inspector Certification Programme

Test Questions

English Language First Edition July 2020

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Test Questions

English Language First Edition July 2020

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Reference is made in this document to the American Petroleum Institute's Manual of Petroleum Measurement Standards (API MPMS), to International Standards Organisation (ISO) documents and to the Energy Institute's Hydrocarbon Management (HM) documents (previously Institute of Petroleum Measurement Manual, IP PMM). These are copyright publications and questions or requests for information regarding these standards should be addressed to the respective organisation.

Introduction

This document has been produced by the TIC Council Petroleum and Petrochemical Committee to represent a basic body of knowledge which is expected of a chemical cargo inspector. A sub-set of 60 of these questions will be used to form the examination which must be passed as part of the qualification “Certified Inspector of Chemical Cargo”. The pass level is 75%.

Before being eligible to being a certified Inspector of Chemical Cargo, candidates must possess a valid 5-year IFIA Petroleum Inspector certificate. Candidates must also have completed a minimum of 6 months working as a chemical cargo inspector and a specified programme of field and classroom training. This is detailed in the TIC Council Chemical Cargo Inspector Training Requirements List and must be fully documented in the employer’s internal training records. Although some of the training tasks are identical to those required for petroleum inspectors these must be repeated specifically for chemical cargoes.

The Chemical Cargo Inspector Certification Programme is an international programme and the qualification is international and transferable. The guidelines governing the Chemical Cargo Inspector Certification Programme are determined by the TIC Council Petroleum and Petrochemical Committee.

This first edition of the test questions includes metric and traditional units with alternate content in square brackets; []. Figures are **not** equivalent.

To obtain a copy of the guidelines or for any other enquiries concerning the programme please visit the website at www.tic-council.org. Further contact details are available there.

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SECTION 1 – CALCULATIONS

- 1.01 Which table is used to calculate volume correction for aromatics (benzene, cyclohexane, cumene)?**
- a. Table 6C
 - b. Table D4311
 - * c. Table D1555
 - d. API Table 54C
- 1.02 Factors for correcting observed volume to standard temperature can be obtained from:**
- a. API-ASTM-EI Petroleum Measurement Tables (B, C or D)
 - b. ASTM D1555 and 1555M (Metric edition), which tabulates VCFs for various aromatics.
A volume correction factor, per degree difference in observed temperature, obtained from a recognized source or agreed by the parties.
 - * d. Answers a., b. and c. are all correct
- 1.03 Which calculation procedure(s) can be used to convert volume to weight for chemical cargoes?**
- a. Correct the density/SG at standard temperature with the thermal expansion coefficient to the observed temperature and multiply this by the volume at observed temperature to obtain mass/weight. (Density/SG refers to vacuum/air - mass/weight).
 - b. Correct the density/SG at observed temperature with the thermal expansion coefficient to the standard temperature and multiply this by the volume at observed temperature to obtain mass/weight. (Density/SG refers to vacuum/air - mass/weight).
 - c. Correct the volume at the observed temperature to the volume at the standard temperature by applying a VCF (volume correction factor) after which the weight/mass is obtained by multiplying the standard volume with the density at standard temperature.
 - * d. Answers a. and c. are correct

- 1.04** **VEFs are not applicable to chemical cargoes.**
- a. True
 - * b. False
 - c.
 - d.
- 1.05** **If a product density is given as 876.4kg/m³ [30.0 deg API] at 20°C [68°F] what will be the observed density at 15°C [60°F]?**
- a. 867.4kg/m³ [31.6 deg API]
 - b. 875.3kg/m³ [30.2 deg API]
 - * c. 879.8kg/m³ [29.3 deg API]
 - d. 871.4kg/m³ [30.9 deg API]
- 1.06** **What is the standard reference temperature for calculations in Brazil, South Africa and Russia?**
- a. 60°F
 - * b. 20°C
 - c. 15°C
 - d. 25°C
- 1.07** **Using API Chapter 11.1.6.1, what is the volume at 15°C [60°F] of 1,289,561 liters [8,100 bbls] of MTBE measured at 22.5°C [72°F] where Ctpl = 0.98933?**
- a. 951.884 Mt [10,470.7 tons]
 - b. 1,293.402 m³ [8,135.3 bbls]
 - c. 1,289.561 m³ [8,111.1 bbls]
 - * d. 1,275.801 m³ [8,024.5 bbls]

1.08

The percentage purity of a chemical can be calculated by:

- a. multiplying the mass of the pure chemical by the total mass of the sample, and then dividing this number by 100.
- * b. dividing the mass of the pure chemical by the total mass of the sample, and then multiplying this number by 100.
- c. dividing the mass of the pure chemical by the total mass of the sample, and then multiplying this number by 10.
- d. dividing the mass of the pure chemical by the total mass of the sample, and then multiplying this number by 1000.

SECTION 2 – DEFINITIONS

- 2.01** Which ASTM standard, API MPMS Chapter or Energy Institute HM document refers to “Measurement and Sampling of Cargoes on Board Tank Vessels using Closed and Restricted Equipment”?
- a. ASTM D6560 - 12
 - b. API MPMS Chapter 17.13
 - * c. EI HM 52/API MPMS Chapter 17.11
 - d. ASTM E2664
- 2.02** API MPMS Chapter 17.12/Energy Institute HM 51 refers to :
- * a. Procedures for Bulk Liquid Chemicals Cargo Inspections
 - b. Guidelines for the introduction of chemical additives and dyes to petroleum cargoes on board ship
 - c. Measurement and Sampling of Cargoes on Board Tank Vessels Using Closed and Restricted Equipment
 - d. Guidelines for Pre-Loading Inspection of Marine Vessel Cargo Tanks
- 2.03** What is a toxic substance?
- * a. A substance which is liable to cause either harm to human health, serious injury or death.
 - b. A substance, which when ingested, can cause damage to living tissue
 - c. Any vapour which may cause asphyxiation
 - d. All corrosive substances such as acids, anhydrides and alkalis.
- 2.04** The GHS (globally harmonised system) refers to;
- a. Chemical liquid production and storage
 - * b. Classification and labelling
 - c. Chemical compatibility
 - d. Sampling of liquid chemicals

- 2.05** **What is meant by "hazardous" chemical?**
- a. Any chemical product defined as a manufactured item
 - * b. Any chemical that presents a physical hazard or a health hazard
 - c. A chemical substance consisting of two or more elements combined or bonded together
 - d. A complex chemical mixture
- 2.06** **What is the most important action when dealing with a toxic substance?**
- * a. Read the safety data sheet and act accordingly
 - b. Wear coveralls and safety footwear
 - c. Wear a chemical protection suit, gloves and a face mask
 - d. Answers b. and c. are correct
- 2.07** **What issues are covered by toxic chemicals regulations?**
- a. Maximum amounts which can be stored
 - * b. Exposure limits, routes and length of exposure
 - c. Sampling procedures
 - d. Answers a., b. and c. are all correct
- 2.08** **What type of substance is an alkaline**
- a. Acidic
 - * b. Basic
 - c. Neutral
 - d. Ammonia
- 2.09** **Where would flameproof and intrinsically safe equipment be needed?**
- a. In a workshop or control room
 - * b. In an explosive atmosphere
 - c. On the bridge of a chemical ship
 - d. In a laboratory

2.10 What is a "ceiling limit"?

- a. The average exposure to a contaminant to which a worker may be exposed
- * b. The maximum permissible exposure limit to which a worker may be exposed
- c. The maximum height to which toxic vapours will rise
- d. A line of defense to protect against accidental contact

2.11 What is a Charter Party?

- a. A contract for a vessel hired for a specific amount of time. The shipowner manages the vessel but the charterer gives orders for the employment of the vessel, and may sub-charter the vessel on a time charter or voyage charter basis.
- b. A vessel or group of vessels included in a contract of to lift a fixed or determinable quantity of cargo of a specified type over a given period of time
- * c. A contract signed between shipowner and charterer when hiring a vessel for the carriage of goods
- d. A fine for a breach of the obligation to load and/or discharge the vessel within the agreed laytime, other delays may also cause similar compensation to become payable.

2.12 What does "on hold" mean for a cargo?

- a. The cargo at the shore terminal has not yet been cleared for loading
- b. The cargo documentation has not yet been received
- c. The cargo cannot be moved or transferred
- * d. Answers a., b. and c. are all correct

2.13 A corrosive substance is

- a. Any liquid having a flashpoint at or above 100°F (37.8°C), but below 300°F (93.3°C)
- b. Any liquid or solid that is soluble in water
- * c. Any liquid or solid that causes damage to human skin tissue and/or other materials
- d. An organic compound that contains the bivalent -O-O structure and which may be considered to be a structural derivative of hydrogen peroxide

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- 2.14** **What does the term "gas free" mean?**
- a. A tank, compartment or container is gas free when about 50% of fresh air has been introduced into it to minimise the level of any flammable or toxic gases.
 - * b. A tank is gas free when sufficient fresh air has been introduced into it to lower the level of any flammable, toxic, or inert gas to that required for a specific purpose. e.g. hotwork, entry, etc.
 - c. The composition of hydrocarbons in the mixture in the tank is lower than 40%
 - d. The introduction of inert gas into a tank already in the inert condition with the object of further reducing the existing oxygen content
- 2.15** **A food-grade chemical is;**
- * a. acceptable for use in food production
 - b. equivalent to technical grade
 - c. equivalent to laboratory grade
 - d. Answer a. and b. are correct
- 2.16** **MTBE is the abbreviation of:**
- * a. methyl tertiary butyl ether
 - b. mono tertiary butyl ether
 - c. methyl tertiary butyl ethanol
 - d. mono tertiary butyl ethanol

SECTION 3 – PRODUCT CHARACTERISTICS

3.01 Which of the following cargoes should be inhibited?

- a. Acetone
- b. Styrene
- c. Vinyl acetate
- * d. Answers b. and c. are correct

3.02 Which of the following cargos should be inhibited?

- a. Acrylates
- b. Monomers
- c. Acids
- * d. Answers a. and b. are correct

3.03 Which of the following are used as inhibitors?

- a. Methyl tertiary butyl ether
- b. 4-Tert butylcatechol (TBC)
- c. Mono methyl ether hydroquinone
- * d. Answers b. and c. are correct

3.04 Which of the following are used as inhibitors?

- a. Alpha olefins
- b. 4-Tert butylcatechol (TBC)
- c. Mono methyl ether hydroquinone
- * d. Answers a., b. and c. are all correct

3.05 Why are inhibitors used for monomers?

- a. To reduce viscosity
- * b. To help prevent polymerisation
- c. To increase cargo density
- d. Answers a. and c. are correct

- 3.06** **Why is heating not required for cargoes of styrene monomer?**
- * a. Heating would degrade the inhibitor
 - b. Heating would colour the product
 - c. Heating would increase evaporative losses

 - d. Heating would break down the monomer
- 3.07** **What is an acceptable transport temperature for styrene monomer?**
- a. 15°C [60°F]
 - b. 25°C [75°F]
 - c. 35°C [95°F]
 - * d. Answers a. and b. are correct
- 3.08** **What is the maximum transport temperature for styrene monomer?**
- a. 20°C [70°F]
 - * b. 30°C [85°F]
 - c. 35°C [95°F]
 - d. 40°C [105°F]
- 3.09** **Is heating required for benzene during transport?**
- * a. Sometimes (maintain at around 20°C [70°F])
 - b. Always (maintain at around 40°C [105°F])
 - c. Never
 - d. Benzene should be refrigerated
- 3.10** **When should a wall wash be performed when loading methanol?**
- a. Following a cargo of palm oil
 - b. Following a cargo of sulphuric acid
 - c. Following a cargo of gas oil
 - * d. Answers a., b. and c. are correct

- 3.11** **Acrylate is an inhibited cargo.**
- * a. True
 b. False
 c.
 d.
- 3.12** **When loading acrylate it is important to ensure that:**
- a. tanks are clean, dry and odour free
 b. nitrogen blanketing is used
 c. the product is aerated
* d. Answers a. and c. are correct
- 3.13** **Is a nitrogen purge required when loading acrylates?**
- * a. Yes
 b. No
 c.
 d.
- 3.14** **Carriage temperatures are similar for all acrylates.**
- * a. True
 b. False
 c.
 d.
- 3.15** **Why is the presence of dissolved oxygen essential when loading acrylates?**
- * a. The oxygen prevents evaporation
 b. Oxygen is necessary for the inhibitor to be effective
 c. To reduce flammability
 d. To ensure that the product remains clear and bright

- 3.16** **Caustic soda should be sampled into**
- * a. Glass or high density polyethylene (HDPE) bottles
 - b. Aluminium cans
 - c. Any purpose made chemical sample container
 - d. Steel cans
- 3.17** **Caustic soda is an odorless product?**
- * a. **True**
 - b. **False**
 - c.
 - d.
- 3.18** **Which grade of mono ethylene glycol (MEG) has the higher purity?**
- a. Technical
 - * b. Fibre
 - c. Pure
 - d. Absolute
- 3.19** **Why is inert gas blanketing required when loading ethylene dichloride?**
- * a. To prevent any increase in moisture content
 - b. To prevent oxidation
 - c. To reduce evaporation
 - d. Answers b. and c. are correct
- 3.20** **When loading ethylene dichloride to a dedicated vessel**
- a. tanks should be purged with nitrogen before loading
 - * b. tanks should be blanketed with nitrogen after loading
 - c. tanks should be purged with ships' inert (flue) gas
 - d. no inert gas is required

- 3.21** **Methylene diphenyl diisocyanate (MDI) and toluene diisocyanate (TDI) are heated cargos. What should heating coils for these cargos be filled with?**
- a. Dry nitrogen
 - b. Warm water
 - c. Steam
 - * d. Thermal oil
- 3.22** **What tank construction is required when loading acids?**
- a. Mild steel
 - * b. Stainless steel
 - c. Epoxy coated mild steel
 - d. Answers a. and c. are correct
- 3.23** **Ammonia can be transported as:**
- a. an aqueous liquid
 - b. a gaseous liquid
 - c. a solid
 - * d. Answers a. and b. are correct
- 3.24** **Blanketing with nitrogen is required after loading aqueous ammonia**
- a. True
 - * b. False
 - c.
 - d.
- 3.25** **What is the amount of ethanol present in E10 gasoline?**
- a. No ethanol is present in a gasoline product
 - * b. A maximum of 10% by volume
 - c. Between 8% and 12% by volume
 - d. Between 0% and 5% by volume

- 3.26** **How heavy are benzene vapours?**
- a. Lighter than air
 - * b. Heavier than air
 - c. Same as air
 - d. Benzene does not emit vapour
- 3.27** **Caustic soda should not come into contact with seawater because:**
- a. there may be an explosive reaction
 - b. the cargo or sample will be diluted
 - c. the cargo or sample will become cloudy
 - * d. Answers b. and c. are correct
- 3.28** **Which of the following cargos will normally need to be heated?**
- a. Sulphuric acid
 - b. Methanol
 - c. Glycol
 - * d. Caustic soda
- 3.29** **How should a marine cargo of hydrogen peroxide solution over 60% be carried?**
- a. In any vessel providing that other cargo is carried separately with seawater ballast segregation
 - b. Only under an inert gas blanket
 - * c. In dedicated vessels only
 - d. Answer a. and b. are correct
- 3.30** **Which chemical is used to passivate cargo tanks?**
- * a. Nitric or citric acid
 - b. Phosphoric acid
 - c. Caustic soda
 - d. Methanol

- 3.31** **Passivation of cargo tanks is usually carried out before loading:**
- * a. corrosive or reactive chemicals
 - b. aromatic solvents
 - c. refined palm oils
 - d. Answers a., b. and c. are correct
- 3.32** **What type of cargo tanks would be passivated?**
- * a. Stainless steel
 - b. Zinc galvanised
 - c. Epoxy coated
 - d. Answers a., b. and c. are correct
- 3.33** **Styrene monomer, acrylates and vinyl acetate monomer are all inhibited cargoes.**
- * a. True
 - b. False
 - c.
 - d.
- 3.34** **A temperature rise of a parcel of styrene monomer by more than 2°C [4°F] per day, indicates that:**
- a. the product is loaded near a heated cargo
 - * b. polymerisation process has started
 - c. the ambient humidity is too high and water is being absorbed
 - d. the product is not loaded in inert gas conditions
- 3.35** **How can the temperature of styrene monomer be slowed down if it rises by more than 2°C [4°F] per day?**
- * a. By adding inhibitor to the cargo
 - b. By introducing inert gas in the cargo tanks
 - c. By discharging any heated product loaded on the vessel
 - d. By adding antioxidant additive to the cargo

- 3.36** **Transportation temperatures for styrene monomer shall not exceed 30°C [85°F].**
- * a. True
 b. False
 c.
 d.
- 3.37** **What is the standard amount of inhibitor in styrene monomer, after production?**
- a. 1ppm to 2ppm
 b. 50ppm to 100ppm
* c. 10ppm to 15 ppm
 d. 150ppm to 500ppm
- 3.38** **What is the freezing point of paraxylene?**
- * a. -17.8°C [0°F]
 b. 13.3°C [55.9°F]
 c. 0°C [32°F]
 d. 24.1°C [75.4°F]
- 3.39** **To inhibit exothermic polymerization _____ is added to styrene monomer**
- * a. 4-Tertiary Butyl Catechol (TBC)
 b. Ethylene Dichloride (EDC)
 c. Diethanolamine (DEA)
 d. Sulphuric Acid (SA)
- 3.40** **Caustic soda is also known as:**
- * a. sodium hydroxide
 b. hydrochloric acid
 c. potassium hydroxide
 d. sodium chloride
- 3.41** **Which factors may initiate polymerisation of styrene monomer?**
- a. Heat
 b. Lack of inhibitor
 c. Lack of dissolved oxygen
* d. Answers a., b. and c. are all correct

- 3.42 Sodium hydroxide solution is a:**
- a. strong acid
 - * b. strong alkali
 - c.
 - d.
- 3.43 The chemical formula for caustic soda is:**
- * a. NaOH
 - b. NaCl
 - c. KOH
 - d. H₂SO₄
- 3.44 Sodium hydroxide is incompatible with:**
- a. aluminum and acids
 - b. brass and bronze
 - c. copper, lead, tin and zinc
 - * d. Answers a., b. and c. are all correct
- 3.45 The pH value of caustic soda is:**
- a. between 1 and 2
 - b. 7
 - * c. between 12 and 14
 - d. between 7 and 10
- 3.46 MeOH is the chemical formula for:**
- a. methane
 - * b. methanol
 - c. sodium hydroxide
 - d. Answers a., b. and c. are all wrong
- 3.47 Methanol is categorised as:**
- * a. volatile, flammable and poisonous
 - b. flammable and poisonous
 - c. explosive, flammable and poisonous
 - d. not harmful

- 3.48** **Methanol vapours:**
- a. are lighter than air
 - b. are the same density as air
 - * c. are heavier than air
 - d. may be lighter or heavier than air, depending on the temperature
- 3.49** **MTBE is an oxygenate**
- * a. True
 - b. False
 - c.
 - d.
- 3.50** **MTBE is added to gasoline to:**
- a. reduce the odour
 - b. improve colour
 - * c. increase the octane number
 - d. Answers a., b. and c. are correct

SECTION 4 - SAFETY

- 4.01 An Isotank is not classed as a confined space if entered for cleanliness inspection**
- a. True
 - * b. False
 - c.
 - d.
- 4.02 A Stop Work Authority can only be declared once all personnel and clients agree**
- a. True - commercial implications may mean it should not be declared
 - * b. False - Stop Work Authority is to be used whenever there is risk to the person or persons declaring it
 - c.
 - d.
- 4.03 Mobile phones may be used as a flashlight during gauging and sampling operations if a safety flashlight is not available**
- a. Any mobile phone may be used in the flashlight mode at all times
 - b. Mobile phones should not be carried when performing these operations on vessels or in shore facilities
 - c. Only intrinsically safe flashlights are allowed for illumination purposes
 - * d. Answers b. and c. are correct
- 4.04 When are inspectors permitted to operate valves on shore facilities?**
- a. When asked to do so by terminal personnel
 - b. When terminal personnel are not present
 - c. When the terminal personnel are too busy
 - * d. Inspectors must not operate any shore facility valves

- 4.05 Does caustic soda solution burn immediately on contact with skin ?**
- a Yes - burns are felt immediately
 - * b No - burns are not immediately painful. The pain may be delayed by minutes or hours
 - c. Caustic soda does not cause burns
 - d. Caustic soda is normally diluted and does not cause burns
- 4.06 What are the First Aid procedures for skin contact with caustic soda solution?**
- a. Use a strong acid to neutralise the alkaline material
 - b. Soak the affected area with glycols or milk for at least 15 minutes
 - * c. Immediately flush the area with large amounts of water, remove clothing and carry on washing for 15 minutes at least
 - d. First Aid procedures are not required
- 4.07 When handling caustic soda solution what PPE is required?**
- a. Gloves, respirator, hard hat and SCBA
 - * b. Gloves, eye and face protection, hard-hat, flame retardant uniform and safety shoes, respirator if risk of overexposure
 - c. Gloves, face-shield and sun glasses
 - d. Gloves, laboratory coat and SCBA
- 4.08 When introducing additives to a cargo what should be discussed prior to starting the operation?**
- a. The appropriate safe method of additivisation and amount to be added
 - b. The knowledge and training of personnel in procedure
 - c. The hazards of the materials and required PPE
 - * d. Answers a., b. and c. are all correct

- 4.09** **When manually introducing additives to a cargo:**
- a. all tank hatches should be opened to make operation quicker
 - b. small drums/barrels should be used to enable the additive to be poured in by hand
 - c. the ship's crew should perform the operation under supervision
 - * d. Answers a., b. and c. are all wrong
- 4.10** **What is the minimum PPE (in addition to flame retardant coveralls, safety boots and hard hat) which is required when additive operations are being carried out?**
- * a. PPE which meets the SDS requirements for the chemicals used
 - b. Gloves and eye protection
 - c. Gloves and a face-shield
 - d. Gloves, and a full mask respirator
- 4.11** **When introducing additives to a cargo what should be checked before to starting the operation?**
- a. That the vessel has isolated the cargo tank and reduced the IG pressure
 - b. That emergency eyewash and a spill kit is available
 - c. That the pump and hose(s) are secured and earth bonded
 - * d. Answers a., b. and c. are all correct
- 4.12** **When working with strong acids or bases releasing fumes, in addition to a hard hat and safety footwear, what other personal protective equipment should be worn?**
- a. Safety glasses and leather gloves
 - b. Rubber gloves, chemical protective clothing and goggles,
 - * c. Rubber gloves, chemical protective clothing, goggles, face shield and respirator or SCBA
 - d. Rubber gloves, goggles, and coveralls

- 4.13** **Before sampling a chemical in shore tank which is under a nitrogen blanket, what must an Inspector do ?**
- a. Request that the nitrogen supply to the tank is turned off
 - b. Read the SDS and wear the appropriate PPE
 - c. Inform the terminal of the requirements for sampling and take the appropriate measures
 - * d. Answers a., b. and c. are all correct
- 4.14** **Inhibitors which are added to prevent cargoes becoming viscous and possibly solid after an exothermic reaction must have a certificate placed onboard before sailing**
- * a. True
 - b. False
 - c.
 - d.
- 4.15** **What may happen to a cargo if insufficient inhibitor is added?**
- a. The cargo may become viscous
 - b. The cargo may become solid
 - c. The cargo may undergo a vigorous exothermic reaction
 - * d. Answers a., b. and c. are all correct
- 4.16** **Symptoms of chronic exposure to styrene monomer are:**
- a. tiredness / lethargy
 - b. headaches and vertigo
 - c. memory loss
 - * d. Answers a., b. and c. are all correct
- 4.17** **If ingested, as little as 10ml of methanol can cause permanent:**
- a. amnesia
 - * b. blindness
 - c. baldness
 - d. deafness

- 4.18 Symptoms of MTBE exposure include:**
- a. nausea and headache
 - b. confusion, dizziness and lightheadedness
 - c. nose and throat irritation
 - * d. Answers a., b. and c. are correct
- 4.19 In a stable work environment which class of respirator cartridge is suitable for MTBE?**
- * a. organic vapour
 - b. ammonia vapour
 - c. dust filter
 - d. none required
- 4.20 Personnel involved in operations with carcinogenic cargoes must wear chemical protective suits and respiratory protection when:**
- a. taking samples of cargo
 - b. entering tanks where the vapour concentration is known not to be zero ppm as indicated by a suitable gas analyser
 - c. transporting samples
 - * d. Answers a. and b. are correct
- 4.21 A chemical classed as "hazardous" is:**
- a. any product defined as a manufactured item
 - * b. any chemical that presents a physical, environmental or health hazard
 - c. a chemical substance consisting of two or more elements combined or bonded together
 - d. a complex mixture
- 4.22 Safety eyewear and face protection is an essential part of PPE when handling concentrated acids or bases.**
- * a. True
 - b. False
 - c.
 - d.

- 4.23 **To check the odour of a chemical, the head or face should be directly over the opening of the container and a deep breath should be taken to get a good sample of the odour.**
- a. True
 - * b. False
 - c.
 - d.
- 4.24 **What is a "ceiling limit"?**
- a. The average exposure to a contaminant to which a worker may be exposed
 - * b. The maximum permissible exposure limit
 - c. The maximum height to which toxic vapours will rise
 - d. Line of defense to protect against accidental contact
- 4.25 **Every employer is obliged to train their employees on the prevention of chemical risks if there is any likelihood of exposure to hazardous chemical agents.**
- * a. True
 - b. False
 - c.
 - d.
- 4.26 **The main source of safety information regarding a cargo which should always be referred to is:**
- a. the vessel or terminal operators
 - * b. the SDS for the material concerned
 - c. the client or cargo owner
 - d. work colleagues
- 4.27 **What is the main hazard associated with handling sulphuric acid?**
- a. It is flammable
 - b. It is toxic
 - * c. It is corrosive
 - d. It is an oxidising liquid

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- 4.28** **What is the main hazard associated with handling phosphoric acid?**
- a. It is flammable
 - b. It is toxic
 - * c. It is corrosive
 - d. It is an oxidising liquid
- 4.29** **What is the main hazard associated with handling caustic soda?**
- a. It is flammable
 - b. It is toxic
 - * c. It is corrosive
 - d. It is an oxidising liquid
- 4.30** **What is the hazard associated with handling acetone?**
- * a. It is flammable
 - b. It is toxic
 - c. It is corrosive
 - d. It is an oxidising liquid
- 4.31** **What is the main hazard associated with handling methanol?**
- * a. It is flammable
 - b. It is toxic
 - c. It is corrosive
 - d. It is an oxidising liquid
- 4.32** **What are the safety risk(s) associated with handling benzene?**
- a. It is flammable
 - b. It is toxic
 - c. It is carcinogenic
 - * d. Answers a., b. and c. are correct
- 4.33** **What are the safety risk(s) associated with handling ethyl acrylates?**
- a. It is flammable
 - b. It is toxic
 - c. It is corrosive
 - * d. Answers a., b. and c. are correct
-

- 4.34** **What is the main hazard associated with handling mono ethylene glycol (MEG)?**
- a. It is an oxidising liquid
 - b. It is corrosive
 - * c. It is harmful if swallowed
 - d. It is flammable
- 4.35** **What are the safety risk(s) associated with handling styrene monomer?**
- a. It is flammable
 - b. It is carcinogenic
 - c. It will cause eye damage
 - * d. Answers a., b. and c. are correct
- 4.36** **What is the the main hazard associated with the inhibitor 4-tert butylcatechol (TBC)?**
- a. It is flammable
 - b. It is carcinogenic
 - * c. It is harmful if in contact with skin
 - d. It is an oxidising liquid
- 4.37** **What is the main hazard associated with the inhibitor mono methyl ether hydroquinone?**
- a. It is flammable
 - b. It is corrosive
 - * c. It is harmful if in contact with skin
 - d. It is an oxidising liquid
- 4.38** **What additional PPE would be required in addition to safety footwear, flame retardent coveralls, safety helmet/glasses for handling 4-Tert butylcatechol (TBC)?**
- * a. Chemical suit, safety visor, gauntlet gloves.
 - b. No additional PPE
 - c. SCBA
 - d. RPE with suitable filter cartridge, gauntlet gloves.

- 4.39** **What additional PPE would be required in addition to safety footwear, flame retardent coveralls, safety helmet/glasses for handling phenol**
- * a. Chemical apron or full chemical suit, safety visor, RPE, gauntlet gloves plus chemical antidote.
b. No additional PPE
c. SCBA
d. RPE with suitable filter cartridge, gauntlet gloves.
- 4.40** **What additional PPE would be required in addition to safety footwear, flame retardent coveralls, safety helmet/glasses for handling methanol**
- * a. Chemical suit, safety visor, gauntlet gloves.
b. No additional PPE if good work practice or ventilation
c. SCBA
d. RPE with suitable filter cartridge, gauntlet gloves
- 4.41** **What additional PPE would be required in addition to safety footwear, flame retardent coveralls, safety helmet/glasses for handling caustic soda?**
- * a. Chemical apron or full chemical suit, safety visor, gauntlet gloves, RPE if ventilation is poor.
b. No additional PPE
c. SCBA
d. RPE with suitable filter cartridge, gauntlet gloves
- 4.42** **What additional PPE would be required in addition to safety footwear, flame retardent coveralls, safety helmet/glasses for handling sulphuric acid?**
- * a. Chemical suit, safety visor, gauntlet gloves, RPE
b. No additional PPE is required
c. SCBA
d. RPE with suitable filter cartridge, gauntlet gloves

- 4.43** **What additional PPE would be required in addition to safety footwear, flame retardant coveralls, safety helmet/glasses for handling phosphoric acid?**
- * a. Chemical suit, safety visor, gauntlet gloves, RPE.
 - b. No additional PPE
 - c. SCBA
 - d. RPE with suitable filter cartridge, gauntlet gloves
- 4.44** **What additional PPE would be required in addition to safety footwear, flame retardant coveralls, safety helmet/glasses for handling ethyl acrylates**
- a. Chemical suit, safety visor, gauntlet gloves, RPE.
 - b. No additional PPE
 - c. SCBA
 - * d. RPE with suitable filter cartridge, gauntlet gloves
- 4.45** **What is the minimum oxygen content for tank entry?**
- a. 18.6%
 - b. 19.0%
 - * c. 19.5%
 - d. Answers a., b. and c. are all wrong
- 4.46** **What tests are required before entering a cargo tank?**
- a. Oxygen content
 - b. Lower explosive limit
 - c. Toxic vapour testing
 - * d. Answers a., b. and c. are all correct
- 4.47** **Someone (an attendant) must always stand watch at the entrance to a cargo tank if an inspector or any other persons are inside.**
- * a. True
 - b. False
 - c.
 - d.

- 4.48** If an unconscious person is seen lying in a cargo tank, an inspector or other nearby person should immediately enter to rescue the person as fast action is very important.
- a. True
 - * b. False
 - c.
 - d.
- 4.49** The first action to be taken if someone becomes unconscious in a cargo tank is to:
- a. enter immediately to rescue the person
 - b. measure the oxygen content in the tank
 - * c. sound the alarm
 - d. Answers a., b. and c. are all correct
- 4.50** Which of the following are considered to be confined spaces?
- a. A cofferdam
 - b. An external floating roof tank
 - c. A ship's tank
 - * d. Answers a., b. and c. are all correct
- 4.51** What is a safe oxygen content for entry to a confined space?
- * a. 20%
 - b. 19%
 - c. 18%
 - d. Answers a., b. and c. are all wrong
- 4.52** A confined space is one that:
- a. has limited means of access and exit
 - b. is not designed for continuous occupation
 - c. has limited natural ventilation
 - * d. Answers a., b. and c. are all correct

- 4.53** **Before entering a confined space which of the following tests are required?**
- a. Oxygen content
 - b. Lower explosive limit
 - c. Toxic gas testing
 - * d. Answers a., b. and c. are all correct
- 4.54** **Someone must always stand watch at the entrance to a confined space if someone is inside.**
- * a. True
 - b. False
 - c.
 - d.
- 4.55** **If hot work is taking place in a shore tank at the same time as tank entry for calibration, the fire watch attendant can also monitor the inspector performing calibration work.**
- a. True
 - * b. False
 - c.
 - d.
- 4.56** **An inspector in a tank must be visible to the attendant at all times.**
- a. True
 - * b. False
 - c.
 - d.
- 4.57** **When performing a wall wash is it acceptable for the inspector to be out of sight of the attendant?**
- a. Yes, if this is necessary to obtain the sample(s)
 - b. No, the attendant must be able to see the inspector at all times
 - c. Yes, the attendant only needs to monitor entry and exit
 - * d. Yes, providing that continuous voice contact is maintained

- 4.58** **Who should conduct hazard determinations for liquid chemicals?**
- a. Manufacturers
 - b. End users
 - c. Importers
 - * d. Answers a. and c. are correct
- 4.59** **After dilution, an acid may still be corrosive.**
- * a. True
 - b. False
 - c.
 - d.
- 4.60** **The document that provides essential information regarding the characteristics of a chemical are:**
- a. The label on the container
 - * b. The Safety Data Sheet (SDS)
 - c. There are no formal documents
 - d. The Certificate of Origin
- 4.61** **What types of information are included on an SDS?**
- a. Health and safety information
 - b. Environmental protection information
 - c. Emergency actions/procedures
 - * d. Answers a., b. and c. are all correct
- 4.62** **The advantage of nitrile gloves is that they are resistant to all chemicals**
- a. True
 - * b. False
 - c.
 - d.
- 4.63** **Benzene is carcinogenic.**
- * a. True
 - b. False

SECTION 5 – TANK INSPECTION

- 5.01** **What issues can warrant rejecting a chemical cargo tank?**
- a. High temperature following steam cleaning
 - b. Undrained vent or inert gas lines
 - c. Flaking or broken blisters of the tank coating
 - * d. Answers a., b. and c. are correct
- 5.02** **Which type(s) of cargo tank lining are used on chemical tankers?**
- a. Stainless steel
 - b. Organic coating (generally epoxy phenolic or epoxy based)
 - c. Inorganic coating (zinc silicate)
 - * d. Answers a., b. and c. are correct
- 5.03** **The cleaning method and preparation of ship's tanks and lines is the responsibility of:**
- a. the inspector
 - * b. the master of the vessel
 - c. the terminal
 - d. the crew of the vessel
- 5.04** **A pre loading inspection for caustic soda should include observation and recording of:**
- a. the quality and quantity of any OBQ
 - * b. the condition of tank coating and corrosion levels
 - c. the condition of the inert gas system
 - d. Answers a. and c. are correct
- 5.05** **A pre loading inspection for methanol should include observation and recording of:**
- a. the quality and quantity of any OBQ
 - b. the condition of tank coating and corrosion levels
 - c. the previous cargo records
 - * d. Answers a., b. and c. are correct

- 5.06** **A pre loading inspection for aromatics should include observation and recording of:**
- a. the quality and quantity of any OBQ
 - b. the condition of the cofferdams
 - c. the previous cargo records
 - * d. Answers a. and c. are correct
- 5.07** **What should an inspector check when carrying out a deck level ship tank inspection after discharge?**
- a. Odour
 - * b. ROB
 - c. Heating coil condition/cleanliness
 - d. Ballast tank contents
- 5.08** **What information should an inspector request from the chief officer before loading?**
- a. Details of at least the last three cargoes carried in the tanks to be loaded and the stowage plan
 - b. Details of any tank cleaning which has been performed
 - c. The coating type
 - * d. Answers a., b. and c. are correct
- 5.09** **Before entering a ship's tank what documents should be requested?**
- a. The quality certificate for previous cargo
 - * b. A Permit to Work/confined space permit
 - c. The bill of lading for the last cargo
 - d. Answers a., b. and c. are correct
- 5.10** **What API MPMS Chapter provides guidelines for Pre-loading Inspection of Marine Vessel Cargo Tanks?**
- a. API Chapter 17.12
 - b. ISO 9403:2000
 - * c. API Chapter 17.8
 - d. API Chapter 17.1

- 5.11** **What is a wall wash procedure?**
- a. **The procedure for mopping tanks to ensure cleanliness**
 - * b. The procedure for washing selected areas, such as the interior bulkheads, tank bottoms, and sumps of cargo tanks, with reagent or product
 - c. The procedure for washing all the surfaces within a ships tank with the cargo to be loaded
 - d. The Butterworth tank wall washing procedure
- 5.12** **What is the most important information to help determine that the ships' tank and lines are acceptable and that the tank is ready to receive the main cargo?**
- a. The results of a visual inspection
 - b. The results of an inert gas check
 - c. The results from manifold sample
 - * d. The results from a first-foot sample
- 5.13** **If the previous cargo is not compatible with the cargo to be loaded and recommended cleaning procedures have not been followed, which actions should be considered?**
- a. Perform additional stripping
 - * b. Reject the tanks until they have been correctly prepared
 - c. Load the cargo if the Master accepts responsibility
 - d. Answers a. and c. are correct
- 5.14** **What is a wipe test for?**
- a. To test the wiped surfaces for possible odor contamination.
 - b. To test the wiped surfaces for water contamination
 - c. To test the wiped surfaces compatibility with the product to load
 - * d. To test the wiped surfaces for possible color contamination.

- 5.15 Which precaution is not necessary before tank entry?**
- a. Check that lifelines and harnesses are ready for immediate use
 - b. Ensure that a standby person (attendant) will be stationed at the tank hatch at all times while personnel are in the tank
 - c. Ensure that gas free testing has been performed and that the atmosphere is safe
 - * d. Ensure that the results of a first-foot sample comply with the specification
- 5.16 A tank inspection certificate should indicate any inspection restrictions.**
- * a. True
 - b. False
 - c.
 - d.
- 5.17 What are the reasons for tank cleaning?**
- a. To gas free tanks for internal inspections, repairs or prior to entering dry dock.
 - b. To load a different and non-compatible grade of cargo
 - c. To remove sediments or residues
 - * d. Answers a., b. and c. are correct
- 5.18 Who is responsible for tank cleanliness?**
- * a. The vessel Master
 - b. The terminal
 - c. The Inspector
 - d. Answers a., b. and c. are correct
- 5.19 What are tank cleaning guidelines?**
- a. A guide to calculate the water quantity needed to clean the ship's tanks
 - * b. Procedures for cleaning of tanks and lines
 - c. Procedures to collect samples
 - d. Tank guidelines for inerting system
- 5.20 What factors are considered when determining the tank cleaning process?**
-

- a. The previous cargo
 - b. The cargo to be loaded
 - c. The tank coating
 - * d. Answers a., b. and c. are correct
- 5.21 The inspection company is responsible for providing tank cleaning procedures.**
- a. True
 - * b. False
- 5.22 What should an inspector note when carrying out a deck level tank inspection before loading?**
- a. Odour
 - b. OBQ
 - c. Heating coil condition/cleanliness
 - * d. Answer a. and b. are correct
- 5.23 What should an inspector check when carrying out an internal ship tank inspection?**
- a. The coating condition
 - b. The ballast tank contents
 - c. The heating coil condition/cleanliness
 - * d. Answer a. and c. are correct
- 5.24 What is a 'wall wash'?**
- * a. The activity of washing selected areas of a tank with a designated wash liquid and collecting the wash liquid for subsequent testing.
 - b. The activity of rinsing a tank with clean, fresh water following tank cleaning to ensure that the product to be loaded will not be contaminated
 - c. The activity of washing the walls of a tank to remove all traces of the product previously contained in the tank
 - d. Answers a., b. and c. are all wrong
- 5.25 When wall washing a tank, which of the following is correct?**
- a. Tank bottoms (floor) normally do not require wall washing

- b. There are two wall wash methods, blotter and funnel
- c. Each wall wash area should be at least 1m x 1m [3 feet by 3 feet]
- * d. Answers a., b. and c. are all correct

5.26

When loading methanol after a cargo of crude palm oil how should tank cleanliness be checked?

- a. With a deck level inspection
- * b. With a wall wash test and visual inspection
- c. The cargo is compatible so a check that tanks are drained and stripped is sufficient
- d. By asking advice from the chief officer

SECTION 6 – Cargo Compatibility

- 6.01** **Should phenol cargoes be heated?**
- * a. Yes
 - b. No
 - c.
 - d.
- 6.02** **Should sulphuric acid and caustic soda be carried on the same vessel?**
- a. Yes
 - b. No
 - * c. Yes, but only if there is a cofferdam between them
 - d. Yes, but only if the sulphuric acid is diluted
- 6.03** **Should tanks and cofferdams be purged with nitrogen before loading toluene diisocyanate or methylene diphenyl diisocyanate?**
- * a. Yes
 - b. No
 - c.
 - d.
- 6.04** **When preparing to load ethylene dichloride tanks are found to be slightly wet. Should loading proceed?**
- a. Yes
 - b. No, tanks must be absolutely dry
 - * c. No, tanks must be absolutely dry unless previous cargo was also ethylene dichloride
 - d. Yes if the loading master agrees
- 6.05** **After discharging acrylate and cleaning, some odours are still present. Can the tanks be accepted for loading monoethylene glycol?**
- a. Yes
 - * b. No
 - c.
 - d.

- 6.06** **What type of tank is suitable for carrying caustic soda?**
- a. Epoxy coated tanks
 - b. Mild steel tanks
 - c. Stainless steel tanks
 - * d. Answers a. and c. are correct
- 6.07** **What tank preparation is required when loading food-grade phosphoric acid?**
- a. Providing that previous cargo was food grade no special procedures are required
 - * b. Cleaning with a final fresh water rinse
 - c. Cleaning with a final salt water rinse
 - d. No cleaning should be necessary
- 6.08** **Should tanks be purged with nitrogen before loading chlorides?**
- * a. Yes
 - b. No
 - c.
 - d.
- 6.09** **Should tanks be purged with nitrogen before loading inhibited acrylate?**
- a. Yes
 - * b. No
 - c.
 - d.
- 6.10** **When carrying sulphuric acid:**
- a. ballast tanks must always be kept full
 - * b. water must not be carried in adjacent compartments
 - c. no other cargo can be carried on the same ship
 - d. no specific restrictions to apply
- 6.11** **Inhibited cargoes should not be heated or carried next to tanks containing heated cargoes.**
- * a. True
 - b. False
 - c.
 - d.

- 6.12** **Isopropyl alcohol should not be loaded after:**
- a. methanol
 - b. methyl ethyl ketone
 - * c. lube oil
 - d. acetone

SECTION 7 – QUANTITY MEASUREMENT

- 7.01** Automatic tank level gauging and temperature measurement systems may be used for custody transfer of chemicals.
- * a. True
b. False
c.
d.
- 7.02** What is the the maximum acceptable difference in the monthly verification measurement, for an automatic tank gauge to be considered within calibration and suitable for custody transfer? (API 3.1B)
- a. 2 mm [1/16 inch]
* b. 4 mm [1/8 inch]
c. 12 mm [1/2 inch]
d. 25 mm [1 inch]
- 7.03** What is the the maximum acceptable difference in the quarterly verification measurement, for an automatic tank gauge to be considered within calibration and suitable for inventory control? (API 3.1B)
- a. 2 mm [1/16 inch]
b. 4 mm [1/8 inch]
c. 12 mm [1/2 inche]
* d. 25 mm [1 inch]
- 7.04** The automatic tank gauge should be located near the gauging hatch so that its accuracy can be easily checked by manual gauging.
- * a. True
b. False
c.
d.
- 7.05** According to API MPMS Ch 3.1B, an automatic tank gauge used for custody transfer shall be verified:
-

- a. daily
 - b. weekly
 - * c. monthly
 - d. quarterly
- 7.06** **Levels in tanks containing phenol may be gauged manually under open conditions.**
- a. True
 - * b. False
 - c.
 - d.
- 7.07** **Which of the following products may be measured manually under open conditions?**
- a. Phenol
 - b. Acrylonitrile
 - c. Benzene
 - * d. Diisononyl phthalate
- 7.08** **When measuring a chemical product manually which type of tape may always be used?**
- * a. Stainless steel
 - b. Carbon steel tapes
 - c. Polyamide coated tapes
 - d. Answers a. and c. are correct
- 7.09** **Which chemical products can be measured manually using a polyamide coated steel tape**
- a. Methanol
 - b. Caustic soda
 - c. Diethylene glycol
 - * d. Answers a. and c. are correct
- 7.10** **Which standards address bulk liquid chemical cargo inspections**
- a. API MPMS Chapter 7/ISO 4268
 - b. API MPMS Chapter 3/EI HM4

- c. API MPMS Chapter 8.1/ISO 3170
- * d. API MPMS Chapter 17.12/EI HM51

7.11 How often does the reference thermometer used for monthly and daily verification of portable electronic thermometers (PETs) need to be compared to a thermometer traceable to a national standards body?

- a. Before initial use
- b. Twice per year
- c. At least once per year
- * d. Answers a. and c. are both correct

7.12 The duties of an Inspector during a pigging operation are:

- a. to advise the terminal which lines are involved and which procedures are required to clear these correctly
- b. to advise the terminal which type of pig to use
- * c. to request details of the terminal operation and check that it has been carried out in accordance with agreed procedures
- d. to drain the trap and remove the pig

SECTION 8 – SAMPLING

- 8.01** **API MPMS Chapter 7/ISO 4268 pertains to what type of thermometers?**
- 8.01** **Which of the following products should be sampled using samplers suspended from a stainless steel chain?**
- a. Caustic soda
 - b. Benzene
 - c. Sulphuric acid
 - * d. Answers a. and c. are correct
- 8.02** **Which of the following products should be sampled using polypropylene containers?**
- a. Acids
 - b. Caustic soda
 - c. Alcohols
 - * d. Answers a. and b. are correct
- 8.03** **When sampling phenol what flushing and cleaning fluid should be available?**
- a. Cold fresh water
 - b. Toluene
 - * c. Warm fresh water
 - d. Acetone
- 8.04** **Sample containers should be purged with nitrogen when sampling:**
- * a. amines
 - b. benzene
 - c. alcohols
 - d. esters
- 8.05** **Why are dark coloured bottles used for sampling certain chemicals?**
- a. To avoid heating from the sun
 - * b. To prevent ultra violet degradation of the product
 - c. To prevent infra red degradation of the product
 - d. To prevent excessive evaporation

- 8.06** **Benzene can be degraded by sunlight**
- * a. True
 b. False
 c.
 d.
- 8.07** **Which chemicals should be sampled using dark coloured bottles?**
- a. Benzene
 b. Methanol
 c. Styrene monomer
* d. Answers a. and c. are correct
- 8.08** **Samples of which chemical should be cooled?**
- a. Styrene monomer
 b. Vinyl acetate monomer
 c. Ethanol
* d. Answers a. and b. are correct
- 8.09** **Which product may react with sampler materials other than stainless steel or glass?**
- * a. Hydrogen peroxide
 b. Benzene
 c. Amines
 d. Glycol
- 8.10** **Which chemicals could degrade and overpressure containers when stored?**
- * a. Sulphuric acid
 b. Hydrogen peroxide
 c. Phenol
 d. Caustic soda
- 8.11** **Recommendations for storage of chemicals can be found in the SDS.**
- * a. True
 b. False
 c.
 d.

- 8.12** **Which products can react with sample container closures containing tin or aluminium?**
- a. Methanol
 - b. Methyl tertiary butyl ether
 - * c. Ethylene dichloride
 - d. Ethanol
- 8.13** **What type of procedure is required when sampling benzene?**
- a. Open sampling
 - b. Restricted sampling
 - * c. Closed sampling
 - d. Answers b. and c. are correct

SECTION 9 - ETHICS

9.01

Which of the following actions represents an ethical problem for an Inspector?

- a. Correcting the temperature of a shore tank when the PET has been found to be inaccurate
- b. Changing the VCF after finding an error in the API gravity of the cargo
- * c. Changing the temperature of the cargo in a ship's tank because it is too far off the shore tank temperature
- d. Answers a., b. and c. are all correct

9.02

The liquid level of a shore tank is changed in the raw data book after it is found to be wrong upon re-gauging. The original data is covered with white-out fluid and the correct information is written over the blanked-out data. Is this a permissible way to handle raw data corrections?

- a. Yes
- * b. No
- c.
- d.

9.03

The key person involved in managing ethics concerns in an inspection company would usually be the Compliance Officer.

- * a. True
- b. False
- c.
- d.

- 9.04** **When inspecting a petroleum or chemical cargo, which of the following represents sound ethical business conduct for an Inspector?**
- a. Making sure that the Inspector's results match the results required by the customer
 - * b. Making sure that the job is done according to industry standards
 - c. Making sure that the laboratory gets their sample on time
 - d. Answers a., b. and c. are all correct
- 9.05** **Which procedure is acceptable when raw data, such as dips or temperatures, must be corrected?**
- a. White out the original measurements and write the correct measurements clearly over the blanked-out area
 - * b. Draw a single line through the original measurements so they can still be read and rewrite the correct measurements on the next line.
 - c. Tear the original page out of the raw data book or pad and start again
 - d. Answers a., b. and c. are all wrong
- 9.06** **The Compliance Programme established by your Company requires that you comply with national regulations issued by:**
- a. Agencies for the Environment, Food and Agriculture
 - b. Customs and Excise authorities
 - c. Agencies for Occupational Health and Safety
 - * d. Answers a., b. and c. are all correct

- 9.07** **'Zero Tolerance' means that any and all infractions of your Company's Regulatory Compliance Program are subject to disciplinary action.**
- * a. True
 b. False
 c.
 d.
- 9.08** **TIC Council Member Companies strictly prohibit any form of retaliation against any person who, in good faith, files a complaint under their Regulatory Compliance Program, or assists in a Program violation investigation.**
- * a. True
 b. False
 c.
 d.
- 9.09** **Changes to raw data cannot be made without a sound technical justification or re-measurement.**
- * a. True
 b. False
 c.
 d.
- 9.10** **Reported data must be backed by, and be identical to its recorded data.**
- * a. True
 b. False
 c.
 d.
- 9.11** **It is acceptable to alter analytical results based solely upon repeatability provided that the new**
-

- result falls within the precision limits of the test method.**
- a. True
 - * b. False
 - c.
 - d.
- 9.12 It is acceptable to ignore a potential violation of your Company's Regulatory Compliance Program if the violation does not directly involve you.**
- a. True
 - * b. False
 - c.
 - d.
- 9.13 On finishing the closing inspection on a shore tank, following the completion of a marine vessel discharge operation, a representative who is witnessing your actions requests that you change the observed tank product temperature reading obtained as he feels that it is incorrect. What should you do?**
- a. Comply with his wishes
 - b. Use the observed temperature of the product on the vessel prior to discharge
 - * c. Inform him that you will re-check the product temperature if he requires but that you will record and use the product temperature that you have observed
 - d. Use the tank auto temperature reading instead
- 9.14 A client loss control representative repeatedly attempts to have gauges recorded as being slightly more than measured. What action should be taken?**

- a. Comply with the request
- b. Politely refuse to change any gauges
- c. Report the requests to your office
- * d. Answers b. and c. are correct

9.15 **When a loss control representative is witnessing gauges he/she has the authority to ask the inspector to make judgement calls in their favor?**

- a. True
- * b. False
- c.
- d.

9.16 **While gauging ROB's with the vessel's officer and a loss control representative the measurement is 2.5cm. However, the vessel's officer argues it should be 2cm and the loss control representative says it should be 3cm. What should be done ?**

- a. Repeat the measurement until they are both satisfied.
- * b. They should be informed that the official measurement is the one taken by the independent inspector. This should be recorded and work should move on to the next tank
- c. The inspector is not a referee and should use a cell phone and call his/her supervisor.
- d. None of the above

9.17 **While sampling a bottle is lost from your sampling device and it's now somewhere in the tank. What action should be taken?**

- a. Another bottle should be used and no other action taken
- * b. The representative of the tank/vessel should be advised together with the inspector's supervisor

- c. The representative of the tank/vessel should be advised and any papers provided by the representative should be signed
- d. Attempts should be made to retrieve the bottle from the tank

9.18 **When it is not possible to carry out an inspection according to the relevant standards or the instructions which have been provided, what action should an inspector take?**

- a. Carry out the work to the best of his/her abilities, using experience to estimate any missing measurements or overcome any restrictions.
- b. Continue with the inspection but remove those parts where standards or instructions cannot be followed.
- * c. Advise the his/her supervisor of the problem so that the client can be informed and alternative procedures agreed.
- d. Exercise a Stop Work Authority

9.19 **Owners or operators of a site or vessel occasionally request that inspectors sign waivers relieving them from their legal obligation to provide a safe place of work. It is TIC Council policy that inspectors should not be required to sign any document which waives their rights as individuals or as employees under the law.**

- * a. True
- b. False
- c.
- d.

9.20 **The TIC Council / IFIA Code of Practice discusses:**

- a. Health Safety and the Environment
- b. Training
- c. Nomination and acknowledgement
- * d. All the above answers are correct

- 9.21** **TIC Council training requirements are referred to in the Code of Practice and include:**
- * a. Technical skills, Health, Safety and Environment, and Communications
 - b. There are no specific requirements
 - c. Customer specific site training
 - d. Answers a. and c. are correct
- 9.22** **In accordance with the TIC Council / IFIA Code of Practice, inspectors may only countersign third party Tank Inspection Certificates or Reports with an approved disclaimer provided by their company.**
- * a. True
 - b. False
 - c.
 - d.
- 9.23** **What action should be taken if the chief officer provides different instructions from those received from the client?**
- a. Vessel's instructions should be followed
 - b. The clients's instructions should be followed
 - * c. Advise the client immediately
 - d. Agree a solution with the Master
- 9.24** **Who is responsible for control and custody of a cargo during an offshore ship to ship operation?**
- a. The inspector
 - b. The terminal
 - * c. The vessels
 - d. The agent
- 9.25** **What should an inspector do if asked to sign indemnities on behalf of their employer relieving the owner or operator of a site or vessel from their legal obligation to provide a safe place of work?**

- a. Always sign the indemnity and proceed to perform the job
- b. Refuse to sign the indemnity and leave the work site
- * c. Advise their supervisor immediately and refuse to sign the indemnity
- d. Sign the indemnity with appropriate disclaimer

9.26**Where visual tank inspection is permitted and possible, what should the inspector record?**

- a. The condition of tanks (coating and corrosion)
- b. An estimate of the presence of any residues
- c. Details of the previous cargoes
- * d. Answers a., b. and c. are all correct

9.27**Where visual tank inspection is not possible, what should the inspector record?**

- a. The condition of tanks
- * b. An estimate of the presence of any residues by sounding from access points
- c. Possible sources of contamination
- d. Answers a. and b. are correct

BACK COVER