



Oil and Chemical Tanker Cargo Operations (OCTCO) 30 Practice Questions and Answers for STCW Exams

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Practice Set 1

Q1. What MARPOL Annex regulates prevention of oil pollution from tankers?

- A) MARPOL Annex I
- B) MARPOL Annex II
- C) MARPOL Annex V
- D) MARPOL Annex III

Correct Answer: A (MARPOL Annex I)

Explanation: MARPOL Annex I contains regulations for preventing oil pollution.

Q2. What is the maximum oxygen content allowed in inert gas supplied to cargo tanks?

- A) 21%
- B) 5% by volume (max 8% inside tanks)
- C) 0%
- D) 15%

Correct Answer: B (5% by volume (max 8% inside tanks))

Explanation: Inert Gas Systems supply IG with O₂ < 5%; tank atmosphere must be < 8% O₂.

Q3. What operation uses crude oil jets to clean sludges from tank walls during discharge?

- A) Crude Oil Washing (COW)
- B) Water flushing
- C) Steam cleaning
- D) Solvent soaking

Correct Answer: A (Crude Oil Washing (COW))

Explanation: COW uses crude oil jets to dissolve waxy sludges during discharge.

Q4. What condition is mandatory before starting Crude Oil Washing (COW)?

- A) Boiler off
- B) Tank open to air
- C) Dry dock
- D) Cargo tank must be inerted with O₂ < 8%

Correct Answer: D (Cargo tank must be inerted with O₂ < 8%)

Explanation: COW generates static charges; tank O₂ must be below 8% to prevent explosion.



- A) Salinometer
- B) OWS 15 ppm alarm
- C) Echo sounder
- D) Oil Discharge Monitoring and Control System (ODMCS)

Correct Answer: D (Oil Discharge Monitoring and Control System (ODMCS))

Explanation: ODMCS logs oil content, discharge rate (L/nm), and total oil discharged.

Q6. What is the maximum instantaneous rate of oil discharge allowed outside Special Areas under MARPOL Annex I?

- A) 100 L/nm
- B) Zero
- C) 30 liters per nautical mile
- D) 15 ppm

Correct Answer: C (30 liters per nautical mile)

Explanation: MARPOL Annex I limits en-route oil discharge to 30 L/nm.

Q7. What device stops hydrocarbon gas backflowing from cargo tanks into the machinery space?

- A) Butterfly valve
- B) Deck Water Seal and Non-Return Valve
- C) Fan
- D) Flame screen

Correct Answer: B (Deck Water Seal and Non-Return Valve)

Explanation: The deck water seal provides a water barrier stopping gas backflow to engine room.

Q8. What instrument measures flammable vapor concentration as a percentage of LEL?

- A) Explosimeter (Combustible Gas Indicator)
- B) Dip tube
- C) Oxygen Analyzer
- D) Refractometer

Correct Answer: A (Explosimeter (Combustible Gas Indicator))

Explanation: Explosimeters measure flammable gas concentration up to 100% LEL.

Q9. What is Reid Vapor Pressure (RVP)?

- A) Standard measure of crude oil vapor pressure at 100 degreesF (37.8 degreesC)
- B) Air pressure
- C) Hydraulic pressure
- D) Steam pressure

Correct Answer: A (Standard measure of crude oil vapor pressure at 100 degreesF (37.8 degreesC))

Explanation: RVP indicates oil volatility and vapor evolution tendency.



- A) High-velocity Pressure/Vacuum (P/V) valve
- B) Gate valve
- C) Quick closing valve
- D) Storm valve

Correct Answer: A (High-velocity Pressure/Vacuum (P/V) valve)

Explanation: P/V valves automatically relieve overpressure or vacuum inside tanks.

Q11. Under STCW Code Table A-V/1-1-1, what is the mandatory requirement regarding regulatory compliance and STCW code requirements during Basic Oil & Chemical Tanker operations?

- A) Strict compliance with approved safety procedures and flag state regulations
- B) Optional adherence based on vessel size
- C) Applicable only during drydock operations
- D) Verbal recommendation without documentation

Correct Answer: A (Strict compliance with approved safety procedures and flag state regulations)

Explanation: STCW Code Table A-V/1-1-1 mandates strict compliance with approved safety protocols for Basic Oil & Chemical Tanker.

Q12. What specific safety precaution must be observed when managing regulatory compliance and STCW code requirements for Basic Oil & Chemical Tanker on board?

- A) Proceeding without informing the officer on watch
- B) Conducting a thorough risk assessment and briefing all involved personnel prior to starting work
- C) Disabling automated safety alarms to save time
- D) Delegating tasks exclusively to untrained crew members

Correct Answer: B (Conducting a thorough risk assessment and briefing all involved personnel prior to starting work)

Explanation: Risk assessments and pre-job briefings ensure all team members understand hazards during Basic Oil & Chemical Tanker operations.

Q13. What does ISGOTT stand for?

- A) International Safety Guide for Oil Tankers and Terminals
- B) Integrated Offshore Safety
- C) Indian Safety Group
- D) System for Gas Safety

Correct Answer: A (International Safety Guide for Oil Tankers and Terminals)

Explanation: ISGOTT is the industry standard safety guide published by ICS, OCIMF, and IAPH.

Q14. What is the function of an Inert Gas Scrubber tower?

- A) Cool flue gas and remove soot and SO₂ particles
- B) Generate oxygen
- C) Separate oil and water
- D) Heat oil

Correct Answer: A (Cool flue gas and remove soot and SO₂ particles)

Explanation: Scrubber towers spray seawater to cool flue gas and remove corrosive SO₂ and soot.



- A) Pumping without sounding
- B) Overfilling tanks
- C) Heavy cargo over light cargo
- D) Decanting clean water under settled slops and loading fresh crude directly on top

Correct Answer: D (Decanting clean water under settled slops and loading fresh crude directly on top)

Explanation: LOT decants separated water via ODMCS, retaining oil slops to merge with new cargo.

Q16. What risk occurs if static electricity accumulates during initial filling of an un-inerted tank?

- A) Corrosion
- B) Electrostatic spark ignition causing tank explosion
- C) Freezing
- D) Cavitation

Correct Answer: B (Electrostatic spark ignition causing tank explosion)

Explanation: Static sparks igniting volatile vapors cause catastrophic tank explosions.

Q17. What is the max initial loading rate velocity for static accumulator oils before inlet pipe is submerged?

- A) No limit
- B) 1 meter per second
- C) 10 m/s
- D) 50 m/s

Correct Answer: B (1 meter per second)

Explanation: Linear velocity is restricted to max 1 m/s initially to prevent static charge generation.

Q18. What safety system automatically shuts down cargo pumps and closes valves in emergencies?

- A) Emergency Shutdown System (ESD)
- B) Windlass brake
- C) Boiler valve
- D) Bilge valve

Correct Answer: A (Emergency Shutdown System (ESD))

Explanation: ESD isolates ship and shore cargo lines instantly in emergency conditions.

Q19. What equipment measures hydrocarbon vapor concentration in zero-oxygen inert atmospheres?

- A) Catalytic explosimeter
- B) Hydrometer
- C) Litmus paper
- D) Tankscope / Infrared Gas Analyzer

Correct Answer: D (Tankscope / Infrared Gas Analyzer)

Explanation: Tankscoopes measure gas concentrations in inert atmospheres where oxygen is zero.



- A) 1/1,000
- B) 100 m³
- C) Zero everywhere
- D) Max 1/30,000 of total cargo carried on previous voyage

Correct Answer: D (Max 1/30,000 of total cargo carried on previous voyage)

Explanation: MARPOL caps total ballast discharge oil volume to 1/30,000 of previous cargo.

Q21. What is the function of stripping pumps during cargo discharge?

- A) Drain remaining oil liquid from tank bottoms and suction lines
- B) Cool main deck
- C) Generate steam
- D) Pump ballast into fuel tanks

Correct Answer: A (Drain remaining oil liquid from tank bottoms and suction lines)

Explanation: Stripping pumps remove liquid residues when main centrifugal pumps lose suction.

Q22. What safety document is signed by ship officer and shore representative prior to cargo transfer?

- A) Waybill
- B) Crew Agreement
- C) Custom Clearance
- D) Ship / Shore Safety Checklist (SSSCL)

Correct Answer: D (Ship / Shore Safety Checklist (SSSCL))

Explanation: The SSSCL confirms safety precautions, communications, ESD links, and manifold checks.

Q23. Which international regulation specifies the minimum standard for regulatory compliance and STCW code requirements concerning Basic Oil & Chemical Tanker?

- A) Port State Control advisory note only
- B) International Load Line Certificate Annex 3
- C) STCW Code Section A-V/1-1-1 and relevant SOLAS/MARPOL conventions
- D) Tonnage Measurement Convention 1969

Correct Answer: C (STCW Code Section A-V/1-1-1 and relevant SOLAS/MARPOL conventions)

Explanation: STCW Code Section A-V/1-1-1 sets international standards for training and operational competency in Basic Oil & Chemical Tanker.

Q24. In the event of an emergency involving regulatory compliance and STCW code requirements during Basic Oil & Chemical Tanker tasks, what immediate action is required?

- A) Wait until the end of the watch to log the issue
- B) Evacuate the vessel immediately without informing the bridge
- C) Attempt to resolve the incident silently without raising the alarm
- D) Raise the alarm, notify the Officer of the Watch, and execute assigned muster list duties

Correct Answer: D (Raise the alarm, notify the Officer of the Watch, and execute assigned muster list duties)

Explanation: Prompt alarm activation ensures emergency response teams can mobilize immediately.

Q25. What gas present in crude oil vapor is highly toxic with rotten egg smell at low levels?

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- A) Methane
- B) Nitrogen
- C) Hydrogen Sulfide (H₂S)
- D) Carbon Dioxide

Correct Answer: C (Hydrogen Sulfide (H₂S))

Explanation: H₂S is highly toxic, deadens smell rapidly, and is fatal at high concentrations.

Q26. What is modern TLV-TWA exposure limit for Hydrogen Sulfide (H₂S)?

- A) 1 ppm to 5 ppm
- B) 1000 ppm
- C) 5000 ppm
- D) 100 ppm

Correct Answer: A (1 ppm to 5 ppm)

Explanation: Modern ACGIH guidelines specify H₂S TLV-TWA of 1 ppm due to high toxicity.

Q27. What device isolates cargo tank vapor space while maintaining pressure control?

- A) Sounding cap
- B) Open stack
- C) Pressure/Vacuum (P/V) breaker or P/V valves
- D) Scupper plug

Correct Answer: C (Pressure/Vacuum (P/V) breaker or P/V valves)

Explanation: P/V breakers protect inert gas main lines and tanks from pressure spikes or vacuum.

Q28. What requirement applies to double hull tankers under MARPOL Annex I?

- A) Wood lined hold
- B) Single skin side
- C) Open bilge
- D) Double bottom and wing ballast tanks separating cargo tanks from outer hull

Correct Answer: D (Double bottom and wing ballast tanks separating cargo tanks from outer hull)

Explanation: Double hulls protect cargo tanks from rupture during grounding or collision.

Q29. What action is taken if inert gas oxygen content exceeds 8% during cargo discharge?

- A) Open tank lids
- B) Stop cargo discharge immediately and rectify IG plant fault
- C) Drain scrubber
- D) Double discharge speed

Correct Answer: B (Stop cargo discharge immediately and rectify IG plant fault)

Explanation: If O₂ exceeds 8%, cargo operations must cease until safe inert atmosphere is restored.



- A) Pumping oil to shore
- B) Ballasting
- C) Introducing inert gas into an inerted tank to reduce hydrocarbon concentration before gas freeing
- D) Washing with seawater

Correct Answer: C (Introducing inert gas into an inerted tank to reduce hydrocarbon concentration before gas freeing)

Explanation: Purging drops hydrocarbon vapor levels low enough that air introduction won't create flammability.