SAUDI ARAMCO CBT

SAFETY OFFICER EXAM PREPARATION GUIDE

10 Parts • 100 Questions • Complete Answer Key

Safety Standards • Quality • Engineering • Management

Document	Reference
Series	Saudi Aramco CBT Exam Preparation
Designation	Safety Officer
Parts	10 Parts — 10 Questions Each
Total Questions	100 Questions — Answer Key on Last Page
Standards	Aramco GIs / ISO 45001 / OSHA / Saudi Labour Law
Published By	FreeDocumentsHub.com
Year	2026
Website	www.freedocumentshub.com

HOW TO USE THIS GUIDE

This guide prepares you for the Saudi Aramco CBT (Computer Based Test) for the Safety Officer designation. It covers all 10 subject areas tested in the actual Aramco exam.

Step	Instruction
Step 1	Read each Part completely. Study the teaching sections before attempting the questions.
Step 2	Answer all 10 questions in each Part without looking at the Answer Key.
Step 3	Complete all 100 questions across all 10 Parts before checking any answers.
Step 4	Turn to the Answer Key on the last page. Score yourself honestly.
Step 5	Return to any Part where you scored below 7/10. Re-study and re-attempt.

IMPORTANT: Answer all 100 questions BEFORE checking the Answer Key on the last page. This is how the real exam works — no going back. Train the way you will test.

Your Score	Result	Action Required
90–100	Excellent	Ready for Aramco CBT exam. Review any weak areas.
75–89	Good	Review the Parts where you lost marks before sitting exam.
60–74	Needs Work	Re-study all Parts below 7/10 and retake full test.
Below 60	Not Ready	Complete full re-study of all 10 Parts before attempting exam.

PART 1 — CBT Exam Process — How It Works Step by Step

The Aramco Computer Based Test (CBT) is mandatory for all contractor and vendor personnel before receiving their Aramco gate pass (badge). Many experienced engineers with 10–20 years of site experience fail this exam. Not because they lack skills — but because they do not know the exam process, the format, or what Aramco is specifically testing. This part explains the full CBT process from registration to badge collection.

What is the Aramco CBT?

The CBT is a multiple-choice computer exam conducted at approved Aramco testing centres. It tests your knowledge of Aramco safety standards, work procedures, and technical rules — not just general engineering knowledge. The questions are based on Aramco's own standards and GIs (General Instructions). Passing the CBT is the legal requirement before any contractor employee can work on an Aramco site.

Who Must Take the CBT?

Every contractor employee who needs an Aramco gate pass must pass the CBT for their designated role. This includes Safety Officers, WPR holders, Mechanical Inspectors, Electrical Technicians, Scaffolders, Riggers, and all other designated positions. The exam must be passed before the badge is issued — no exceptions.

Registration Process

Step 1 — Your contractor's HR or Government Relations (GR) department registers you in the Aramco TAMS (Training and Assessment Management System). Step 2 — Your designation is confirmed — Safety Officer, WPR, Mechanical, etc. Step 3 — An exam appointment is scheduled at an approved testing centre. Step 4 — You receive your exam date, time, and location. Step 5 — Bring your original Iqama (residence permit) and appointment confirmation on exam day.

On Exam Day — Step by Step

Arrive at least 30 minutes early. Bring your original Iqama — no copies accepted. No mobile phones, books, or notes are allowed inside the exam room. You sit at a computer terminal. Questions appear one at a time on screen. Each question has three options — A, B, or C. You select your answer and move to the next question. The exam is timed — typically 60 to 90 minutes depending on designation. At the end, your result appears immediately on screen — PASS or FAIL.

Pass Mark and Results

The passing score is typically 70% or above depending on the designation. If you pass — your result is recorded in TAMS and badge processing begins. If you fail — you must wait a cooling-off period (typically 30 days) before retaking. After multiple failures, additional training may be required before retaking.

After Passing — Badge Process

After passing, your contractor HR submits your documents to Aramco Government Relations. Aramco processes your gate pass application. You collect your badge at the Aramco gate pass office. The badge shows your designation, validity period, and site access level. The badge must be renewed — CBT must be retaken at renewal.

PART 1 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q1. What does CBT stand for in the Aramco context?

A) Contractor Badge Test
B) Computer Based Test — mandatory exam for Aramco gate pass
C) Certified Behaviour Training

Q2. What document must you bring on CBT exam day?

A) Passport photocopy
B) Original Iqama — residence permit — no copies accepted
C) Employment letter only

Q3. What system does Aramco use to manage CBT registration?

A) SAP HR system
B) TAMS — Training and Assessment Management System
C) MAXIMO work order system

Q4. What is the typical passing score for Aramco CBT?

A) 50% or above
B) 70% or above depending on designation
C) 90% or above

Q5. What happens immediately after you complete the CBT exam?

A) Results sent by email after 3 days
B) Result appears immediately on screen — PASS or FAIL
C) Supervisor is notified by post

Q6. Who is responsible for registering an employee for the CBT?

A) The employee registers himself directly
B) Contractor HR or Government Relations department registers in TAMS
C) The Aramco project manager registers

Q7. How long is the typical CBT cooling-off period after a failure?

A) 7 days
B) 30 days — before retaking is permitted
C) No waiting period

Q8. What is NOT allowed inside the CBT exam room?

A) Pencil and eraser
B) Mobile phones, books, and notes — all prohibited
C) Drinking water

Q9. The Aramco CBT questions are based on which standards?

A) International general engineering textbooks
B) Aramco's own standards and General Instructions (GIs)
C) American university examination papers

Q10. What must happen before an Aramco gate pass badge is issued?

A) 5 years Gulf experience required
B) CBT must be passed — result recorded in TAMS — then badge processing begins
C) Only supervisor approval is needed

PART 2 — Safety Standards & Regulations

A Safety Officer on Aramco sites must know the key safety standards, regulations, and Aramco General Instructions (GIs) that govern all site activities. This part covers the essential standards framework that forms the foundation of Aramco safety management.

Key Aramco Safety Standards

GI-0002.102 — Life Saving Rules: The 10 rules that must never be violated. Violation can result in immediate removal from site. GI-0006.021 — Personal Protective Equipment: Mandatory PPE for all site personnel. GI-0002.100 — Safety Management System: The overall framework for safety on Aramco projects. SAES-B-058 — Emergency Response: Requirements for emergency plans, assembly points, and evacuation procedures.

Aramco Life Saving Rules — The 10 Rules

1. Work with a valid work permit where required. 2. Conduct gas tests when required. 3. Verify isolation before work begins. 4. Obtain authorisation before entering a confined space. 5. Obtain authorisation before overriding safety systems. 6. Protect yourself against a fall when working at height. 7. Do not walk under a suspended load. 8. Do not smoke outside designated areas. 9. No alcohol or drugs on site. 10. Wear your seat belt.

Hierarchy of Controls

The hierarchy of controls is the standard approach to reducing workplace risks. In order from most effective to least effective: 1. Elimination — remove the hazard completely. 2. Substitution — replace with a less hazardous option. 3. Engineering Controls — isolate people from the hazard. 4. Administrative Controls — change the way people work. 5. PPE — protect the worker as the last line of defence. Aramco expects Safety Officers to apply this hierarchy in all risk assessments.

OSHA and International Standards

While Aramco uses its own GIs as the primary reference, Safety Officers must also understand OSHA 1910 (General Industry) and OSHA 1926 (Construction). These international standards align with Aramco requirements in most areas. Where there is a conflict between OSHA and an Aramco GI, the Aramco GI always takes precedence on Saudi Aramco projects.

PART 2 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q11. What is GI-0002.102 in Saudi Aramco?

A) Excavation permit procedure
B) Life Saving Rules — 10 rules that must never be violated on Aramco sites
C) Hot work permit procedure

Q12. How many Life Saving Rules does Saudi Aramco have?

A) 5 rules
B) 10 rules — violation can result in immediate removal from site
C) 15 rules

Q13. What is the most effective level of the hierarchy of controls?

A) PPE — personal protective equipment
B) Elimination — removing the hazard completely from the workplace
C) Administrative controls

Q14. When Aramco GI conflicts with OSHA standard, which takes priority?

A) OSHA always takes priority
B) Aramco GI takes precedence on Saudi Aramco projects
C) International standard always wins

Q15. What does GI-0006.021 govern?

A) Fire fighting procedures
B) Personal Protective Equipment — mandatory PPE requirements
C) Crane lifting operations

Q16. Which Life Saving Rule covers work at height?

A) Rule 3 — verify isolation
B) Rule 6 — protect yourself against a fall when working at height
C) Rule 9 — no alcohol or drugs

Q17. PPE is at which level of the hierarchy of controls?

A) Level 1 — most effective
B) Level 5 — last line of defence — least effective alone
C) Level 3 — engineering controls

Q18. What does SAES-B-058 cover?

A) Welding requirements
B) Emergency response — plans, assembly points, evacuation procedures
C) Electrical safety standards

Q19. Which Life Saving Rule covers confined space entry?

A) Rule 2 — gas testing
B) Rule 4 — obtain authorisation before entering a confined space
C) Rule 7 — suspended loads

Q20. The Aramco Safety Management System is governed by which GI?

A) GI-0006.021
B) GI-0002.100 — the overall framework for safety on Aramco projects
C) GI-0002.102

PART 3 — Quality Management

Quality management on Aramco projects is governed by formal systems — Inspection and Test Plans, Non-Conformance Reports, Hold Points, and quality audits. A Safety Officer must understand quality management because safety non-conformances follow the same process as quality NCRs.

ITP — Inspection and Test Plan

The ITP is the master document that defines all inspection activities for a project. It lists every activity, who inspects it, at what stage, and what the acceptance criteria are. The ITP has three types of inspection points: Hold Point (HP) — work must stop until the designated authority inspects and signs. Witness Point (WP) — notification required, work may proceed if authority does not attend. Review Point (RV) — documentation submitted for review only, no attendance required. On Aramco projects, Hold Points require the Aramco representative's signature before work can proceed.

NCR — Non-Conformance Report

An NCR is raised when work does not meet specified requirements. The NCR process: Identify the non-conformance — stop work on that item — tag with red Do Not Use tag — raise NCR document — investigate root cause — define corrective and preventive action — implement with objective evidence — submit to Aramco for closure verification. An NCR cannot be closed by the contractor alone. Aramco QC representative must verify and sign closure.

ISO 9001:2015 Quality Principles

The seven quality management principles: 1. Customer focus. 2. Leadership. 3. Engagement of people. 4. Process approach. 5. Improvement. 6. Evidence-based decision making. 7. Relationship management. Aramco-approved contractors must hold ISO 9001:2015 certification and operate their QMS according to these principles.

Quality Audit on Aramco Projects

Aramco conducts regular quality audits of contractor operations. During an audit, the auditor checks document control, ITP compliance, NCR records, calibration records, and personnel qualification records. A Safety Officer may be audited on safety management documentation, toolbox talk records, incident reports, and safety inspection records. All records must be current, signed, and filed.

PART 3 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q21. What does ITP stand for in quality management?

A) Inspection Timing Procedure
B) Inspection and Test Plan — master document defining all project inspection activities

C) Internal Training Programme

Q22. What is a Hold Point in an ITP?

A) A rest break for workers
B) Work must stop — designated authority must inspect and sign before proceeding
C) A review of documents only — no attendance needed

Q23. What colour tag is placed on a non-conforming item?

A) Green tag — continue work
B) Red Do Not Use tag — placed immediately when NCR is raised
C) Yellow caution tag

Q24. Who can close an NCR on an Aramco project?

A) Contractor QC manager alone
B) Aramco QC representative — must verify corrective action and sign closure
C) Project manager only

Q25. How many quality management principles does ISO 9001:2015 define?

A) 5 principles
B) 7 principles — including customer focus, leadership, and evidence-based decisions
C) 10 principles

Q26. What is a Witness Point in an ITP?

A) Work stops completely until inspector arrives
B) Notification required — work may proceed if authority does not attend
C) Documentation review only — no notification needed

Q27. What must be submitted to close an NCR on Aramco?

A) A verbal statement from the supervisor
B) Root cause, corrective action, preventive action, and objective evidence
C) A photograph of the repaired item only

Q28. ISO 9001:2015 certification is required from which party on Aramco projects?

A) Only Aramco's internal departments
B) Approved contractors — must hold ISO 9001:2015 and operate QMS accordingly
C) Only equipment suppliers

Q29. During a quality audit, what records does an auditor check for a Safety Officer?

A) Only financial records
B) Safety records, toolbox talk logs, incident reports, and inspection records
C) Only engineering drawings

Q30. What is the purpose of a corrective action in an NCR?

A) To punish the responsible worker
B) To fix the nonconformance AND prevent recurrence — both immediate and preventive action
C) To update the project schedule only

PART 4 — Communication & Reporting

Effective communication and accurate reporting are core responsibilities of a Safety Officer. On Aramco projects, verbal communication must be confirmed in writing. Every incident, inspection, toolbox talk, and safety observation must be properly documented and reported through the correct channel.

Toolbox Talk — Purpose and Requirements

A toolbox talk (TBT) is a short safety briefing held at the work site before work begins each day. On Aramco projects, TBTs are mandatory. Requirements: conducted at the work site — not in the office. Duration minimum 10 minutes. All attendees must sign the attendance sheet. Topic must be relevant to the day's work activity. The signed attendance sheet is a legal document and must be filed in the safety records. The Safety Officer is responsible for conducting and recording TBTs.

Incident Reporting Process

Any incident — accident, near miss, first aid case, or dangerous occurrence — must be reported immediately. The Aramco reporting sequence: Step 1 — Render first aid and secure the scene. Step 2 — Notify the supervisor immediately. Step 3 — Notify the Aramco Project Safety representative within 1 hour for any injury. Step 4 — Complete the incident report form within 24 hours. Step 5 — Submit the report to the Aramco Loss Prevention Department (LPD). Failure to report an incident is a serious violation on Aramco projects.

Safety Inspection Report

The Safety Officer must conduct regular site safety inspections and produce written reports. The report must include: date and time of inspection, area inspected, hazards identified, immediate actions taken, recommended corrective actions, responsible person, and target completion date. Inspection reports are reviewed by the safety manager and may be audited by Aramco. Open items must be tracked until closed.

Communication with Aramco Safety Representative

The Aramco Project Safety representative (PSR) is the main Aramco contact for all safety matters. The Safety Officer must report all incidents, near misses, and safety violations to the PSR. The PSR must be notified before certain high-risk activities — confined space entry, hot work in restricted areas, and any activity requiring a special work permit. Always communicate in writing and keep copies of all correspondence.

PART 4 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q31. What is the minimum duration for a toolbox talk on Aramco projects?

A) 2 minutes
B) 10 minutes — conducted at work site with signed attendance sheet

C) 1 hour formal training session

Q32. What is the signed TBT attendance sheet classified as?

A) An optional internal document
B) A legal document — must be filed in safety records
C) A personal note for the supervisor

Q33. Within how many hours must an injury incident be reported to Aramco PSR?

A) 24 hours
B) 1 hour — immediate notification to Aramco Project Safety representative
C) 72 hours

Q34. What does LPD stand for in Aramco safety reporting?

A) Licensed Personnel Division
B) Loss Prevention Department — receives all incident reports
C) Local Project Director

Q35. A near miss must be reported — True or False?

A) False — only injuries must be reported
B) True — near misses must be reported same as injuries through the incident process
C) Only if witnessed by Aramco representative

Q36. What must a safety inspection report include?

A) Only the hazards found
B) Date, area, hazards, immediate actions, recommendations, responsible person, target date
C) Only the Safety Officer's signature

Q37. Who is the main Aramco contact for all safety matters on a project?

A) The Aramco project engineer
B) Aramco Project Safety Representative — PSR
C) The Aramco contracts manager

Q38. Written confirmation of verbal communication in safety matters is required because?

A) It is only required for formal meetings
B) Verbal communication alone has no legal standing — all safety communications must be documented
C) It is optional — verbal is sufficient

Q39. How long after an incident must the full incident report be submitted?

A) 7 days
B) 24 hours — incident report form completed and submitted within 24 hours
C) 48 hours

Q40. Failure to report an incident on an Aramco project is?

A) A minor administrative matter
B) A serious violation — may result in removal from site and contractor penalty
C) Acceptable if no injury occurred

PART 5 — Safety Management Systems

A Safety Management System (SMS) is the structured framework that an organisation uses to manage safety risks. On Aramco projects, the contractor must operate a fully documented SMS that meets Aramco requirements. The Safety Officer is the front-line implementer of the SMS on site.

Key Elements of an SMS

The main elements of a safety management system are: 1. Safety Policy — signed by top management. 2. Hazard Identification and Risk Assessment (HIRA). 3. Legal and regulatory compliance. 4. Safety objectives and targets. 5. Training and competency management. 6. Emergency preparedness and response. 7. Incident investigation and reporting. 8. Safety inspection and audit programme. 9. Management review and continual improvement. All elements must be documented and implemented — not just written and filed.

Risk Assessment — JSA and HIRARC

JSA — Job Safety Analysis: A step-by-step analysis of each task in a job, identifying hazards at each step and defining controls. Required before any non-routine task on Aramco sites. HIRARC — Hazard Identification, Risk Assessment and Risk Control: A formal risk assessment process. Risk = Likelihood × Consequence. Risk matrix used to classify risks as Low, Medium, High, or Critical. Critical risks require engineering controls or elimination — PPE alone is not acceptable.

Permit to Work System

The Permit to Work (PTW) system is one of the most important safety controls on Aramco sites. Types of permits: General Work Permit — for routine low-risk activities. Hot Work Permit — for any work producing sparks, flame, or heat above 50°C. Confined Space Entry Permit — mandatory for all confined space entries. Cold Work Permit — for non-spark-producing activities in controlled areas. Every permit must be: approved by the area authority, displayed at the work site, signed by the performing supervisor, and cancelled at job completion. The Safety Officer is responsible for verifying all active permits on site.

Emergency Response Plan

Every Aramco project must have an Emergency Response Plan (ERP) covering fire, explosion, chemical spill, medical emergency, and mass casualty scenarios. The ERP must include assembly point locations, evacuation routes, emergency contact numbers, and roles and responsibilities of all emergency team members. The Safety Officer must conduct emergency drills at least quarterly and keep drill records. All workers must know their assembly point on Day 1 of joining the project.

PART 5 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q41. What does JSA stand for in safety management?

A) Joint Safety Agreement
B) Job Safety Analysis — step-by-step task analysis to identify hazards and controls
C) Junior Safety Assessment

Q42. Risk is calculated as?

A) Hazard divided by control measures
B) Likelihood multiplied by Consequence — using the risk matrix
C) Number of workers multiplied by task duration

Q43. Which permit is required for any work producing sparks or flame?

A) General Work Permit
B) Hot Work Permit — required for any spark, flame, or heat above 50°C
C) Cold Work Permit

Q44. Who must sign the Safety Policy?

A) The Safety Officer only
B) Top management — the Safety Policy must be signed at the highest level
C) The site supervisor

Q45. A Confined Space Entry Permit is required for?

A) All outdoor work activities
B) All confined space entries — no exceptions — regardless of duration or size
C) Only underground confined spaces

Q46. What is the minimum frequency for emergency drills on Aramco projects?

A) Annually
B) At least quarterly — drill records must be maintained by Safety Officer
C) Only at project start

Q47. When a Critical risk is identified in HIRARC, what control is acceptable?

A) PPE alone is sufficient
B) Engineering controls or elimination required — PPE alone is not acceptable for critical risks
C) Administrative controls only needed

Q48. When must all workers know their emergency assembly point?

A) After completing safety induction only
B) Day 1 of joining the project — before starting any work
C) Only after an emergency drill

Q49. The Permit to Work must be displayed?

A) In the contractor QC office
B) At the work site where the activity is taking place
C) Only in the permit office

Q50. HIRARC stands for?

A) High Risk Activity Review and Control
B) Hazard Identification, Risk Assessment and Risk Control
C) Health Incident Reporting and Corrective Action

PART 6 — Engineering & Technical Knowledge

A Safety Officer must understand basic engineering and technical concepts to properly assess workplace hazards. This includes knowledge of electrical safety, pressure systems, mechanical equipment hazards, and construction activities that are common on Aramco projects.

Electrical Safety Fundamentals

Key electrical safety rules: Lockout/Tagout (LOTO) must be applied before any electrical work. Minimum approach distances must be maintained near live electrical equipment. Voltage levels: Low Voltage (LV) = below 1000V AC. High Voltage (HV) = 1000V AC and above. On Aramco, any work on HV systems requires a special HV work permit and qualified personnel only. Earth fault circuit interrupters (EFCIs) are mandatory on all portable electrical equipment on site. All portable tools must be inspected and colour-coded monthly.

Pressure Systems and Isolation

Before any work on a pressurised system — pipeline, vessel, or equipment — full isolation must be confirmed. The isolation sequence: 1. Identify all energy sources. 2. Shut down equipment. 3. Isolate using approved isolation valves or blinds. 4. Depressurise and vent. 5. Verify zero energy — test before touching. 6. Apply lockout/tagout. 7. Obtain work permit. Working on a pressurised system without confirmed isolation is a Life Saving Rule violation.

Working at Height — Safety Requirements

Working at height means any work where a person could fall more than 1.8 metres (6 feet). Key requirements: Full body harness and double lanyard mandatory above 1.8m. Anchor points must withstand 22 kN minimum force. Scaffolding must be erected, inspected, and tagged green by a competent person before use. Ladders must extend 1 metre above the landing platform. A fall rescue plan must be in place before any elevated work begins. Aramco Life Saving Rule 6 covers fall protection.

Crane and Lifting Safety

All crane lifts on Aramco require a Lift Plan signed by a competent rigger and approved by the area authority. Critical lifts require additional Aramco engineering approval. Key rules: Never walk under a suspended load — Aramco Life Saving Rule 7. Rigging equipment must be colour-coded and within valid inspection period. Load must never exceed the crane's Safe Working Load (SWL). A banksman must be present for all lifts in congested areas.

PART 6 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q51. What does LOTO stand for in electrical safety?

A) Limited Operation Time Out
B) Lockout/Tagout — energy isolation procedure before electrical work

C) Level One Training Order

Q52. What is the definition of High Voltage (HV) on Aramco projects?

A) Any voltage above 240V
B) 1000V AC and above — requires special HV work permit and qualified personnel
C) 500V AC and above

Q53. Working at height is defined as any work where a fall of more than?

A) 3 metres is possible
B) 1.8 metres (6 feet) is possible — requires full body harness and double lanyard
C) 5 metres is possible

Q54. Anchor points for fall protection must withstand minimum?

A) 5 kN force
B) 22 kN minimum force — before any harness can be attached
C) 10 kN force

Q55. Before working on a pressurised system, what must be confirmed?

A) Visual inspection that pressure is low
B) Full isolation confirmed — depressurised, vented, LOTO applied, zero energy verified
C) Supervisor verbal approval only

Q56. What colour tag confirms scaffolding is safe to use?

A) Red tag
B) Green tag — erected, inspected, and certified by competent person
C) Yellow tag

Q57. Ladders must extend above the landing platform by?

A) 300mm
B) 1 metre above the landing platform — minimum requirement
C) 500mm

Q58. Who must sign the Lift Plan for any crane lift on Aramco?

A) The crane operator only
B) Competent rigger — signed Lift Plan approved by area authority
C) Only the Safety Officer

Q59. Portable electrical tools on Aramco must be colour-coded inspection frequency?

A) Annually
B) Monthly — inspected and colour-coded each month
C) Every 6 months

Q60. Never walk under a suspended load is which Aramco Life Saving Rule?

A) Rule 4
B) Rule 7 — do not walk under a suspended load
C) Rule 10

PART 7 — Production & Operations Safety

Production and operations activities — process plant operations, maintenance, turnarounds, and construction activities — present specific safety challenges. A Safety Officer must understand the hazards associated with each type of operation and the controls required by Aramco standards.

Process Hazards — HAZOP

HAZOP — Hazard and Operability Study — is a structured review of a process design to identify potential hazards. It is conducted by a multi-disciplinary team using guidewords: No/Less/More/Reverse/Other. On Aramco projects, HAZOP must be completed before any process plant is commissioned. The Safety Officer attends HAZOPs to represent safety and ensure all identified risks have appropriate controls in the design.

SIMOPS — Simultaneous Operations

SIMOPS occurs when two or more operations happen in the same area at the same time. This increases risk significantly. On Aramco, SIMOPS requires a written SIMOPS plan approved by the Aramco area authority. The Safety Officer must ensure: a SIMOPS hazard assessment is completed, all activities are coordinated with a single SIMOPS coordinator, communication between teams is confirmed, and exclusion zones are defined and enforced. Common SIMOPS scenarios — hot work near production, lifting over live equipment, and simultaneous excavation and construction.

Maintenance Safety — PTW and Isolation

All maintenance on Aramco must be done under a valid Permit to Work. For maintenance on process equipment, isolation must be verified by installing blinds or using double block and bleed valves — not just closing a valve. The maintenance team leader must confirm isolation is complete before any work starts. The Safety Officer verifies all permits are active, displayed, and within their validity period. Expired permits must be cancelled and renewed — work stops if the permit expires.

Turnaround Safety Management

A turnaround (TAR) is a planned shutdown of a process unit for inspection and maintenance. TAR periods involve high numbers of contractors working simultaneously in a confined area — the highest risk period in a plant's life. Safety Officer responsibilities during TAR: daily safety walks minimum twice per shift, verify all permits are current, attend daily safety coordination meetings, track all open NCRs and safety observations, and ensure all new contractors complete site induction before first day of work.

PART 7 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q61. What does HAZOP stand for?

A) Hazardous Area Operation Plan
B) Hazard and Operability Study — structured process design review using guidewords
C) Health and Zone Occupancy Plan

Q62. SIMOPS stands for?

A) Single Integrated Method of Plant Safety
B) Simultaneous Operations — two or more activities in the same area at the same time
C) Safety Inspection Management and Operations

Q63. For process equipment isolation, closing a valve alone is acceptable?

A) Yes — closed valve is sufficient
B) No — blinds or double block and bleed valves required — valve alone is not sufficient
C) Yes if two valves are closed

Q64. When a work permit expires while work is still ongoing, the team must?

A) Continue — almost finished
B) Stop work — cancel expired permit — renew permit before work resumes
C) Get verbal approval to continue

Q65. HAZOP is completed at which stage of a project?

A) During construction
B) Before commissioning — completed during design review stage
C) After first year of operation

Q66. During a turnaround, minimum frequency of Safety Officer site walks?

A) Once per week
B) Minimum twice per shift — highest risk period in plant life
C) Once per day morning only

Q67. SIMOPS plan must be approved by?

A) Contractor safety manager only
B) Aramco area authority — written SIMOPS plan approval required
C) Project manager only

Q68. New contractors during TAR must complete site induction?

A) Within first week of work
B) Before first day of work — no exceptions
C) Only if they work in hazardous areas

Q69. HAZOP guidewords include?

A) Fast, Slow, Stop, Go
B) No, Less, More, Reverse, Other — standard HAZOP guidewords
C) High, Low, Normal, Critical

Q70. The permit to work during maintenance must be?

A) Kept in the site office
B) Active, displayed at the work site, and within its validity period
C) Emailed to the safety department

PART 8 — Data Recording & Documentation

Accurate data recording and document control are legal obligations on Aramco projects. A Safety Officer who maintains poor records exposes the contractor to NCRs, project delays, and legal liability. All safety records must be complete, signed, dated, and filed in the project document control system.

Safety Records That Must Be Maintained

The Safety Officer is responsible for maintaining the following records at all times: Daily toolbox talk attendance sheets — signed by all attendees. Accident and incident reports — all categories including near misses. Safety inspection reports — with open items tracked to closure. Permit to Work register — all active and closed permits. Induction records — every worker's site induction signed record. First aid treatment records — all treatments given at site. Emergency drill records — with attendance and debrief notes. Equipment inspection records — scaffolding tags, lifting gear colour codes.

Document Control Requirements

All safety documents must follow the project document control system. Key rules: Every document must have a unique document number. Revisions must be controlled — old versions must be withdrawn from use. Distribution must be recorded — who holds which copy. Documents must be legible — handwritten records must be clear and ink-signed. Electronic records must be backed up. Aramco may request any safety record during an audit with no advance notice. The Safety Officer must be able to produce any safety record within 24 hours of a request.

Incident Data Analysis

Safety Officers must analyse incident data to identify trends and patterns. Key metrics to track: Total Recordable Incident Rate (TRIR) — number of recordable incidents per 200,000 man-hours worked. Lost Time Injury Frequency Rate (LTIFR) — number of lost time injuries per million man-hours. Near miss frequency — high near miss rate indicates high risk of future injury. Root cause categories — track whether incidents are caused by behaviour, conditions, or management system failures. Data must be reported to Aramco Loss Prevention Department monthly.

Calibration Records for Safety Equipment

All safety-critical equipment used for measurement must be calibrated. This includes gas detectors, multi-gas monitors, sound level meters, lux meters, and anemometers. Calibration records must show: equipment ID, calibration date, next calibration due date, calibrating authority, and result. Expired calibration = equipment is taken out of service immediately. Do not use any safety measurement equipment without a valid, current calibration certificate.

PART 8 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q71. What does TRIR stand for?

A) Total Risk Incident Register
B) Total Recordable Incident Rate — incidents per 200,000 man-hours worked
C) Training Record and Incident Report

Q72. LTIFR is calculated per how many man-hours?

A) 200,000 man-hours
B) 1,000,000 (one million) man-hours worked
C) 100,000 man-hours

Q73. Aramco requests a safety record during an audit. You must produce it within?

A) 7 days
B) 24 hours — any safety record must be retrievable within 24 hours
C) 30 days

Q74. A gas detector with expired calibration must be?

A) Used carefully with extra checks
B) Taken out of service immediately — not used until recalibrated
C) Used for another 30 days grace period

Q75. Old versions of controlled documents must be?

A) Kept on site as backup
B) Withdrawn from use — only current revision remains in circulation
C) Stored in the worker's personal file

Q76. Near miss data is important because?

A) It is not important — only injuries count
B) High near miss rate indicates high risk of future serious injury
C) It is only tracked for insurance purposes

Q77. Safety incident data must be reported to Aramco LPD how often?

A) Annually
B) Monthly — incident data submitted to Aramco Loss Prevention Department monthly
C) Only after a serious injury

Q78. First aid treatment records on site must be maintained by?

A) The site nurse only

B) The Safety Officer — all treatments must be recorded regardless of severity
C) Only the contractor HR department

Q79. A Permit to Work register must contain?

A) Only currently active permits
B) All active and closed permits — complete history maintained
C) Only permits issued in the last 7 days

Q80. Emergency drill records must include?

A) Date only
B) Date, attendance record, scenario used, and debrief notes
C) Only the drill scenario name

PART 9 — Analysis & Problem Solving

A Safety Officer must be able to analyse workplace incidents, identify root causes, and design effective solutions that prevent recurrence. This requires structured thinking — not guesswork. Aramco expects evidence-based analysis and documented solutions for every significant safety event.

Incident Investigation Process

The incident investigation process on Aramco projects follows these steps: Step 1 — Secure the scene — do not disturb evidence. Step 2 — Administer first aid — safety of injured person first. Step 3 — Notify management and Aramco PSR. Step 4 — Form investigation team — include Safety Officer, supervisor, and technical expert. Step 5 — Gather evidence — photographs, witness statements, records, physical evidence. Step 6 — Identify the sequence of events — what happened in order. Step 7 — Identify root causes using a structured method. Step 8 — Develop corrective and preventive actions. Step 9 — Report and close out.

Root Cause Analysis — 5 Why Method

The 5 Why method is the simplest root cause analysis tool. Start with the problem. Ask WHY five times. Each answer becomes the input for the next WHY. Example: Problem — Worker fell from ladder. Why 1 — Ladder slipped. Why 2 — No securing at top. Why 3 — No procedure for securing ladders. Why 4 — No training on ladder safety. Why 5 — Training programme does not include ladder safety module. Root Cause — Training programme gap. Corrective action — Update training programme and retrain all workers.

Bow Tie Analysis

Bow Tie analysis visualises the relationship between causes, the hazardous event, and consequences. Left side of the bow tie = threats leading to the event. Right side = consequences that follow the event. Prevention barriers = controls on the left side that prevent the event. Recovery barriers = controls on the right side that reduce consequences. Safety Officers use bow tie analysis for high-risk activities such as confined space entry, hot work, and lifting operations.

Safety Observation Programme

The Safety Observation Programme (SOP) — also called Behaviour Based Safety (BBS) — is Aramco's proactive safety tool. Every day, supervisors and Safety Officers observe workers and record both safe and unsafe behaviours. Unsafe observations are addressed immediately and corrected — not later. Safe observations are recognised and reinforced. The observation data is analysed weekly to identify trends. A high ratio of unsafe observations in a specific area indicates a systemic problem requiring investigation — not just individual correction.

PART 9 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q81. What is the first action at an incident scene?

A) Start investigating immediately
B) Secure the scene — do not disturb evidence — administer first aid to injured person
C) Call a meeting with management

Q82. The 5 Why method is used for?

A) Planning daily work activities
B) Root cause analysis — asking WHY five times to find the real cause
C) Writing safety inspection reports

Q83. In a Bow Tie analysis, prevention barriers are located?

A) On the right side
B) On the left side — preventing the hazardous event from occurring
C) In the centre of the bow tie

Q84. BBS stands for?

A) Basic Building Safety
B) Behaviour Based Safety — proactive observation of safe and unsafe worker behaviours
C) Building and Bridging Standards

Q85. In the 5 Why method, the root cause is found at?

A) The first Why answer
B) Approximately the fifth Why — where the systemic cause becomes visible
C) The third Why always

Q86. An unsafe behaviour observed in BBS must be corrected?

A) At the end of the working day
B) Immediately — not later — unsafe behaviours are addressed on the spot
C) In the next toolbox talk

Q87. Who forms the incident investigation team?

A) Safety Officer alone
B) Safety Officer, supervisor, and technical expert — multi-discipline team
C) Only Aramco representatives

Q88. A high ratio of unsafe observations in one area indicates?

A) Individual worker carelessness only
B) A systemic problem requiring investigation — not just individual correction
C) The observation programme is working well

Q89. Bow Tie recovery barriers are designed to?

A) Prevent the event from happening
B) Reduce the consequences after a hazardous event has occurred
C) Train workers on hazard awareness

Q90. Witness statements in incident investigation must be?

A) Collected only from the injured worker
B) Collected from all witnesses — separately — before they discuss the event with each other
C) Optional — physical evidence is enough

PART 10 — Management Systems & Compliance

A Safety Officer operates within a management system framework. Understanding how the safety management system connects to ISO 45001, legal compliance, Aramco requirements, and contractor obligations is essential for the CBT exam and for effective professional practice.

ISO 45001:2018 — OH&S Management System

ISO 45001:2018 is the international standard for Occupational Health and Safety Management Systems. It follows the Plan-Do-Check-Act (PDCA) cycle. Key requirements: Leadership and worker participation. Hazard identification and risk assessment. Operational planning and control. Emergency preparedness. Performance evaluation — monitoring, measurement, audit. Management review. Improvement — incident investigation and corrective action. Aramco-approved contractors are expected to operate their SMS in line with ISO 45001:2018. The Safety Officer is the primary implementer of ISO 45001 requirements at site level.

Legal Compliance in Saudi Arabia

Saudi labour law and the Ministry of Human Resources and Social Development (MHRSD) regulations govern workplace safety in the Kingdom. Key legal requirements: All workers must be registered and have valid Iqamas. Medical insurance is mandatory for all employees. Work hours must not exceed 8 hours per day (48 per week) — reduced during Ramadan. Overtime must be compensated. Heat stress regulations apply between June 15 and September 15 — outdoor work prohibited between 12:00 and 3:00 PM. Aramco projects must comply with Saudi labour law in addition to Aramco's own standards.

Contractor Obligations Under Aramco HSE Policy

Every contractor working on Aramco projects signs the Aramco HSE agreement. Key obligations: Maintain an active and certified HSE management system. Submit monthly safety statistics to the Aramco Project Safety representative. Conduct a minimum of one senior management safety walk per month. Maintain qualified Safety Officers at the required ratio (typically 1:25 for construction activities). Report all incidents within the required timeframes. Comply with all Aramco GIs, SAES standards, and Life Saving Rules. Failure to comply can result in contractor suspension from Aramco projects.

Management of Change (MOC)

Management of Change (MOC) is the formal process for managing changes to procedures, equipment, materials, or personnel that could affect safety. On Aramco projects, any change to a safety-critical element requires a formal MOC. MOC steps: 1. Identify the change. 2. Assess the safety impact. 3. Get approval from the appropriate authority. 4. Communicate to all affected parties. 5. Implement the change. 6. Verify the change was implemented correctly. 7. Update all affected documents. A change made without MOC approval is a non-conformance — NCR must be raised.

PART 10 — EXAM QUESTIONS

Answer all 10 questions below. Do NOT check the Answer Key until you have completed all 100 questions.

Q91. ISO 45001:2018 covers?

A) Quality management systems
B) Occupational Health and Safety Management Systems — international standard
C) Environmental management systems

Q92. The PDCA cycle stands for?

A) Plan, Define, Control, Assess
B) Plan, Do, Check, Act — the continuous improvement cycle used in ISO 45001
C) Prepare, Document, Check, Approve

Q93. During Saudi summer, outdoor work is prohibited between which hours?

A) 10:00 AM to 12:00 PM
B) 12:00 PM to 3:00 PM — June 15 to September 15 — heat stress regulation
C) 11:00 AM to 2:00 PM

Q94. Typical Safety Officer to worker ratio for Aramco construction activities?

A) 1 Safety Officer per 10 workers
B) 1 Safety Officer per 25 workers — minimum required ratio
C) 1 Safety Officer per 100 workers

Q95. MOC stands for?

A) Method of Construction
B) Management of Change — formal process for managing safety-impacting changes
C) Ministry of Compliance

Q96. Monthly safety statistics must be submitted to?

A) Contractor safety manager only
B) Aramco Project Safety Representative — monthly submission mandatory
C) Saudi Ministry of Labour only

Q97. A change to safety-critical equipment without MOC approval is?

A) Acceptable if the supervisor approves verbally
B) A non-conformance — NCR must be raised — MOC is mandatory
C) Allowed in emergency situations

Q98. Senior management safety walk minimum frequency on Aramco projects?

A) Annually

B) Minimum once per month — mandatory contractor obligation
C) Quarterly only

Q99. Contractor suspension from Aramco projects can result from?

A) One minor safety observation finding
B) Failure to comply with Aramco GIs, Life Saving Rules, and HSE obligations
C) Submitting monthly reports one day late

Q100. ISO 45001 requires workers to?

A) Only follow safety rules without involvement in the SMS
B) Actively participate in the OH&S management system — worker participation is a key requirement
C) Sign the safety policy annually only

ANSWER KEY

STOP — Do not look at this page until all 100 questions are answered

Q	Answer	Key Point to Remember
Q1	B	CBT = Computer Based Test required before badge issuance
Q2	B	Original Iqama is mandatory — copies are not accepted
Q3	B	TAMS manages all Aramco training and assessment records
Q4	B	Pass mark is typically 70% — varies slightly by designation
Q5	B	CBT result is instant — displayed on screen at completion
Q6	B	Contractor HR/GR handles CBT registration through TAMS
Q7	B	30-day cooling period applies after a CBT failure
Q8	B	No mobile phones, reference books, or notes in exam room
Q9	B	CBT is based on Aramco GIs and standards — not general knowledge
Q10	B	CBT pass is mandatory before any Aramco gate pass is issued
Q11	B	GI-0002.102 covers the Aramco Life Saving Rules
Q12	B	Aramco has 10 Life Saving Rules — all mandatory
Q13	B	Elimination is the top and most effective level of the hierarchy
Q14	B	On Aramco projects, Aramco GIs always take precedence
Q15	B	GI-0006.021 covers mandatory PPE requirements
Q16	B	Life Saving Rule 6 specifically covers fall protection
Q17	B	PPE is the last resort — lowest in the hierarchy

Q	Answer	Key Point to Remember
Q18	B	SAES-B-058 covers emergency response requirements
Q19	B	Life Saving Rule 4 governs confined space entry authorisation
Q20	B	GI-0002.100 covers the Aramco Safety Management System
Q21	B	ITP = Inspection and Test Plan — defines all inspection activities
Q22	B	Hold Point requires physical sign-off before work can continue
Q23	B	Red tag is mandatory on any non-conforming item
Q24	B	NCR closure requires Aramco QC representative verification and signature
Q25	B	ISO 9001:2015 has 7 quality management principles
Q26	B	Witness Point allows work to proceed if notified party does not attend
Q27	B	Full NCR closure package with objective evidence is required
Q28	B	All Aramco-approved contractors must hold ISO 9001:2015
Q29	B	Safety Officer audit covers all safety documentation and records
Q30	B	NCR corrective action has two parts — fix now and prevent recurrence
Q31	B	TBT minimum 10 minutes — signed attendance sheet mandatory
Q32	B	TBT attendance sheet is a legal document — must be filed properly
Q33	B	Injury incidents must reach Aramco PSR within 1 hour
Q34	B	LPD = Loss Prevention Department — Aramco's safety authority
Q35	B	Near misses are mandatory reportable events — same process as injuries
Q36	B	Safety inspection reports require all key fields including target dates
Q37	B	PSR = Project Safety Representative — primary safety contact
Q38	B	All safety communications must be in writing — verbal alone is insufficient
Q39	B	Full incident report must be submitted within 24 hours
Q40	B	Failure to report any incident is a serious Aramco violation
Q41	B	JSA = Job Safety Analysis — required before all non-routine tasks
Q42	B	Risk = Likelihood × Consequence — standard risk matrix formula
Q43	B	Hot Work Permit covers all spark, flame, or heat-producing activities
Q44	B	Safety Policy must carry top management signature — not just safety department
Q45	B	Confined Space Entry Permit is mandatory for every confined space entry
Q46	B	Emergency drills minimum quarterly — records kept by Safety Officer
Q47	B	Critical risks require engineering controls or elimination — not just PPE
Q48	B	Assembly point knowledge is mandatory from Day 1 of every worker
Q49	B	PTW must be physically displayed at the actual work site
Q50	B	HIRARC = Hazard Identification, Risk Assessment and Risk Control

Q	Answer	Key Point to Remember
Q51	B	LOTO = Lockout/Tagout — mandatory before any electrical work
Q52	B	HV = 1000V AC and above — requires special permit and qualified staff
Q53	B	Working at height threshold = 1.8m — harness mandatory above this
Q54	B	Fall protection anchor points must withstand 22 kN minimum
Q55	B	Full isolation with zero energy verification mandatory before pressurised system work
Q56	B	Green tag = scaffolding inspected and approved for use
Q57	B	Ladders must extend 1 metre above landing platform
Q58	B	Lift Plan requires competent rigger signature and area authority approval
Q59	B	Portable electrical tools must be colour-coded monthly on Aramco sites
Q60	B	Life Saving Rule 7 = never walk under a suspended load
Q61	B	HAZOP = Hazard and Operability Study — done before commissioning
Q62	B	SIMOPS = Simultaneous Operations — requires written approved plan
Q63	B	Process isolation requires blinds or double block and bleed — not valve alone
Q64	B	Expired permit = work stops immediately — renew before continuing
Q65	B	HAZOP must be completed before commissioning — design stage
Q66	B	TAR requires minimum 2 safety walks per shift — highest risk period
Q67	B	SIMOPS plan requires Aramco area authority written approval
Q68	B	Site induction is mandatory before Day 1 — no exceptions during TAR
Q69	B	Standard HAZOP guidewords: No/Less/More/Reverse/Other
Q70	B	PTW must be active, displayed at work site, and within validity
Q71	B	TRIR = Total Recordable Incident Rate per 200,000 man-hours
Q72	B	LTIFR = Lost Time Injury Frequency Rate per million man-hours
Q73	B	Any safety record must be producible within 24 hours of Aramco request
Q74	B	Expired calibration = immediate removal from service — no grace period
Q75	B	Superseded document versions must be withdrawn from active use
Q76	B	Near miss frequency is a leading indicator of future injury risk
Q77	B	Monthly reporting to Aramco LPD is mandatory
Q78	B	Safety Officer maintains all first aid treatment records on site
Q79	B	PTW register includes all active and closed permits — full history
Q80	B	Emergency drill records need date, attendance, scenario, and debrief
Q81	B	Scene security and first aid are the first two immediate actions
Q82	B	5 Why = structured root cause analysis tool
Q83	B	Prevention barriers are on the left side of the bow tie

Q	Answer	Key Point to Remember
Q84	B	BBS = Behaviour Based Safety — observation-based proactive programme
Q85	B	Fifth Why typically reveals the systemic root cause
Q86	B	BBS unsafe behaviours are corrected immediately — not deferred
Q87	B	Investigation team includes Safety Officer, supervisor, and technical expert
Q88	B	High unsafe observation ratio in one area = systemic problem to investigate
Q89	B	Recovery barriers reduce consequences after the event occurs
Q90	B	Witness statements collected separately before witnesses compare notes
Q91	B	ISO 45001:2018 = OH&S Management System international standard
Q92	B	PDCA = Plan, Do, Check, Act — foundation of ISO 45001
Q93	B	Saudi heat stress ban: 12:00–15:00 between June 15 and September 15
Q94	B	Aramco construction requires minimum 1 Safety Officer per 25 workers
Q95	B	MOC = Management of Change — mandatory for safety-critical changes
Q96	B	Monthly safety stats submitted to Aramco PSR — contractual obligation
Q97	B	Any safety-critical change without MOC = NCR — no exceptions
Q98	B	Senior management safety walk minimum monthly — contractual requirement
Q99	B	Non-compliance with Aramco HSE obligations can result in contractor suspension
Q100	B	Worker participation is a core ISO 45001:2018 requirement — not passive compliance

Abbreviation,Full Form

BBS	Behaviour Based Safety
CBT	Computer Based Test
EFCIs	Earth Fault Circuit Interrupters
ERP	Emergency Response Plan
HAZOP	Hazard and Operability Study
HIRARC	"Hazard Identification Risk Assessment and Risk Control "
HSE	Health Safety and Environment
HV	High Voltage
ITP	Inspection and Test Plan
JSA	Job Safety Analysis
LOTO	Lockout/Tagout

LPD	Loss Prevention Department
LTIFR	Lost Time Injury Frequency Rate
LV	Low Voltage
MOC	Management of Change
NCR	Non-Conformance Report
OH&S	Occupational Health and Safety
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
PSR	Project Safety Representative
PTW	Permit to Work
SIMOPS	Simultaneous Operations
SOP	Safety Observation Programme
SWL	Safe Working Load
TAMS	Training and Assessment Management System
TAR	Turnaround
TBT	Toolbox Talk
TRIR	Total Recordable Incident Rate