

# **PRACTICE EXAM 5: SIGNAL MAINTAINER SIMULATION**

## **(150 QUESTIONS)**

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*This 150-question written practice simulation prepares decision sequencing, safety, electrical and electronic reasoning, electro-mechanical equipment, signals, detection, schematics, tools, troubleshooting, and records. The MTA New York City Transit Signal Maintainer assessment includes practical skills; this written set does not reproduce physical equipment handling. Use 65% as a study benchmark. The current official notice, local rules, and authorized training procedures control.*

1. After a route does not release as expected, a signal condition is unclear. What should be preserved first?

- A. The last permissive command
- B. The most restrictive known state
- C. The quickest visible indication
- D. The technician's initial guess

2. While isolating a suspected open circuit, a drawing is available but the maintainer remembers a different circuit. Which reference controls?

- A. An older printed copy
- B. A nearby equipment label
- C. Personal memory of the circuit
- D. The current authorized drawing

**3.** While reviewing a new trouble report, a planned task involves several workers and a live operating area. What should occur before work begins?

- A. A reset of every control
- B. Immediate component removal
- C. A task briefing and hazard review
- D. A test without communication

**4.** After an unexpected indication appears, hazardous energy may remain after an isolation step. What is the next safe action?

- A. Assume the isolation worked
- B. Verify the expected zero-energy condition
- C. Begin probing the load
- D. Remove the warning tag

**5.** During a supervisor-directed diagnostic task, a test could change an indication seen by operations. What should happen before the test?

- A. Disconnect the nearest relay
- B. Clear the indication manually
- C. Proceed silently to save time
- D. Communicate and obtain required authorization

**6.** During a recurring-fault investigation, a temporary jumper is installed during an authorized test. What is essential?

- A. Identify, control, and remove it under procedure
- B. Treat it as a permanent repair
- C. Leave it for the next shift
- D. Hide it inside the case

7. After a measurement does not match the prediction, a meter and lead set will be used near electrical energy. What should be checked?

- A. Only the battery level
- B. Ratings, condition, and intended measurement
- C. Only the color of the leads
- D. Whether the display is bright

8. While preparing equipment for a functional test, an instruction conflicts with the equipment condition or authority is unclear. What is the professional response?

- A. Stop and obtain clarification
- B. Continue until the symptom changes
- C. Ask an unqualified bystander
- D. improvise a replacement step

9. When a signal response appears more permissive than expected, work is near an active trackway. Which priority controls the task?

- A. Avoid documenting the delay
- B. Finish the measurement quickly
- C. Protect people and train movement first
- D. Keep the cabinet open

10. After a protective device operates, poor visibility makes a field observation uncertain. What is the best response?

- A. Record a definite result anyway
- B. Move equipment without a briefing
- C. Ignore the environmental condition
- D. Control the hazard and improve the observation

**11.** While checking a battery-backed supply, a work order does not clearly include a proposed change. What should the maintainer do?

- A. Confirm the authorized scope before changing equipment
- B. Use a previous job as permission
- C. Change the most accessible part
- D. Expand the work to save a trip

**12.** When two indications do not agree, a fault crosses the boundary between two maintenance groups. What makes the handoff useful?

- A. Repeat every test without results
- B. Report only that it failed
- C. Send the equipment without notes
- D. State condition, evidence, limits, and next action

**13.** During a planned maintenance shift, an event log may help explain an intermittent failure. What should happen to the record?

- A. Delete old events immediately
- B. Rely on memory after repair
- C. Preserve it before resetting or clearing evidence
- D. Replace it with a guess

**14.** Before beginning a wayside inspection, a non-routine bypass appears necessary to continue. What is the proper decision?

- A. Ask the operator to approve it casually
- B. Escalate for authorized direction
- C. Use it without labeling
- D. Install it because it is temporary

**15.** While checking a recently restored circuit, a repair appears complete. What confirms the task is actually closed?

- A. Removing the work order from the desk
- B. The original symptom disappearing once
- C. Closing the equipment case only
- D. Test, restore, document, and communicate the final state

**16.** When a normal indication is not present, what does a voltage measurement between two points describe?

- A. The potential difference between those points
- B. The current through every branch
- C. The resistance of the entire system
- D. The power rating of the fuse

**17.** While confirming the limits of a work order, what must exist for current to flow through an intended control path?

- A. An open contact and no return
- B. A meter connected in parallel
- C. A source, a complete path, and a load
- D. A ground label alone

**18.** When a control-room report conflicts with field evidence, an open conductor is suspected in a control circuit. What is the defining condition?

- A. The fuse becomes larger
- B. The intended path is interrupted
- C. Every branch is shorted
- D. The source has doubled

**19.** During a track-detection review, what is a likely effect of an unintended low-resistance path across a source?

- A. Guaranteed lower load current
- B. Excess current and possible protection operation
- C. A permanent open circuit
- D. Improved insulation resistance

**20.** While reviewing an intermittent failure history, a source reads normally with no load but falls at the load. What should be considered?

- A. A change in signal color only
- B. A larger-than-normal conductor
- C. A voltage drop or source-delivery problem
- D. A perfect circuit with no fault

**21.** When an authorized procedure reaches an unclear step, what is common to all elements in a simple series path?

- A. The same current flows through each element
- B. No element affects another
- C. Each element has identical voltage
- D. Every branch is independent

**22.** During a post-maintenance return-to-service check, what is a key feature of parallel branches?

- A. They always carry identical current
- B. They eliminate the need for a return
- C. They make every load series-connected
- D. They provide separate paths across common nodes

**23.** Before documenting the final condition, why is polarity important in a DC control circuit?

- A. It eliminates the need for a source
- B. It determines how devices and protective paths operate
- C. It makes an open contact conductive
- D. It changes an AC waveform into a fuse

**24.** In a controlled training scenario, which distinction matters when selecting a measurement method?

- A. AC alternates while DC maintains a substantially fixed polarity
- B. AC and DC use identical instruments
- C. AC never uses a return
- D. DC always has zero current

**25.** When preparing a handoff to the next maintainer, what is a transformer commonly used to provide?

- A. A direct-current short circuit
- B. A mechanical switch position
- C. A changed AC voltage level or isolation
- D. A replacement for every fuse

**26.** After comparing the field condition with the drawing, what is the intended protective action of a fuse under sufficient overcurrent?

- A. It locks every route
- B. It makes the load more conductive
- C. It increases the source voltage
- D. Its element opens the circuit

**27.** Before making any temporary circuit change, why must ground or reference be identified before measuring?

- A. It replaces the circuit drawing
- B. Ground always equals the load
- C. The reference determines what the reading means
- D. It guarantees zero voltage everywhere

**28.** During a weather-affected inspection, why can a de-energized circuit still require caution?

- A. De-energized always means discharged
- B. Stored energy exists only in lamps
- C. The meter removes every hazard
- D. Stored energy may remain in components or conductors

**29.** After a switch movement does not complete, what condition is normally required before measuring resistance in a circuit?

- A. The circuit is isolated from energized sources
- B. The fuse is bypassed
- C. The meter is placed across a live source
- D. The load is forced on

**30.** Before opening a relay or equipment case, what can unexpected heat provide during a power investigation?

- A. A reason to remove protection
- B. A clue that current or resistance is abnormal
- C. Proof that the circuit is healthy
- D. Evidence that no load exists

**31.** During a drawing and terminal audit, what is the basic conduction behavior of a diode?

- A. It stores every input forever
- B. It opens in both directions
- C. It creates mechanical travel
- D. It favors current in one direction

**32.** After a route does not release as expected, why may a zener device appear in a reference circuit?

- A. It detects rail occupancy directly
- B. It helps maintain a defined voltage region
- C. It replaces every relay contact
- D. It provides mechanical locking

**33.** While isolating a suspected open circuit, how can a transistor function in a control circuit?

- A. As a mechanical limit stop
- B. As a track wheel shunt
- C. As a controlled electronic switch
- D. As a permanent open wire

**34.** While reviewing a new trouble report, what separates a relay coil from its contacts?

- A. The coil's magnetic action controls isolated contacts
- B. The contacts are always the source
- C. The coil is a fuse element
- D. The contacts have no circuit function

**35.** After an unexpected indication appears, what does normally open describe?

- A. Its guaranteed safe indication
- B. The defined normal condition of a contact
- C. Its resistance under every fault
- D. Its voltage while energized

**36.** During a supervisor-directed diagnostic task, what should be considered when an LED indication is dark?

- A. The device, polarity, source, and control path
- B. A guaranteed track occupancy
- C. Only the label color
- D. Only the remote display

**37.** During a recurring-fault investigation, what is a useful first inspection of a printed circuit board?

- A. Change every adjustment
- B. Remove all components
- C. Reset the processor repeatedly
- D. Look for damage, contamination, and abnormal connections

**38.** After a measurement does not match the prediction, what can a poorly seated connector cause?

- A. Automatic route release
- B. Guaranteed correct input logic
- C. Intermittent or missing signals
- D. A permanent increase in source voltage

**39.** While preparing equipment for a functional test, what is electromagnetic interference likely to produce?

- A. A higher fuse rating
- B. A mechanical lock position
- C. A verified open circuit
- D. Unwanted disturbance coupled into equipment

**40.** When a signal response appears more permissive than expected, what is a watchdog function intended to detect?

- A. Loss of expected processor activity
- B. A broken rail by sight
- C. A missing mechanical cover
- D. A normal open contact

**41.** After a protective device operates, why does an electronic input threshold matter?

- A. It removes every noise source
- B. The input interprets a range as a logic state
- C. It proves the field device is aligned
- D. It changes a fuse into a relay

**42.** While checking a battery-backed supply, what is the purpose of optical isolation?

- A. Replace a current return
- B. Increase rail shunting
- C. Transfer a signal while limiting direct electrical coupling
- D. Create a mechanical throw

**43.** When two indications do not agree, why is electrostatic discharge control important around boards?

- A. It makes every relay pick up
- B. It improves track ballast
- C. It changes AC into DC
- D. A small discharge can damage sensitive components

**44.** During a planned maintenance shift, what is the safest way to interpret an HMI indication?

- A. Compare it with field evidence and the current reference
- B. Ignore the field device
- C. Reset it until it agrees
- D. Treat it as physical proof

**45.** Before beginning a wayside inspection, why is a successful reset not necessarily a repair?

- A. The source has been replaced
- B. A reset always changes wiring
- C. The underlying cause may still be present
- D. The fault is proven permanent

**46.** While checking a recently restored circuit, what sequence best describes a powered switch movement?

- A. Detection, removal, and guessing
- B. Command, motor action, movement, and detection
- C. Lamp change, fuse removal, and release
- D. Route clearing without position proof

**47.** When a normal indication is not present, what may unusually high motor current suggest?

- A. No load on the motor
- B. Obstruction, friction, or mechanical overload
- C. A healthy detection circuit
- D. Perfect alignment

**48.** While confirming the limits of a work order, what does switch detection help prove?

- A. The physical position meets the required condition
- B. The lamp has correct color
- C. The motor is always healthy
- D. The route is automatically authorized

**49.** When a control-room report conflicts with field evidence, what is the first concern when a mechanism meets resistance?

- A. Apply more force immediately
- B. Bypass the lock
- C. Ignore the resistance
- D. Protect the equipment and investigate the obstruction

**50.** During a track-detection review, why is point alignment important to a switch function?

- A. It removes the need for locking
- B. It proves the battery is charged
- C. It affects movement, detection, and safe route conditions
- D. It only changes cabinet lighting

**51.** While reviewing an intermittent failure history, what is the purpose of a mechanical or electrical lock?

- A. Replace all detection
- B. Increase motor speed
- C. Prevent an unsafe change from the required position
- D. Create a permissive indication alone

**52.** When an authorized procedure reaches an unclear step, what should a direction contactor provide in a motor circuit?

- A. Controlled selection of the commanded direction
- B. A permanent short across the motor
- C. A replacement for position detection
- D. An automatic work authorization

**53.** During a post-maintenance return-to-service check, what can a limit or detection contact reveal?

- A. The source's full capacity
- B. A guaranteed root cause
- C. The weather forecast
- D. Whether a defined travel or position condition exists

**54.** Before documenting the final condition, why can contamination affect a mechanism?

- A. It proves the motor is open
- B. It can add friction or interfere with contacts
- C. It guarantees smoother travel
- D. It eliminates lubrication needs

**55.** In a controlled training scenario, what may repeated thermal protection operation indicate?

- A. A perfectly unloaded motor
- B. A correct route release
- C. A persistent overload or inadequate cooling
- D. A clean contact path

**56.** When preparing a handoff to the next maintainer, what should happen before dismantling a mechanical assembly?

- A. Force the mechanism by hand
- B. Reset the remote display
- C. Remove the detection wires
- D. Observe and record the condition first

**57.** After comparing the field condition with the drawing, what is required after an adjustment to a switch mechanism?

- A. A new unrelated adjustment
- B. A complete authorized functional and protective test
- C. A visual glance only
- D. Immediate release without testing

**58.** Before making any temporary circuit change, when is manual movement of a powered mechanism acceptable?

- A. Only when authorized and controlled by procedure
- B. Whenever the motor is slow
- C. When the route is unclear
- D. Before notifying operations

**59.** During a weather-affected inspection, two indications disagree about switch position. What is the best conclusion?

- A. The remote indication always controls
- B. The position is not yet proven
- C. The route can be cleared anyway
- D. The field indication must be wrong

**60.** After a switch movement does not complete, what should the maintainer verify before closing a serviced equipment case?

- A. Only the work order number
- B. Only the cabinet color
- C. Covers, fasteners, wiring, and restored condition
- D. Only the original symptom

**61.** Before opening a relay or equipment case, what gives a signal aspect its operating meaning?

- A. The applicable rule and signal system
- B. The lamp brand alone
- C. A maintainer's preference
- D. The brightness by itself

**62.** During a drawing and terminal audit, a signal is dark when a permissive display was expected. What is the safe interpretation?

- A. Replace the rule with memory
- B. Force the lamp on
- C. Assume the route is clear
- D. Treat the condition as restrictive until proven otherwise

**63.** After a route does not release as expected, a signal lamp or LED is dark. What should be isolated?

- A. The device, source, control path, and return
- B. Only the route label
- C. Only the lens
- D. Only the remote screen

**64.** While isolating a suspected open circuit, what is the best way to analyze a signal circuit?

- A. Start with the brightest lamp
- B. Trace source, logic, output, indication, and return
- C. Replace every relay
- D. Clear the route first

**65.** While reviewing a new trouble report, what does a permissive indication not provide by itself?

- A. A reason to read the drawing
- B. A condition that can be tested
- C. Any information about a display
- D. Blanket authorization to ignore governing rules

**66.** After an unexpected indication appears, why compare related indications during a fault?

- A. It authorizes a bypass
- B. It replaces all measurements
- C. The comparison can reveal where states diverge
- D. It proves a lamp is good

**67.** During a supervisor-directed diagnostic task, a signal appears clear but a required condition is unverified. What is the proper response?

- A. Proceed because the display is visible
- B. Do not assume the permissive condition is valid
- C. Ignore the missing proof
- D. Reset the interlocking

**68.** During a recurring-fault investigation, how should an aspect test be designed?

- A. It should bypass protection
- B. It should change several inputs at once
- C. It should force the most permissive state
- D. It should verify the response without creating a false indication

**69.** After a measurement does not match the prediction, why can route conditions affect a signal aspect?

- A. The aspect depends on proven route and protection states
- B. The indication is independent of occupancy
- C. The lamp chooses the route
- D. The lens supplies the logic

**70.** While preparing equipment for a functional test, what should be separated when troubleshooting relay and electronic selection logic?

- A. Only the lamp color
- B. The work order and weather
- C. Input conditions, selection logic, and output state
- D. The case cover and label

**71.** When a signal response appears more permissive than expected, how should color and position be interpreted?

- A. According to personal experience only
- B. According to the governing local signal rules
- C. According to the nearest wire color
- D. According to a generic internet chart

**72.** After a protective device operates, what should a persistent indication discrepancy become?

- A. A permanent bypass
- B. A hidden informal adjustment
- C. A reason to erase the log
- D. A documented condition for authorized follow-up

**73.** While checking a battery-backed supply, what is the protective purpose of a train-stop function?

- A. Guarantee a permissive movement
- B. Replace all track detection
- C. Initiate a restrictive response when required conditions fail
- D. Increase lamp intensity

**74.** When two indications do not agree, a control-room indication conflicts with the field device. What should guide the next decision?

- A. The discrepancy must be protected and investigated
- B. The older maintenance note
- C. A guessed equipment state
- D. The more permissive indication

**75.** During a planned maintenance shift, what makes an intermittent aspect fault easier to analyze?

- A. A report that says only intermittent
- B. A single reset
- C. A replacement without records
- D. Timestamps, sequence, and conditions of occurrence

**76.** Before beginning a wayside inspection, what does a train wheelset normally do to a track circuit?

- A. It increases rail insulation
- B. It provides a shunting path across the rails
- C. It opens every relay coil
- D. It clears the protected section

**77.** While checking a recently restored circuit, what does a track relay release generally indicate?

- A. The detection circuit is no longer in its clear state
- B. The route is automatically released
- C. The source is fully charged
- D. The rail is guaranteed intact

**78.** When a normal indication is not present, what should be considered when a track circuit loses its source?

- A. The train stop is bypassed
- B. The indication must become permissive
- C. A receiver or relay may drop restrictive
- D. The rails become shorter

**79.** While confirming the limits of a work order, why are rail bonds and connections important?

- A. They create a permissive indication alone
- B. They maintain the intended conductive path
- C. They replace the receiver
- D. They eliminate shunting

**80.** When a control-room report conflicts with field evidence, what can cause a false occupancy indication?

- A. A perfectly isolated rail
- B. A completed route release
- C. A fault that prevents the expected clear response
- D. Only a brighter lamp

**81.** During a track-detection review, what is the safe significance of a suspected broken rail response?

- A. The indication can be ignored
- B. The signal should clear automatically
- C. The relay should be forced up
- D. The detection should favor a restrictive condition

**82.** While reviewing an intermittent failure history, why must track-circuit boundaries be identified?

- A. They define which section the evidence applies to
- B. They determine the weather
- C. They replace the current drawing
- D. They make every relay identical

**83.** When an authorized procedure reaches an unclear step, what does a coded track receiver interpret?

- A. A work-order number
- B. A lens color only
- C. A specified electrical or coded detection signal
- D. A mechanical switch throw

**84.** During a post-maintenance return-to-service check, why must a train-movement detection test be controlled?

- A. It removes the need for communication
- B. It can affect operating indications and protection
- C. It only changes cabinet temperature
- D. It cannot affect a relay

**85.** Before documenting the final condition, local and remote occupancy indications disagree. What is established?

- A. The remote display is always correct
- B. The field relay is always wrong
- C. The track is definitely clear
- D. The detection state is not yet resolved

**86.** In a controlled training scenario, how can wet ballast affect a track circuit?

- A. It can reduce insulation and create leakage
- B. It removes the need for bonds
- C. It opens the relay by command
- D. It guarantees a clear response

**87.** When preparing a handoff to the next maintainer, what is required before performing a shunt test?

- A. Authorization, protection, and the approved test method
- B. A cleared route without notice
- C. A casual verbal guess
- D. A bypass of the receiver

**88.** After comparing the field condition with the drawing, what must be true before a clear indication is accepted?

- A. Only the lamp is illuminated
- B. The relay case is closed
- C. The last train has passed
- D. All required detection and protection conditions are proven

**89.** Before making any temporary circuit change, what is useful when the same occupancy fault recurs?

- A. Repeat one reset only
- B. Change the indication label
- C. Compare trend information with prior conditions
- D. Erase earlier work records

**90.** During a weather-affected inspection, what should be verified after a detection repair?

- A. Only the remote display
- B. The intended occupied and clear responses
- C. Only the source voltage
- D. Only the relay cover

**91.** After a switch movement does not complete, what is the central purpose of interlocking?

- A. Increase every signal aspect
- B. Remove track detection
- C. Prevent conflicting or unsafe combinations of movements
- D. Replace maintenance records

**92.** Before opening a relay or equipment case, what does route locking hold?

- A. Route elements against an unsafe change
- B. The weather condition
- C. A technician's personal setting
- D. Only the lamp lens

**93.** During a drawing and terminal audit, why does approach locking matter?

- A. It replaces signal rules
- B. It limits casual changes after a train approaches
- C. It increases motor speed
- D. It clears an occupied track

**94.** After a route does not release as expected, what must a switch prove before a route can rely on it?

- A. Only a command was sent
- B. Only the motor ran
- C. Only the operator saw movement
- D. The required position and detection condition

**95.** While isolating a suspected open circuit, why can occupancy prevent a signal from clearing?

- A. The work order is closed
- B. The relay label is missing
- C. The lamp is too bright
- D. The protected route condition is not fully proven

**96.** While reviewing a new trouble report, what should be confirmed before clearing a signal?

- A. Every required route, switch, and protection condition
- B. Only the last command
- C. Only the signal head
- D. Only the nearest relay

**97.** After an unexpected indication appears, what does a stick circuit commonly provide?

- A. A permanent short circuit
- B. A controlled memory of a circuit state
- C. A mechanical lock only
- D. A replacement for every input

**98.** During a supervisor-directed diagnostic task, missing proof in an interlocking condition should cause what response?

- A. A forced relay pick-up
- B. A hidden bypass
- C. A restrictive or non-permissive response
- D. An automatic route clear

**99.** During a recurring-fault investigation, why test one interlocking condition at a time?

- A. It guarantees a faster repair
- B. It preserves cause-and-effect information
- C. It makes every fault disappear
- D. It avoids reading the drawing

**100.** After a measurement does not match the prediction, what is route release evidence used to establish?

- A. That every lamp is new
- B. That the source is isolated
- C. That the route can safely return to an available state
- D. That the work order is unnecessary

**101.** While preparing equipment for a functional test, what should be considered when control can be local or remote?

- A. The more permissive command
- B. The closest lamp
- C. Only the last screen viewed
- D. Which control location currently has authority

**102.** When a signal response appears more permissive than expected, two conflicting commands appear at once. What is the safe approach?

- A. Protect the condition and resolve the authority
- B. Clear the route manually
- C. Accept the faster command
- D. Apply both commands

**103.** After a protective device operates, why is bypassing interlocking protection unacceptable without authorization?

- A. It always improves reliability
- B. It only changes paperwork
- C. It proves the route is clear
- D. It can defeat a safety-critical dependency

**104.** While checking a battery-backed supply, what is needed after interlocking maintenance?

- A. A permissive indication alone
- B. A reset without records
- C. A documented functional test and controlled restoration
- D. A visual inspection only

**105.** When two indications do not agree, what is especially useful in a route fault?

- A. Only a replacement part number
- B. The sequence of commands, indications, and releases
- C. Only the final lamp state
- D. Only a remembered symptom

**106.** During a planned maintenance shift, what is the best starting point when reading a signal schematic?

- A. Identify the function being controlled
- B. Count every wire first
- C. Start at the nearest lamp
- D. Ignore the return path

**107.** Before beginning a wayside inspection, what do schematic symbols and references provide?

- A. A replacement for testing
- B. A standardized way to relate parts to functions
- C. A route authorization
- D. A guarantee of current field condition

**108.** While checking a recently restored circuit, what does a contact's normal state describe?

- A. Its defined condition before the operating action
- B. Its permitted route
- C. Its state during every fault
- D. Its voltage under load

**109.** When a normal indication is not present, why trace both potential and current paths?

- A. They are always identical
- B. Current never needs a return
- C. Potential replaces the drawing
- D. A voltage path may not complete current

**110.** While confirming the limits of a work order, why are terminal numbers important?

- A. They determine aspect color
- B. They replace a test instrument
- C. They connect the drawing reference to field wiring
- D. They set the fuse rating

**111.** When a control-room report conflicts with field evidence, what does a wire label help establish?

- A. The weather condition
- B. The measured current value
- C. The route release time
- D. The intended conductor identity and connection

**112.** During a track-detection review, what can a parallel path or backfeed cause?

- A. A misleading voltage or unexpected operation
- B. A guaranteed open circuit
- C. A clean route release
- D. A stronger insulation boundary

**113.** While reviewing an intermittent failure history, how should an open and a short be distinguished?

- A. Both mean the fuse is healthy
- B. An open interrupts; a short creates an unintended path
- C. Neither affects indications
- D. Both always remove current

**114.** When an authorized procedure reaches an unclear step, which drawing should be used for a field decision?

- A. A generic internet diagram
- B. A superseded copy
- C. The current authorized revision
- D. A remembered sketch

**115.** During a post-maintenance return-to-service check, what should happen when field wiring differs from the drawing?

- A. Edit the drawing informally
- B. Force the wire into place
- C. Protect the condition and report the discrepancy
- D. Ignore the difference

**116.** Before documenting the final condition, how should a jumper appear in controlled documentation?

- A. Shown as permanent wiring
- B. Identified with its location, purpose, and removal status
- C. Recorded only from memory
- D. Hidden from the record

**117.** In a controlled training scenario, what does a revision marker help the maintainer determine?

- A. Which information changed and when
- B. Which route is safest by itself
- C. Which relay is fastest
- D. Which lamp is brightest

**118.** When preparing a handoff to the next maintainer, why identify the interface between control and field equipment?

- A. It eliminates the need for handoff
- B. It guarantees matching indications
- C. It replaces the work order
- D. It defines where evidence and responsibility change

**119.** After comparing the field condition with the drawing, what is useful to write on a schematic during diagnosis?

- A. Permanent changes without approval
- B. Expected states and verified observations
- C. Only the final answer
- D. Unmarked guesses

**120.** Before making any temporary circuit change, what drawing information belongs in a technical handoff?

- A. The reference used and the relevant tested boundary
- B. Only the technician's initials
- C. Only the drawing title
- D. Only the equipment color

**121.** During a weather-affected inspection, how should a meter be selected?

- A. Use the largest display
- B. Choose the oldest instrument
- C. Select by lead color
- D. Match its function and rating to the task

**122.** After a switch movement does not complete, what should be inspected before using meter leads?

- A. Only the case color
- B. Only the battery label
- C. Insulation, probes, connections, and condition
- D. Only the printed brand

**123.** Before opening a relay or equipment case, what is the purpose of a prove-test-prove sequence?

- A. Confirm the tester works before and after contact
- B. Force the expected result
- C. Increase the circuit voltage
- D. Replace a circuit drawing

**124.** During a drawing and terminal audit, where should a voltage measurement be placed?

- A. Across any convenient cover
- B. At the nearest ground label
- C. Across defined points that answer the next question
- D. Across a random wire pair

**125.** After a route does not release as expected, when is a continuity test appropriate?

- A. Across an energized relay coil
- B. On an isolated path whose connection is being checked
- C. Before identifying the return
- D. Across a live power source

**126.** While isolating a suspected open circuit, why should a circuit be isolated before resistance testing?

- A. The meter supplies every load
- B. Resistance requires a permissive signal
- C. Isolation increases current
- D. External energy can distort readings or damage meters

**127.** While reviewing a new trouble report, how is current normally measured with a conventional meter?

- A. The meter is placed across the source
- B. The leads are left open
- C. The meter is clipped to the case
- D. The meter is placed in series with the path

**128.** After an unexpected indication appears, what can a clamp meter help measure?

- A. Current without opening the conductor path
- B. A lens alignment
- C. A schematic revision
- D. A route lock position

**129.** During a supervisor-directed diagnostic task, what can an oscilloscope add to a signal investigation?

- A. A permanent repair
- B. Automatic authorization
- C. Time and waveform information
- D. A mechanical adjustment

**130.** During a recurring-fault investigation, what controls the use of an insulation tester?

- A. A desire for a larger number
- B. The authorized procedure and equipment limits
- C. The nearest open contact
- D. The remote indication alone

**131.** After a measurement does not match the prediction, why does instrument category rating matter?

- A. It identifies the wire label
- B. It replaces protective equipment
- C. It shows the instrument's safe environment limits
- D. It sets the signal aspect

**132.** While preparing equipment for a functional test, why does probe placement matter?

- A. It removes circuit loading
- B. The placement defines what the measurement actually compares
- C. It changes the drawing revision
- D. It guarantees a correct answer

**133.** When a signal response appears more permissive than expected, what should be selected before contacting a circuit?

- A. A range and function suitable for the expected value
- B. The highest current range always
- C. A resistance range on a live source
- D. A setting chosen after contact

**134.** After a protective device operates, what makes a measurement record useful?

- A. Only the instrument brand
- B. Only the final diagnosis
- C. Only a rounded number
- D. Value, units, points, condition, and time

**135.** While checking a battery-backed supply, a measurement is unexpected. What should happen first?

- A. Force the expected value
- B. Change the component immediately
- C. Recheck the instrument, reference, and circuit state
- D. Ignore the reading

**136.** When two indications do not agree, what should be defined before troubleshooting begins?

- A. The observed symptom and its operational effect
- B. The replacement part
- C. The final repair time
- D. The most convenient test point

**137.** During a planned maintenance shift, how should a failure be reproduced?

- A. By bypassing protection
- B. By changing several variables
- C. By repeating every unsafe action
- D. Only in a controlled, safe condition

**138.** Before beginning a wayside inspection, why are known-good and known-bad boundaries useful?

- A. They replace authorization
- B. They narrow the suspected fault area
- C. They eliminate documentation
- D. They guarantee a failed component

**139.** While checking a recently restored circuit, what is the purpose of dividing a circuit path?

- A. Make every branch identical
- B. Separate possible fault locations using evidence
- C. Avoid measuring the source
- D. Force the relay to pick up

**140.** When a normal indication is not present, what does a half-split method do?

- A. Erases the original symptom
- B. Assumes the midpoint is faulty
- C. Tests a boundary that divides remaining possibilities
- D. Changes two components at once

**141.** While confirming the limits of a work order, why change one variable at a time?

- A. It preserves the meaning of the result
- B. It guarantees the first guess
- C. It makes every repair permanent
- D. It avoids reading the drawing

**142.** When a control-room report conflicts with field evidence, what should be recorded for an intermittent fault?

- A. Only the successful reset
- B. Only the final replacement
- C. Only the word intermittent
- D. Time, sequence, environment, and symptom conditions

**143.** During a track-detection review, when is a wiggle or disturbance test acceptable?

- A. Before recording the condition
- B. As a substitute for every test
- C. When authorized, controlled, and safe for the equipment
- D. Whenever the fault is inconvenient

**144.** While reviewing an intermittent failure history, why can a reset mislead a troubleshooter?

- A. It confirms the route is clear
- B. It always proves the board failed
- C. It permanently changes the wiring
- D. It may clear the symptom without removing the cause

**145.** When an authorized procedure reaches an unclear step, what separates evidence from assumption?

- A. An observed result that can be traced
- B. A confident explanation
- C. A familiar component name
- D. A quick replacement

**146.** During a post-maintenance return-to-service check, what should happen at the limit of the maintainer's authority?

- A. Guess the missing procedure
- B. Stop, protect the condition, and escalate
- C. Release the equipment informally
- D. Continue with an unapproved bypass

**147.** Before documenting the final condition, what verifies that a correction worked?

- A. A verbal promise
- B. Repeat the original function and protection test
- C. A new symptom disappearing
- D. A closed cabinet only

**148.** In a controlled training scenario, what does root-cause thinking add after a symptom is corrected?

- A. It replaces functional testing
- B. It ends documentation
- C. It asks why the failure occurred and could recur
- D. It assumes the part was defective

**149.** When preparing a handoff to the next maintainer, what is valuable in a recurring-fault log?

- A. Patterns across time, equipment, and conditions
- B. Only the operator's first guess
- C. Only the part price
- D. Only the latest repair

**150.** After comparing the field condition with the drawing, what should be done when evidence remains insufficient?

- A. Close the record as complete
- B. Choose the most permissive answer
- C. Change the largest component
- D. Preserve the safe state and obtain support

## Practice Exam 5: Answer Key and Explanations

- 1. B** — The correct answer is The most restrictive known state. In practice, preserve the most restrictive known state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 2. D** — The correct answer is The current authorized drawing. In practice, use the current authorized drawing. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 3. C** — The correct answer is A task briefing and hazard review. In practice, complete the task briefing and hazard review. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 4. B** — The correct answer is Verify the expected zero-energy condition. In practice, verify the expected zero-energy condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 5. D** — The correct answer is Communicate and obtain required authorization. In practice, communicate and obtain required authorization. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 6. A** — The correct answer is Identify, control, and remove it under procedure. In practice, identify, control, and remove it under procedure. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 7. B** — The correct answer is Ratings, condition, and intended measurement. In practice, check ratings, condition, and intended measurement. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 8. A** — The correct answer is Stop and obtain clarification. In practice, stop and obtain clarification. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.
- 9. C** — The correct answer is Protect people and train movement first. In practice, protect people and train movement first. This preserves the safest known condition. It gives the maintainer evidence for the

next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**10. D** — The correct answer is Control the hazard and improve the observation. In practice, control the hazard and improve the observation. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**11. A** — The correct answer is Confirm the authorized scope before changing equipment. In practice, confirm the authorized scope before changing equipment. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**12. D** — The correct answer is State condition, evidence, limits, and next action. In practice, state condition, evidence, limits, and next action. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**13. C** — The correct answer is Preserve it before resetting or clearing evidence. In practice, preserve it before resetting or clearing evidence. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**14. B** — The correct answer is Escalate for authorized direction. In practice, escalate for authorized direction. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**15. D** — The correct answer is Test, restore, document, and communicate the final state. In practice, test, restore, document, and communicate the final state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**16. A** — The correct answer is The potential difference between those points. In practice, measure the potential difference between those points. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**17. C** — The correct answer is A source, a complete path, and a load. In practice, confirm a source, complete path, and load. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**18. B** — The correct answer is The intended path is interrupted. In practice, locate where the intended path is interrupted. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**19. B** — The correct answer is Excess current and possible protection operation. In practice, treat excess current and protection operation as hazards. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**20. C** — The correct answer is A voltage drop or source-delivery problem. In practice, investigate voltage drop or source delivery. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**21. A** — The correct answer is The same current flows through each element. In practice, analyze the same current through each element. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**22. D** — The correct answer is They provide separate paths across common nodes. In practice, analyze separate paths across common nodes. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**23. B** — The correct answer is It determines how devices and protective paths operate. In practice, verify polarity before judging device operation. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**24. A** — The correct answer is AC alternates while DC maintains a substantially fixed polarity. In practice, distinguish alternating from fixed polarity. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**25. C** — The correct answer is A changed AC voltage level or isolation. In practice, check for changed AC level or isolation. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**26. D** — The correct answer is Its element opens the circuit. In practice, expect the fuse element to open the circuit. This preserves the safest known condition. It gives the maintainer evidence for the next

decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**27. C** — The correct answer is The reference determines what the reading means. In practice, identify the reference before interpreting the reading. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**28. D** — The correct answer is Stored energy may remain in components or conductors. In practice, check for stored energy before contact. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**29. A** — The correct answer is The circuit is isolated from energized sources. In practice, isolate the circuit before measuring resistance. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**30. B** — The correct answer is A clue that current or resistance is abnormal. In practice, use heat as a clue to abnormal current or resistance. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**31. D** — The correct answer is It favors current in one direction. In practice, test whether conduction favors one direction. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**32. B** — The correct answer is It helps maintain a defined voltage region. In practice, check whether the reference voltage is defined. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**33. C** — The correct answer is As a controlled electronic switch. In practice, evaluate its controlled switching state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**34. A** — The correct answer is The coil's magnetic action controls isolated contacts. In practice, trace the coil action and contact state separately. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**35. B** — The correct answer is The defined normal condition of a contact. In practice, use the drawing's defined normal condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**36. A** — The correct answer is The device, polarity, source, and control path. In practice, check the device, polarity, source, and path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**37. D** — The correct answer is Look for damage, contamination, and abnormal connections. In practice, inspect for damage, contamination, and connections. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**38. C** — The correct answer is Intermittent or missing signals. In practice, check for intermittent or missing signals. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**39. D** — The correct answer is Unwanted disturbance coupled into equipment. In practice, investigate unwanted coupled disturbance. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**40. A** — The correct answer is Loss of expected processor activity. In practice, check for loss of expected processor activity. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**41. B** — The correct answer is The input interprets a range as a logic state. In practice, compare the input with its logic threshold. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**42. C** — The correct answer is Transfer a signal while limiting direct electrical coupling. In practice, limit direct electrical coupling while transferring the signal. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**43. D** — The correct answer is A small discharge can damage sensitive components. In practice, control electrostatic discharge around sensitive components. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They

may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**44. A** — The correct answer is Compare it with field evidence and the current reference. In practice, compare the HMI with field evidence and the reference. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**45. C** — The correct answer is The underlying cause may still be present. In practice, look for the underlying cause after a reset. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**46. B** — The correct answer is Command, motor action, movement, and detection. In practice, trace command, motor action, movement, and detection. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**47. B** — The correct answer is Obstruction, friction, or mechanical overload. In practice, investigate obstruction, friction, or overload. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**48. A** — The correct answer is The physical position meets the required condition. In practice, verify the physical position condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**49. D** — The correct answer is Protect the equipment and investigate the obstruction. In practice, protect equipment and investigate the obstruction. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**50. C** — The correct answer is It affects movement, detection, and safe route conditions. In practice, check movement, detection, and route conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**51. C** — The correct answer is Prevent an unsafe change from the required position. In practice, prevent an unsafe change from the required position. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**52. A** — The correct answer is Controlled selection of the commanded direction. In practice, verify controlled direction selection. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**53. D** — The correct answer is Whether a defined travel or position condition exists. In practice, check whether the defined travel condition exists. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**54. B** — The correct answer is It can add friction or interfere with contacts. In practice, inspect for added friction or contact interference. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**55. C** — The correct answer is A persistent overload or inadequate cooling. In practice, investigate overload or inadequate cooling. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**56. D** — The correct answer is Observe and record the condition first. In practice, observe and record the condition first. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**57. B** — The correct answer is A complete authorized functional and protective test. In practice, complete the authorized functional and protective test. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**58. A** — The correct answer is Only when authorized and controlled by procedure. In practice, use manual movement only when authorized and controlled. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**59. B** — The correct answer is The position is not yet proven. In practice, treat the position as unproven. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**60. C** — The correct answer is Covers, fasteners, wiring, and restored condition. In practice, verify covers, fasteners, wiring, and restoration. This preserves the safest known condition. It gives the

maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**61. A** — The correct answer is The applicable rule and signal system. In practice, use the applicable rule and signal system. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**62. D** — The correct answer is Treat the condition as restrictive until proven otherwise. In practice, treat the condition as restrictive until proven otherwise. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**63. A** — The correct answer is The device, source, control path, and return. In practice, isolate the device, source, path, and return. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**64. B** — The correct answer is Trace source, logic, output, indication, and return. In practice, trace source, logic, output, indication, and return. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**65. D** — The correct answer is Blanket authorization to ignore governing rules. In practice, do not treat it as blanket authorization. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**66. C** — The correct answer is The comparison can reveal where states diverge. In practice, locate where the states diverge. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**67. B** — The correct answer is Do not assume the permissive condition is valid. In practice, do not assume the permissive condition is valid. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**68. D** — The correct answer is It should verify the response without creating a false indication. In practice, verify the response without creating a false indication. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**69. A** — The correct answer is The aspect depends on proven route and protection states. In practice, check the proven route and protection states. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**70. C** — The correct answer is Input conditions, selection logic, and output state. In practice, separate inputs, logic, and output state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**71. B** — The correct answer is According to the governing local signal rules. In practice, use the governing local signal rules. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**72. D** — The correct answer is A documented condition for authorized follow-up. In practice, document the discrepancy for authorized follow-up. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**73. C** — The correct answer is Initiate a restrictive response when required conditions fail. In practice, initiate a restrictive response when conditions fail. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**74. A** — The correct answer is The discrepancy must be protected and investigated. In practice, protect and investigate the discrepancy. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**75. D** — The correct answer is Timestamps, sequence, and conditions of occurrence. In practice, record timestamps, sequence, and occurrence conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**76. B** — The correct answer is It provides a shunting path across the rails. In practice, recognize the wheelset shunting path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**77. A** — The correct answer is The detection circuit is no longer in its clear state. In practice, treat the detection circuit as not clear. This preserves the safest known condition. It gives the maintainer evidence

for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**78. C** — The correct answer is A receiver or relay may drop restrictive. In practice, check the restrictive response to source loss. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**79. B** — The correct answer is They maintain the intended conductive path. In practice, verify the intended conductive path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**80. C** — The correct answer is A fault that prevents the expected clear response. In practice, look for a fault preventing the clear response. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**81. D** — The correct answer is The detection should favor a restrictive condition. In practice, expect a restrictive detection response. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**82. A** — The correct answer is They define which section the evidence applies to. In practice, apply the evidence only to the defined section. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**83. C** — The correct answer is A specified electrical or coded detection signal. In practice, verify the specified detection signal. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**84. B** — The correct answer is It can affect operating indications and protection. In practice, control the test because it can affect protection. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**85. D** — The correct answer is The detection state is not yet resolved. In practice, treat the detection state as unresolved. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**86. A** — The correct answer is It can reduce insulation and create leakage. In practice, investigate reduced insulation and leakage. This preserves the safest known condition. It gives the maintainer

evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**87. A** — The correct answer is Authorization, protection, and the approved test method. In practice, obtain authorization, protection, and the approved method. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**88. D** — The correct answer is All required detection and protection conditions are proven. In practice, prove all required detection and protection conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**89. C** — The correct answer is Compare trend information with prior conditions. In practice, compare trend information with prior conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**90. B** — The correct answer is The intended occupied and clear responses. In practice, verify the intended occupied and clear responses. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**91. C** — The correct answer is Prevent conflicting or unsafe combinations of movements. In practice, prevent conflicting or unsafe movement combinations. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**92. A** — The correct answer is Route elements against an unsafe change. In practice, hold route elements against an unsafe change. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**93. B** — The correct answer is It limits casual changes after a train approaches. In practice, limit changes after an approach condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**94. D** — The correct answer is The required position and detection condition. In practice, prove required position and detection. This preserves the safest known condition. It gives the maintainer evidence for

the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**95. D** — The correct answer is The protected route condition is not fully proven. In practice, recognize that route proof is incomplete. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**96. A** — The correct answer is Every required route, switch, and protection condition. In practice, confirm every required route and protection condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**97. B** — The correct answer is A controlled memory of a circuit state. In practice, analyze the controlled memory state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**98. C** — The correct answer is A restrictive or non-permissive response. In practice, maintain a restrictive response when proof is missing. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**99. B** — The correct answer is It preserves cause-and-effect information. In practice, preserve cause-and-effect information. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff. Use the same disciplined approach when conditions change.

**100. C** — The correct answer is That the route can safely return to an available state. In practice, establish whether the route can safely release. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**101. D** — The correct answer is Which control location currently has authority. In practice, identify the control location with authority. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**102. A** — The correct answer is Protect the condition and resolve the authority. In practice, protect the condition and resolve authority. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**103. D** — The correct answer is It can defeat a safety-critical dependency. In practice, avoid defeating a safety-critical dependency. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**104. C** — The correct answer is A documented functional test and controlled restoration. In practice, complete documented testing and controlled restoration. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**105. B** — The correct answer is The sequence of commands, indications, and releases. In practice, reconstruct the sequence of commands and releases. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**106. A** — The correct answer is Identify the function being controlled. In practice, identify the function being controlled. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**107. B** — The correct answer is A standardized way to relate parts to functions. In practice, relate standardized symbols to functions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**108. A** — The correct answer is Its defined condition before the operating action. In practice, use the defined condition before operating action. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**109. D** — The correct answer is A voltage path may not complete current. In practice, distinguish potential from a complete current path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**110. C** — The correct answer is They connect the drawing reference to field wiring. In practice, connect the drawing reference to field wiring. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**111. D** — The correct answer is The intended conductor identity and connection. In practice, confirm conductor identity and connection. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**112. A** — The correct answer is A misleading voltage or unexpected operation. In practice, investigate misleading voltage or unexpected operation. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**113. B** — The correct answer is An open interrupts; a short creates an unintended path. In practice, distinguish interruption from an unintended path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**114. C** — The correct answer is The current authorized revision. In practice, use the current authorized revision. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**115. C** — The correct answer is Protect the condition and report the discrepancy. In practice, protect the condition and report the discrepancy. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**116. B** — The correct answer is Identified with its location, purpose, and removal status. In practice, identify location, purpose, and removal status. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**117. A** — The correct answer is Which information changed and when. In practice, determine what changed and when. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**118. D** — The correct answer is It defines where evidence and responsibility change. In practice, define where evidence and responsibility change. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**119. B** — The correct answer is Expected states and verified observations. In practice, mark expected states and verified observations. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**120. A** — The correct answer is The reference used and the relevant tested boundary. In practice, state the reference and tested boundary. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**121. D** — The correct answer is Match its function and rating to the task. In practice, match function and rating to the task. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**122. C** — The correct answer is Insulation, probes, connections, and condition. In practice, inspect insulation, probes, connections, and condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**123. A** — The correct answer is Confirm the tester works before and after contact. In practice, confirm the tester before and after contact. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**124. C** — The correct answer is Across defined points that answer the next question. In practice, measure across defined points. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**125. B** — The correct answer is On an isolated path whose connection is being checked. In practice, test an isolated path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**126. D** — The correct answer is External energy can distort readings or damage meters. In practice, isolate the circuit before resistance testing. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**127. D** — The correct answer is The meter is placed in series with the path. In practice, place the meter in series with the path. This preserves the safest known condition. It gives the maintainer evidence for

the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**128. A** — The correct answer is Current without opening the conductor path. In practice, measure current without opening the path. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**129. C** — The correct answer is Time and waveform information. In practice, observe time and waveform information. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**130. B** — The correct answer is The authorized procedure and equipment limits. In practice, follow the authorized procedure and limits. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**131. C** — The correct answer is It shows the instrument's safe environment limits. In practice, use the instrument within its rated environment. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**132. B** — The correct answer is The placement defines what the measurement actually compares. In practice, define the comparison made by the measurement. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**133. A** — The correct answer is A range and function suitable for the expected value. In practice, select a suitable range and function first. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**134. D** — The correct answer is Value, units, points, condition, and time. In practice, record value, units, points, condition, and time. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**135. C** — The correct answer is Recheck the instrument, reference, and circuit state. In practice, recheck the instrument, reference, and state. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**136. A** — The correct answer is The observed symptom and its operational effect. In practice, define the symptom and operational effect. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**137. D** — The correct answer is Only in a controlled, safe condition. In practice, reproduce it only in a controlled way. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**138. B** — The correct answer is They narrow the suspected fault area. In practice, narrow the suspected fault area. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**139. B** — The correct answer is Separate possible fault locations using evidence. In practice, separate fault locations using evidence. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**140. C** — The correct answer is Tests a boundary that divides remaining possibilities. In practice, test a boundary that divides possibilities. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**141. A** — The correct answer is It preserves the meaning of the result. In practice, preserve the meaning of the result. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**142. D** — The correct answer is Time, sequence, environment, and symptom conditions. In practice, record time, sequence, environment, and conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**143. C** — The correct answer is When authorized, controlled, and safe for the equipment. In practice, use it only when authorized and controlled. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**144. D** — The correct answer is It may clear the symptom without removing the cause. In practice, look for the cause beyond the reset. This preserves the safest known condition. It gives the maintainer

evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**145. A** — The correct answer is An observed result that can be traced. In practice, trace the conclusion to an observed condition. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**146. B** — The correct answer is Stop, protect the condition, and escalate. In practice, stop, protect, and escalate. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**147. B** — The correct answer is Repeat the original function and protection test. In practice, repeat the original function and protection test. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**148. C** — The correct answer is It asks why the failure occurred and could recur. In practice, ask why the failure occurred and could recur. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change.

**149. A** — The correct answer is Patterns across time, equipment, and conditions. In practice, compare patterns across time and conditions. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.

**150. D** — The correct answer is Preserve the safe state and obtain support. In practice, preserve the safe state and obtain support. This preserves the safest known condition. It gives the maintainer evidence for the next decision. The alternatives rely on unverified assumptions. They may bypass a safeguard or introduce an unnecessary change. Record the result for restoration, review, and handoff.