PRACTICE EXAM 11: SIGNAL MAINTAINER SIMULATION (150 QUESTIONS)

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 an unexpected indication appears, a signal condition is unclear. What should be preserved first?

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

2. During a supervisor-directed diagnostic task, a drawing is available but the maintainer remembers a different circuit. Which reference controls?

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

3. During a recurring-fault investigation, a planned task involves several workers and a live operating area. What should occur before work begins?

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

4. After a measurement does not match the prediction, hazardous energy may remain after an isolation step. What is the next safe action?

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

5. While preparing equipment for a functional test, 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. Communicate and obtain required authorization
D. Proceed silently to save time

6. When a signal response appears more permissive than expected, a temporary jumper is installed during an authorized test. What is essential?

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

7. After a protective device operates, a meter and lead set will be used near electrical energy. What should be checked?

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

8. While checking a battery-backed supply, an instruction conflicts with the equipment condition or authority is unclear. What is the professional response?

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

9. When two indications do not agree, work is near an active trackway. Which priority controls the task?

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

10. During a planned maintenance shift, poor visibility makes a field observation uncertain. What is the best response?

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

11. Before beginning a wayside inspection, a work order does not clearly include a proposed change. What should the maintainer do?

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

12. While checking a recently restored circuit, a fault crosses the boundary between two maintenance groups. What makes the handoff useful?

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

13. When a normal indication is not present, 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. While confirming the limits of a work order, 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. When a control-room report conflicts with field evidence, 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. During a track-detection review, what does a voltage measurement between two points describe?

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

17. While reviewing an intermittent failure history, 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 an authorized procedure reaches an unclear step, an open conductor is suspected in a control circuit. What is the defining condition?

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

19. During a post-maintenance return-to-service check, what is a likely effect of an unintended low-resistance path across a source?

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

20. Before documenting the final condition, 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 perfect circuit with no fault
D. A voltage drop or source-delivery problem

21. In a controlled training scenario, 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. When preparing a handoff to the next maintainer, what is a key feature of parallel branches?

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

23. After comparing the field condition with the drawing, why is polarity important in a DC control circuit?

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

24. Before making any temporary circuit change, which distinction matters when selecting a measurement method?

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

25. During a weather-affected inspection, what is a transformer commonly used to provide?

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

26. After a switch movement does not complete, what is the intended protective action of a fuse under sufficient overcurrent?

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

27. Before opening a relay or equipment case, 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 drawing and terminal audit, 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 route does not release as expected, what condition is normally required before measuring resistance in a circuit?

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

30. While isolating a suspected open circuit, what can unexpected heat provide during a power investigation?

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

31. While reviewing a new trouble report, what is the basic conduction behavior of a diode?

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

32. After an unexpected indication appears, why may a zener device appear in a reference circuit?

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

33. During a supervisor-directed diagnostic task, how can a transistor function in a control circuit?

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

34. During a recurring-fault investigation, 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 a measurement does not match the prediction, 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. While preparing equipment for a functional test, what should be considered when an LED indication is dark?

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

37. When a signal response appears more permissive than expected, what is a useful first inspection of a printed circuit board?

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

38. After a protective device operates, what can a poorly seated connector cause?

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

39. While checking a battery-backed supply, 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 two indications do not agree, what is a watchdog function intended to detect?

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

41. During a planned maintenance shift, 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. Before beginning a wayside inspection, what is the purpose of optical isolation?

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

43. While checking a recently restored circuit, why is electrostatic discharge control important around boards?

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

44. When a normal indication is not present, what is the safest way to interpret an HMI indication?

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

45. While confirming the limits of a work order, 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. When a control-room report conflicts with field evidence, 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. During a track-detection review, 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 reviewing an intermittent failure history, 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 an authorized procedure reaches an unclear step, 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 post-maintenance return-to-service check, 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. Before documenting the final condition, what is the purpose of a mechanical or electrical lock?

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

52. In a controlled training scenario, 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. When preparing a handoff to the next maintainer, 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. After comparing the field condition with the drawing, why can contamination affect a mechanism?

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

55. Before making any temporary circuit change, 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. During a weather-affected inspection, what should happen before dismantling a mechanical assembly?

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

57. After a switch movement does not complete, what is required after an adjustment to a switch mechanism?

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

58. Before opening a relay or equipment case, when is manual movement of a powered mechanism acceptable?

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

59. During a drawing and terminal audit, two indications disagree about switch position. What is the best conclusion?

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

60. After a route does not release as expected, what should the maintainer verify before closing a serviced equipment case?

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

61. While isolating a suspected open circuit, what gives a signal aspect its operating meaning?

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

62. While reviewing a new trouble report, a signal is dark when a permissive display was expected. What is the safe interpretation?

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

63. After an unexpected indication appears, a signal lamp or LED is dark. What should be isolated?

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

64. During a supervisor-directed diagnostic task, what is the best way to analyze a signal circuit?

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

65. During a recurring-fault investigation, what does a permissive indication not provide by itself?

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

66. After a measurement does not match the prediction, why compare related indications during a fault?

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

67. While preparing equipment for a functional test, a signal appears clear but a required condition is unverified. What is the proper response?

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

68. When a signal response appears more permissive than expected, how should an aspect test be designed?

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

69. After a protective device operates, why can route conditions affect a signal aspect?

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

70. While checking a battery-backed supply, 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 two indications do not agree, 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. During a planned maintenance shift, what should a persistent indication discrepancy become?

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

73. Before beginning a wayside inspection, what is the protective purpose of a train-stop function?

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

74. While checking a recently restored circuit, a control-room indication conflicts with the field device. What should guide the next decision?

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

75. When a normal indication is not present, what makes an intermittent aspect fault easier to analyze?

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

76. While confirming the limits of a work order, what does a train wheelset normally do to a track circuit?

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

77. When a control-room report conflicts with field evidence, what does a track relay release generally indicate?

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

78. During a track-detection review, what should be considered when a track circuit loses its source?

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

79. While reviewing an intermittent failure history, why are rail bonds and connections important?

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

80. When an authorized procedure reaches an unclear step, what can cause a false occupancy indication?

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

81. During a post-maintenance return-to-service check, 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 detection should favor a restrictive condition
D. The relay should be forced up

82. Before documenting the final condition, 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. In a controlled training scenario, what does a coded track receiver interpret?

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

84. When preparing a handoff to the next maintainer, why must a train-movement detection test be controlled?

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

85. After comparing the field condition with the drawing, 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 detection state is not yet resolved
D. The track is definitely clear

86. Before making any temporary circuit change, how can wet ballast affect a track circuit?

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

87. During a weather-affected inspection, what is required before performing a shunt test?

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

88. After a switch movement does not complete, 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 opening a relay or equipment case, what is useful when the same occupancy fault recurs?

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

90. During a drawing and terminal audit, what should be verified after a detection repair?

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

91. After a route does not release as expected, what is the central purpose of interlocking?

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

92. While isolating a suspected open circuit, 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. While reviewing a new trouble report, why does approach locking matter?

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

94. After an unexpected indication appears, 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. During a supervisor-directed diagnostic task, why can occupancy prevent a signal from clearing?

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

96. During a recurring-fault investigation, 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 a measurement does not match the prediction, what does a stick circuit commonly provide?

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

98. While preparing equipment for a functional test, missing proof in an interlocking condition should cause what response?

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

99. When a signal response appears more permissive than expected, 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 protective device operates, 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 checking a battery-backed supply, 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 two indications do not agree, 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. During a planned maintenance shift, 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. Before beginning a wayside inspection, what is needed after interlocking maintenance?

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

105. While checking a recently restored circuit, what is especially useful in a route fault?

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

106. When a normal indication is not present, what is the best starting point when reading a signal schematic?

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

107. While confirming the limits of a work order, what do schematic symbols and references provide?

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

108. When a control-room report conflicts with field evidence, what does a contact's normal state describe?

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

109. During a track-detection review, 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 reviewing an intermittent failure history, why are terminal numbers important?

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

111. When an authorized procedure reaches an unclear step, what does a wire label help establish?

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

112. During a post-maintenance return-to-service check, 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. Before documenting the final condition, how should an open and a short be distinguished?

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

114. In a controlled training scenario, which drawing should be used for a field decision?

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

115. When preparing a handoff to the next maintainer, 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. After comparing the field condition with the drawing, how should a jumper appear in controlled documentation?

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

117. Before making any temporary circuit change, what does a revision marker help the maintainer determine?

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

118. During a weather-affected inspection, why identify the interface between control and field equipment?

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

119. After a switch movement does not complete, 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 opening a relay or equipment case, what drawing information belongs in a technical handoff?

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

121. During a drawing and terminal audit, how should a meter be selected?

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

122. After a route does not release as expected, what should be inspected before using meter leads?

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

123. While isolating a suspected open circuit, what is the purpose of a prove-test-prove sequence?

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

124. While reviewing a new trouble report, where should a voltage measurement be placed?

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

125. After an unexpected indication appears, 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. During a supervisor-directed diagnostic task, why should a circuit be isolated before resistance testing?

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

127. During a recurring-fault investigation, how is current normally measured with a conventional meter?

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

128. After a measurement does not match the prediction, what can a clamp meter help measure?

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

129. While preparing equipment for a functional test, what can an oscilloscope add to a signal investigation?

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

130. When a signal response appears more permissive than expected, what controls the use of an insulation tester?

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

131. After a protective device operates, 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 checking a battery-backed supply, why does probe placement matter?

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

133. When two indications do not agree, 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. During a planned maintenance shift, what makes a measurement record useful?

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

135. Before beginning a wayside inspection, a measurement is unexpected. What should happen first?

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

136. While checking a recently restored circuit, what should be defined before troubleshooting begins?

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

137. When a normal indication is not present, how should a failure be reproduced?

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

138. While confirming the limits of a work order, why are known-good and known-bad boundaries useful?

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

139. When a control-room report conflicts with field evidence, 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. During a track-detection review, 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 reviewing an intermittent failure history, why change one variable at a time?

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

142. When an authorized procedure reaches an unclear step, what should be recorded for an intermittent fault?

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

143. During a post-maintenance return-to-service check, when is a wiggle or disturbance test acceptable?

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

144. Before documenting the final condition, 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. In a controlled training scenario, 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. When preparing a handoff to the next maintainer, what should happen at the limit of the maintainer's authority?

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

147. After comparing the field condition with the drawing, what verifies that a correction worked?

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

148. Before making any temporary circuit change, what does root-cause thinking add after a symptom is corrected?

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

149. During a weather-affected inspection, what is valuable in a recurring-fault log?

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

150. After a switch movement does not complete, what should be done when evidence remains insufficient?

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

Practice Exam 11: Answer Key and Explanations

1. C — 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. B — 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. B — 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. A — 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. C — 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. D — 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. A — 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. C — 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. D — 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. B — 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. D — 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. A — 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. B — 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. A — 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. C — 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. D — 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. B — 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. D — 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. C — 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. A — 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. B — 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. B — 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. A — 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. B — 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. C — 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. D — 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. C — 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. A — 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. D — 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. C — 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. A — 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. A — 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. D — 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. B — 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. A — 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. B — 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. D — 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. C — 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. C — 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. B — 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. D — 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. A — 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. C — 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. A — 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. B — 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. D — 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. D — 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. A — 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. B — 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. C — 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. A — 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. D — 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. B — 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. C — 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. D — 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. A — 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. D — 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. B — 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. C — 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. A — 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. D — 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. C — 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. B — 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. B — 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. A — 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. C — 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. B — 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. C — 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. C — 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. D — 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. B — 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. B — 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. A — 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. C — 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. C — 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. B — 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. A — 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. B — 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. C — 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. D — 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. D — 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. B — 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. A — 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. D — 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. C — 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. A — 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. C — 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. D — 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. A — 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. B — 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. C — 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. A — 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. D — 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. D — 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. B — 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. D — 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. C — 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. B — 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. A — 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. D — 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. A — 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. B — 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. C — 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. D — 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. A — 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. C — 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. B — 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.