PRACTICE EXAM 16 SIMULATION (60 QUESTIONS)

1. A mechanic discovers corrosion on a structural panel. What should the mechanic do first?

A. Apply primer over the corrosion to seal it

B. Return the aircraft to service and monitor it

C. Paint the panel to stop the spread

D. Clean the area to assess the full extent

2. A circuit breaker trips repeatedly on the same circuit. What is the correct action?

A. Replace it with a higher-rated breaker

B. Investigate and correct the underlying fault

C. Tape the breaker closed to keep power on

D. Bypass it with a jumper wire

3. A mechanic must clean corrosion from an aluminum fitting. Which tool should be used?

A. A steel wire brush for speed

B. Steel wool for a fine finish

C. A carbon-steel scraper

D. A non-metallic abrasive pad

4. An applicable AD has not been complied with on an aircraft due for return to service. What should the mechanic do?

A. Return it to service if the annual is current

B. Issue an owner's waiver to allow flight

C. Treat the AD as advisory and proceed

D. Comply with and document the AD before further flight

5. A mechanic finds an oily film on an oxygen system fitting. What is the correct action?

A. Apply more oil to improve the seal

B. Wipe it with petroleum solvent

C. Clean it completely before servicing

D. Ignore it as harmless

6. A mechanic must safety a castellated nut on a critical bolt. What should be used?

A. A cotter pin through the drilled bolt and nut slots

B. A fiber locking insert

C. A drop of thread adhesive

D. Reliance on applied torque alone

7. A mechanic is about to weigh an aircraft. What should be done before reading the scales?

A. Clean it, set standard configuration, and level it

B. Load it with passengers and cargo

C. Tilt it nose-down to drain fluids

D. Park it outdoors in a light breeze

8. A mechanic finds a flexible hose installed with a spiraled lay line. What should the mechanic do?

A. Return it to service as installed

B. Reduce the system pressure

C. Reinstall the hose without the twist

D. Mark it as end of service life

9. A mechanic must perform a major alteration. What data should be used?

A. A general handbook of acceptable methods

B. The aircraft sales brochure

C. FAA-approved data specific to the alteration

D. A verbal description from a coworker

10. A mechanic is about to fuel an aircraft. What should be done before fuel flows?

A. Increase the flow rate to finish quickly

B. Bond and ground the aircraft and source

C. Calibrate the fuel quantity gauges

D. Drain a sample to remove water

11. A mechanic finds a tube bend flattened beyond the allowable limit. What should be done?

A. Return it to service if it passes fluid

B. Re-round it with a hammer

C. Reject the tube and replace it

D. Paint over the flattened area

12. A mechanic must select a fire extinguisher for an energized electrical fire. What agent is correct?

A. A pressurized water stream

B. Ordinary liquid-fire foam

C. CO_2 or another non-conductive agent

D. Sand poured slowly over the equipment

13. A mechanic must record completed maintenance for return to service. What must the entry include?

A. The work description, date, and signer's certificate information

B. The aircraft's resale value

C. The names of all observers present

D. The serial numbers of all tools used

14. A mechanic finds an aircraft 50 lb over maximum gross weight but within CG limits. What should the mechanic conclude?

A. It is airworthy because the CG is correct

B. It is not airworthy until the overweight is corrected

C. It is airworthy if the excess is fuel

D. It is within limits because weight is unregulated

15. A mechanic must charge an oleo strut. What gas should be used?

A. Pure oxygen for availability

B. Moist shop air for convenience

C. Dry nitrogen, which is inert and dry

D. Carbon dioxide for inertness

16. A mechanic is preparing a metal surface for paint. What should be done first?

A. Apply the topcoat

B. Clean the surface of grease, dirt, and loose finish

C. Apply the primer

D. Mask the adjacent areas only

17. A mechanic must select an NDI method for a surface crack in a non-magnetic aluminum part. What is correct?

A. Liquid (dye) penetrant inspection

B. Magnetic particle inspection

C. Magnetic flux leakage

D. Ferrous chip detection

18. A mechanic recognizes that deadline pressure is causing skipped steps. What should the mechanic do?

A. Work faster to finish on time

B. Skip verification to save time

C. Slow down and verify each step

D. Ignore it because experience prevents errors

19. A mechanic must join two dissimilar metals. What is the correct practice?

A. Weld them directly together

B. Leave them in direct contact

C. Submerge the joint in electrolyte

D. Isolate them with a barrier material

20. A mechanic must fuel a piston-engine aircraft. What fuel should be confirmed?

A. 100LL avgas, dyed blue

B. Jet A turbine fuel

C. Automotive diesel fuel

D. Kerosene of any grade

21. A mechanic finds a self-tapping screw attaching a primary structural fitting. What should be done?

A. Leave it because it cuts its own thread

B. Torque it to a higher value

C. Replace it with proper structural hardware

D. Accept it for any load

22. A mechanic must install a self-locking nut near a hot exhaust. What type should be used?

A. A metal (all-metal) self-locking nut

B. A fiber-insert self-locking nut

C. A nylon-insert self-locking nut

D. A plain hex nut with no locking

23. A mechanic finds reddish-brown flaking corrosion on a part. How should it be identified?

A. As iron/steel rust, treated accordingly

B. As aluminum corrosion

C. As copper-alloy corrosion

D. As a harmless surface stain

24. A mechanic must inspect a fluid line for airworthiness. What is the correct practice?

A. Return a hardened, cracked hose after wiping it

B. Reject a hardened, cracked hose as a defect

C. Paint over cracks in the hose cover

D. Operate a cracked hose at reduced pressure

25. A mechanic notices a co-worker about to tow an aircraft alone with no wing walkers. What should the mechanic recommend?

A. Tow quickly to minimize exposure

B. Exceed steering limits for a tighter turn

C. Disconnect communication to focus

D. Use wing walkers and clear communication

26. A mechanic must select the gas for servicing aircraft tires. What is correct?

A. Pure oxygen

B. Moist shop air

C. Carbon dioxide

D. Dry nitrogen

27. A mechanic finds an aircraft battery's electrolyte spilled in the box. What should be done?

A. Clean and neutralize it promptly to prevent corrosion

B. Leave it to evaporate naturally

C. Add more electrolyte to dilute it

D. Paint over the affected area

28. A mechanic must determine whether an A&P without an IA may sign a given inspection. Which may the A&P sign?

A. The annual inspection

B. The 100-hour inspection

C. A major alteration approval

D. A progressive annual

29. A mechanic must apply torque to a critical fastener. What is the correct practice?

A. Apply maximum possible torque for security

B. Apply the manufacturer's specified torque value

C. Apply minimal torque to avoid stress

D. Estimate torque by hand feel

30. A mechanic finds aluminum lifted into flaky layers. How should this be treated?

A. Wiped away as a surface stain

B. Sealed under primer

C. Painted over to stop it

D. Removed and assessed as advanced (exfoliation) corrosion

31. A mechanic must convert a foot-pound torque value to inch-pounds before setting the wrench. What is the correct step?

A. Divide the foot-pounds by 12

B. Add 12 to the foot-pounds

C. Subtract 12 from the foot-pounds

D. Multiply the foot-pounds by 12

32. A mechanic must select data for a minor repair when no approved data is needed. What may be used?

A. Only FAA-approved data

B. Acceptable data such as a general handbook method

C. A sales brochure only

D. No data at all

33. A mechanic finds paint peeling where it was applied over a greasy surface. What was the cause?

A. The paint cured too quickly

B. The primer was too thick

C. The surface was not properly cleaned before painting

D. The topcoat was too thin

34. A mechanic must determine the airworthiness of an aircraft. What two conditions must be met?

A. A clean exterior and full fuel

B. A recent wash and current registration

C. Indoor storage and a logbook entry

D. Conformity to type design and condition for safe operation

35. A mechanic must remove corrosion and is concerned about structural limits. What should be done?

A. Remove as much metal as possible for safety

B. Skip the depth check to save time

C. Check the depth removed against the manual's limits

D. Apply a thicker coating to compensate

36. A mechanic must select safety wire routing on paired fasteners. What is correct?

A. Route it so loosening slackens the wire

B. Route it so loosening tightens the wire

C. Leave the wire untwisted between fasteners

D. Allow the fasteners to rotate freely

37. A mechanic must clean a transparent acrylic window. What should be used?

A. A petroleum solvent for grease

B. Only approved cleaners to avoid crazing

C. A steel wool pad for stubborn spots

D. A strong alkaline cleaner

38. A mechanic must determine the meaning of an AD's "before further flight" compliance time. What should the mechanic conclude?

A. The action must be done before the next flight

B. The aircraft may fly 100 hours first

C. Compliance may wait until the next annual

D. The AD is optional for private aircraft

39. A mechanic must select the correct flare for an aircraft tube fitting. What angle is correct?

A. A 30-degree flare

B. A 45-degree automotive flare

C. A 60-degree flare

D. A 37-degree flare

40. A mechanic is concerned about leaving tools in an aircraft. What practice prevents this?

A. Working faster to reduce exposure

B. Accounting for every tool before and after the job

C. Using fewer tools overall

D. Storing tools inside the aircraft

41. A mechanic must update records after an equipment change affecting weight and balance. What should be done?

A. Leave the record unchanged

B. Estimate the new CG without calculation

C. Recompute and update the empty weight and CG

D. Discard the old record entirely

42. A mechanic must service a hydraulic system. What is the correct first verification?

A. Add any available hydraulic fluid

B. Confirm the specific approved fluid for the aircraft

C. Mix two fluid types for balance

D. Use water as a temporary substitute

43. A mechanic must respond to a distraction that interrupted a task. What is the correct action?

A. Return to a known-good point and re-verify

B. Assume the next step was completed

C. Skip ahead to finish quickly

D. Sign off without re-checking

44. A mechanic must determine the correct extinguisher for a burning magnesium part. What is correct?

A. A Class D dry-powder agent

B. A pressurized water stream

C. Ordinary liquid-fire foam

D. A CO_2 extinguisher

45. A mechanic is unsure whether a Service Bulletin is mandatory. What should the mechanic conclude?

A. It is always mandatory federal law

B. It supersedes the type certificate

C. It is advisory unless an AD or rule requires it

D. It cannot be accomplished by a mechanic

46. A mechanic must verify a critical flight-control rigging job. What is the best practice?

A. Sign it off alone to save time

B. Have a second qualified person independently verify it

C. Skip verification on routine tasks

D. Verify only if a problem is suspected

47. A mechanic finds an aircraft with a CG 2 inches aft of the rear limit. What should be done?

A. Fly it because aft CG aids stability

B. Correct the loading before flight

C. Fly it if below maximum gross weight

D. Add aft ballast to balance it

48. A mechanic must store flammable liquids in the shop. What is the correct practice?

A. Store them in approved flammable cabinets

B. Leave them open near the workbench

C. Store them beside oxygen cylinders

D. Keep them in unlabeled containers

49. A mechanic is sizing circuit protection for a wire. What is the correct practice?

A. Choose the largest available breaker

B. Remove protection to test the load

C. Match the device to the wire's safe current capacity

D. Bypass the protection during testing

50. A mechanic must mix a two-part sealant. What is the correct practice?

A. Mix in the manufacturer-specified ratio

B. Add extra hardener for a faster cure

C. Use any convenient ratio

D. Skip the hardener entirely

51. A mechanic must determine the correct first step in electrical troubleshooting. What should be done?

A. Study the schematic to understand normal operation

B. Replace the most expensive component

C. Apply maximum voltage to force the fault

D. Disconnect every wire at once

52. A mechanic must handle a compressed-gas cylinder in the shop. What is the correct practice?

A. Lay it on its side near the door

B. Secure it upright with the cap in place

C. Store it next to an open flame

D. Leave the valve open for ventilation

53. A mechanic must determine why aircraft loads are wired in parallel. What is the reason?

A. To force identical current through each load

B. To increase the total resistance

C. To eliminate the need for protection

D. So one load failing open does not interrupt the others

54. A mechanic must respond to a hardened, cracked hose found in service. What should be done?

A. Wipe it clean and return it to service

B. Paint over the cracks

C. Operate it at reduced pressure

D. Reject and replace the hose

55. A mechanic must determine the document with an aircraft's approved datum and weight limits. What is the correct source?

A. The owner's flight log

B. A sales catalog

C. The Type Certificate Data Sheet

D. A shop price sheet

56. A mechanic must address a green corrosion deposit on a fitting. How should the metal be identified?

A. As aluminum

B. As steel

C. As a copper alloy

D. As magnesium

57. A mechanic must determine the privilege required to approve a major repair for return to service. What is needed?

A. A basic A&P certificate only

B. The aircraft owner's permission

C. A repairman certificate

D. An Inspection Authorization

58. A mechanic must decide how to handle a fuse that has operated. What is the correct action?

A. Replace it, since a fuse cannot be reset

B. Reset it like a circuit breaker

C. Upsize it to prevent recurrence

D. Bypass it with a wire

59. A mechanic must inspect a hidden area for fine cracks. What aids should be used?

A. Reduced lighting to highlight shadows

B. A single dim flashlight only

C. No aids, relying on memory

D. A mirror and bright light for access and visibility

60. A mechanic must determine the correct condition of an aircraft before signing it airworthy. What is required?

A. Only a clean and waxed exterior

B. Only a current registration

C. Only a full fuel load

D. Conformity to type design and a condition for safe operation

Answer Key

1. D — Clean the area to assess the full extent. The first step when corrosion is found is to clean the area so its full extent can be seen and assessed. Painting or priming over corrosion seals it in and worsens the damage.

2. B — Investigate and correct the underlying fault. Repeated tripping signals a fault to be found and corrected, not a protection level to be raised. Upsizing, taping, or bypassing the breaker removes essential protection.

3. D — A non-metallic abrasive pad. Aluminum must be cleaned only with non-metallic or aluminum-compatible abrasives, never with steel tools that embed particles and start galvanic corrosion. The nylon pad is the safe choice.

4. D — Comply with and document the AD before further flight. An applicable uncomplied AD makes the aircraft unairworthy, so it must be complied with and documented before further flight as required. It cannot be waived or treated as advisory.

5. C — Clean it completely before servicing. Oil with high-pressure oxygen can ignite violently, so any oily film on an oxygen fitting must be completely cleaned before servicing. Adding oil or using petroleum solvent would be dangerous.

6. A — A cotter pin through the drilled bolt and nut slots. A castellated nut on a critical bolt is safetied by a cotter pin through the drilled bolt and the nut's slots. Adhesive, torque alone, or a fiber insert do not apply here.

7. A — Clean it, set standard configuration, and level it. Before reading the scales, the aircraft must be cleaned, set to standard configuration, and leveled in both axes so the arms are valid. It is weighed empty in still air, not loaded or tilted.

8. C — Reinstall the hose without the twist. A spiraled lay line shows an installed twist, which stresses the hose, so it must be reinstalled without the twist. Returning it as installed or reducing pressure does not fix the stress.

9. C — FAA-approved data specific to the alteration. A major alteration must be accomplished with FAA-approved data, not a handbook, brochure, or verbal description. Approved data is required for major work.

10. B — Bond and ground the aircraft and source. Before fuel flows, the aircraft and fuel source must be bonded and grounded to dissipate static charge and prevent vapor ignition. This must precede fuel flow.

11. C — Reject the tube and replace it. A bend flattened beyond the limit restricts flow and creates a stress concentration that can crack, so the tube must be rejected and replaced. Re-rounding or painting does not restore it.

12. C — CO_2 or another non-conductive agent. An energized electrical fire is Class C and requires a non-conductive agent such as CO_2 or dry chemical. Water and conductive foams must never be used on energized equipment.

13. A — The work description, date, and signer's certificate information. A return-to-service entry must include the work description, the date, and the signer's signature, certificate number, and certificate type. The other options are never required.

14. B — It is not airworthy until the overweight is corrected. Exceeding maximum gross weight makes the aircraft unairworthy even with an acceptable CG. Both the weight and CG limits must independently pass.

15. C — Dry nitrogen, which is inert and dry. Nitrogen is preferred for charging struts because it is inert, dry, and will not support combustion. Pure oxygen is never used, and moist air invites corrosion.

16. B — Clean the surface of grease, dirt, and loose finish. Surface preparation for paint begins with cleaning the surface, because a finish is only as good as the surface beneath it. Treatment and finishing follow.

17. A — Liquid (dye) penetrant inspection. Dye penetrant detects surface-breaking cracks on non-porous materials including non-magnetic aluminum. Magnetic methods cannot be used on aluminum.

18. C — Slow down and verify each step. Recognizing deadline pressure as a Dirty Dozen factor, the correct response is to slow down and verify each step. Working faster or skipping verification invites the errors pressure causes.

19. D — Isolate them with a barrier material. Two dissimilar metals must be isolated with a barrier material to prevent the galvanic corrosion that occurs when they contact with an electrolyte present. Direct contact or welding would invite or worsen corrosion.

20. A — 100LL avgas, dyed blue. A piston-engine aircraft is fueled with 100LL avgas, verified by its blue color and the placard. Jet fuel, diesel, and kerosene are not appropriate.

21. C — Replace it with proper structural hardware. A self-tapping screw is for non-structural attachment, so finding one in a primary structural fitting requires replacing it with proper structural hardware. It cannot carry primary structural loads.

22. A — A metal (all-metal) self-locking nut. Near a hot exhaust, a metal self-locking nut is used because high heat would degrade a fiber or nylon insert. The temperature limitation rules out the insert types.

23. A — As iron/steel rust, treated accordingly. Reddish-brown flaking is the corrosion product of iron and steel — rust — so it is identified as such and treated accordingly. Identifying the metal from its corrosion product guides treatment.

24. B — Reject a hardened, cracked hose as a defect. A hardened, cracked hose is a rejectable defect indicating deterioration, so it must be rejected. Wiping, painting, or reducing pressure does not restore a degraded hose.

25. D — Use wing walkers and clear communication. Correct towing uses wing walkers and clear communication, with controlled speed. Towing alone without walkers, exceeding steering limits, or cutting communication are unsafe.

26. D — Dry nitrogen. Nitrogen is preferred for servicing tires because it is inert, dry, and will not support combustion. Pure oxygen is never used, and moist air invites corrosion.

27. A — Clean and neutralize it promptly to prevent corrosion. Spilled electrolyte left in the box aggressively corrodes nearby metal, so it must be cleaned and neutralized promptly. Leaving it or painting over it worsens the corrosion.

28. B — The 100-hour inspection. A standard A&P may perform and approve a 100-hour inspection without an Inspection Authorization. The annual and major alterations require an IA.

29. B — Apply the manufacturer's specified torque value. A critical fastener must be tightened to the manufacturer's specified torque, which balances clamp-up against fastener stress. Too much overstresses it; too little lets the joint loosen.

30. D — Removed and assessed as advanced (exfoliation) corrosion. Aluminum lifted into flaky layers is exfoliation, an advanced intergranular corrosion that must be removed and the part assessed against limits. Wiping, sealing, or painting over it does not address the structural attack.

31. D — Multiply the foot-pounds by 12. Since one foot-pound equals 12 inch-pounds, converting foot-pounds to inch-pounds means multiplying by 12. For example, 5 ft-lb × 12 = 60 in-lb.

32. B — Acceptable data such as a general handbook method. For a minor repair where no approved data is required, acceptable data such as a general handbook method may be used. Approved data is reserved for major work.

33. C — The surface was not properly cleaned before painting. Paint peeling where it was applied over grease indicates the surface was not properly cleaned first, so the paint could not adhere. Surface preparation determines a finish's durability.

34. D — Conformity to type design and condition for safe operation. Airworthiness requires both conformity to the approved type design and a condition for safe operation. A clean exterior, registration, or storage alone does not establish airworthiness.

35. C — Check the depth removed against the manual's limits. When removing corrosion, the depth removed must be checked against the manual's structural limits, because removal beyond limits renders the part unairworthy. Removing extra metal or skipping the check is wrong.

36. B — Route it so loosening tightens the wire. Safety wire must be routed so any loosening tendency increases the wire's tension and pulls the fastener tight. Installed so loosening slackens it, it is incorrect.

37. B — Only approved cleaners to avoid crazing. Transparent acrylic must be cleaned only with approved cleaners, because solvents, steel wool, and strong cleaners craze or scratch it. Crazing ruins the transparency.

38. A — The action must be done before the next flight. An AD with a "before further flight" compliance time requires the action before the next flight, the most urgent category. It cannot be deferred or treated as optional.

39. D — A 37-degree flare. Aircraft flared tube fittings use a 37-degree flare, distinct from the 45-degree automotive flare. The two are not interchangeable.

40. B — Accounting for every tool before and after the job. Accounting for every tool before and after a job prevents a tool being left in the aircraft, where it causes foreign object damage. Tool control is a key error-prevention safeguard.

41. C — Recompute and update the empty weight and CG. After an equipment change affecting weight and balance, the record must be recomputed and updated with the new empty weight and CG. Flying on outdated data can place the CG outside limits.

42. B — Confirm the specific approved fluid for the aircraft. Servicing a hydraulic system begins with confirming the specific approved fluid for that aircraft, because mixing incompatible fluids destroys seals. Adding any fluid or substituting water is wrong.

43. A — Return to a known-good point and re-verify. After a distraction, the correct action is to return to a known-good point and re-verify the work, rather than assuming where it left off. This prevents the skipped steps distraction invites.

44. A — A Class D dry-powder agent. A burning magnesium part is a Class D combustible-metal fire, requiring a special dry-powder agent. Water dramatically worsens a magnesium fire, and CO_2 and foam are ineffective.

45. C — It is advisory unless an AD or rule requires it. A Service Bulletin is generally advisory unless an AD references it or an operating rule requires compliance. It does not supersede the type certificate and may be accomplished by a mechanic.

46. B — Have a second qualified person independently verify it. Independent verification of critical flight-control rigging by a second qualified person catches errors a single mechanic may miss. The second set of eyes is a key error-prevention safeguard.

47. B — Correct the loading before flight. A CG aft of the rear limit is out of range, so the loading must be corrected before flight. Being below maximum weight or adding more aft ballast does not fix an out-of-limit CG.

48. A — Store them in approved flammable cabinets. Flammable liquids must be stored in approved flammable cabinets, away from ignition sources and oxidizers. Leaving them open, near oxygen, or unlabeled is unsafe.

49. C — Match the device to the wire's safe current capacity. Circuit protection is sized to the wire's safe current capacity, so an overload opens the circuit before the wire overheats. Oversizing, removing, or bypassing protection is unsafe.

50. A — Mix in the manufacturer-specified ratio. A two-part sealant must be mixed in the manufacturer-specified ratio for the chemistry to cure and perform properly. An incorrect ratio prevents proper curing.

51. A — Study the schematic to understand normal operation. Disciplined troubleshooting begins by studying the schematic to understand how the system should behave normally. Random replacement or forcing current is not a proper first step.

52. B — Secure it upright with the cap in place. A compressed-gas cylinder must be secured upright with its protective cap in place, away from heat and flame. Laying it down, storing it near flame, or leaving the valve open is hazardous.

53. D — So one load failing open does not interrupt the others. Aircraft loads are wired in parallel so an open failure in one branch leaves the others operating on the common bus voltage. Parallel branches provide independent paths.

54. D — Reject and replace the hose. A hardened, cracked hose is a rejectable defect indicating deterioration, so it must be rejected and replaced. Wiping, painting, or reducing pressure does not restore it.

55. C — The Type Certificate Data Sheet. The TCDS provides the FAA-approved datum location and weight limits for a specific aircraft type. It is the authoritative reference for an aircraft's certificated limits.

56. C — As a copper alloy. A green or blue-green deposit (verdigris) is the characteristic corrosion product of copper alloys. Identifying the metal from its corrosion color guides treatment.

57. D — An Inspection Authorization. Approving a major repair for return to service requires an Inspection Authorization, not ordinary A&P privileges. The owner's permission or a repairman certificate does not suffice.

58. A — Replace it, since a fuse cannot be reset. A fuse contains a metal element that melts and opens the circuit, so it must be replaced after operating, not reset. A circuit breaker, by contrast, can be reset.

59. D — A mirror and bright light for access and visibility. Inspecting a hidden area for fine cracks requires a mirror and bright light to reach and illuminate the surface. Good light and access aids are prerequisites to effective visual inspection.

60. D — Conformity to type design and a condition for safe operation. Signing an aircraft airworthy requires both conformity to the approved type design and a condition for safe operation. A clean exterior, registration, or fuel load alone does not establish airworthiness.