PRACTICE EXAM 2: ASE A4 SIMULATION (40 QUESTIONS)

STEERING SYSTEMS DIAGNOSIS AND REPAIR (Questions 1–12)

1. A 2020 sedan with column-mounted EPS arrives with a customer complaint of heavy steering effort at parking-lot speeds but normal feel at highway speed. Scan tool data shows the EPS assist command is commanding minimum assist regardless of vehicle speed. What is the most likely cause?

A. The EPS control module has failed internally and requires replacement

B. The vehicle speed signal to the EPS module is stuck at a high value

C. The steering column torque sensor is reporting maximum driver input

D. The steering angle sensor needs a static calibration procedure

2. A technician needs to remove a steering wheel to access the clockspring. Which sequence is correct?

A. Remove the wheel retaining nut, then disconnect the battery cable

B. Disconnect the battery, then immediately remove the airbag module

C. Remove the airbag first, then disconnect the battery before continuing

D. Disconnect the battery, wait the specified discharge time, then proceed

3. A clockspring is being reinstalled on a vehicle. What procedure ensures the clockspring will not fail during normal steering operation?

A. Center the clockspring mechanically before installing the steering wheel

B. Rotate the clockspring to full clockwise stop before wheel installation

C. Install the clockspring with the road wheels turned fully to the right

D. Attach the clockspring after the steering wheel is torqued to specification

4. Technician A says an electronically controlled rack-mounted EPS motor requires a dedicated heavy-gauge power feed from the battery. Technician B says EPS motor current can exceed 80 amps during parking maneuvers. Who is correct?

A. Technician A only

B. Technician B only

C. Both Technicians A and B

D. Neither Technician A nor B

5. A recirculating ball gearbox on a pickup truck has developed on-center lash but feels tight at full lock. A technician suggests adjusting the sector shaft preload tighter to compensate. What is the correct action?

A. Adjust sector preload tighter and check steering feel at center again

B. Replace or rebuild the gearbox because the sector teeth are worn

C. Adjust the worm shaft preload looser to compensate for wear pattern

D. Top off the power steering fluid and retest after full system bleed

6. A Honda owner complains of whining from the power steering pump after a fluid change performed at a quick-lube shop. Reservoir fluid appears dark and thicker than specification. What is the most likely cause?

A. The wrong type of power steering fluid was installed in the system

B. Air was introduced during the fluid change and needs to be bled

C. The power steering pump is failing internally from age and mileage

D. The return line is restricted causing fluid to aerate in the reservoir

7. During a hydraulic power steering pressure test at full lock against the stop, the system reaches specification pressure within 3 seconds. What is the maximum safe duration for holding the steering at full lock?

A. Fifteen seconds before releasing to allow fluid cooling time

B. Thirty seconds with engine at idle speed for testing purposes

C. Ten seconds if the engine is running at slightly above idle

D. Five seconds maximum to prevent fluid breakdown and damage

8. A vehicle equipped with variable-assist power steering delivers excessive assist at highway speed, making the steering feel light and twitchy. Scan tool shows the vehicle speed sensor signal is reading zero at all speeds. What is the most likely result?

A. The EPS module has reverted to minimum assist for safety reasons

B. The variable-assist actuator is stuck commanding maximum assist output

C. The power steering pump is producing excessive flow at the gear

D. The torque sensor is reading high driver input at all steering positions

9. A technician replaces an EPS rack assembly on a 2019 vehicle. After installation, the vehicle starts normally but throws an EPS warning light with reduced assist. What step has most likely been missed?

A. The EPS module requires a calibration or initialization procedure

B. The battery needs to be disconnected for thirty minutes minimum

C. The intermediate shaft requires re-indexing at the rack input

D. The wheel alignment needs to be performed before driving the vehicle

10. An intermediate shaft between the column and the rack has developed a notchy feel when the wheel is turned slowly with the vehicle parked. What is the most likely cause?

A. The rack pressure spring adjustment has backed off over time

B. The steering column upper bearing has worn beyond specification

C. The U-joint needle bearings in the intermediate shaft are worn

D. The power steering fluid has become contaminated with water

11. A technician disconnects the negative battery cable on a 2022 BMW to perform steering column service. After reconnecting, the EPS warning light remains on with reduced assist. What step is required?

A. The power steering fluid must be topped off and bled

B. The steering column needs a new torque sensor installation

C. The EPS module must be replaced with a new programmed unit

D. The EPS system requires an initialization procedure after battery service

12. A vehicle with electrohydraulic power steering (EHPS) shows a compressor-style pump running constantly at full speed regardless of steering input. What is the most likely cause?

A. The vehicle speed signal input to the EHPS controller is missing

B. The power steering fluid reservoir is filled beyond maximum level

C. The hydraulic rack has internal bypass causing pressure loss

D. The driver has selected sport mode through a dashboard control

SUSPENSION SYSTEMS DIAGNOSIS AND REPAIR (Questions 13–24)

13. A MacPherson strut assembly is being replaced on a front-wheel-drive sedan. Technician A says the upper strut mount should be replaced as a matter of course during strut service. Technician B says the strut bearing is integrated with the upper mount on most modern designs. Who is correct?

A. Technician A only

B. Technician B only

C. Both Technicians A and B

D. Neither Technician A nor B

14. A pickup truck has a load-carrying lower ball joint on its SLA front suspension. The vehicle is lifted on a two-post hoist with the wheels hanging free. How should the ball joint be inspected for wear?

A. Rock the tire at the 3 and 9 o'clock positions to reveal horizontal play

B. Place a pry bar between the control arm and frame to unload the joint

C. Grab the tire at 12 and 6 o'clock and rock with wheels hanging free

D. Apply downward pressure to the upper control arm and watch for motion

15. A customer describes a "clunk" heard only when accelerating hard from a stop. The vehicle is a rear-wheel-drive pickup with solid rear axle and leaf springs. What should be inspected FIRST?

A. The rear shock absorber mounting bolts and bushings for looseness

B. The driveshaft U-joints for worn needle bearings or visible play

C. The track bar bushings at each mounting end for wear or damage

D. The rear leaf spring U-bolt torque and spring pack center bolt

16. A technician finds a torn boot on a front lower ball joint during inspection. The joint appears functional with no visible play. What is the correct action?

A. Replace the ball joint even if no play is currently detectable

B. Install a replacement boot and repack the joint with fresh grease

C. Clean the area and mark the joint for monitoring at next service

D. Install a universal-fit boot and continue with normal alignment service

17. During inspection of a multi-link rear suspension, a technician notices that rear toe readings won't hold specification after repeated adjustment attempts. Control arms and links appear visually intact. What should be suspected NEXT?

A. The rear alignment machine heads need recalibration before continuing

B. The rear tires are worn unevenly and affecting the sensor readings

C. The rear shock absorbers have failed and are causing dynamic shift

D. The rear subframe mounting bushings have worn and allow shift

18. A full-size SUV equipped with air suspension sits low at the right rear corner after sitting overnight. When started, the compressor runs for about 30 seconds and the corner returns to normal height. What is the most likely cause?

A. The compressor output pressure is below manufacturer specification

B. The ride height sensor at that corner is reporting incorrect position

C. A slow air leak in the right rear air spring or its plumbing line

D. The suspension control module needs reprogramming with new software

19. A Jeep with a front solid axle exhibits violent steering oscillation ("death wobble") after hitting a pothole at 55 mph. The steering damper is new and appears functional. What components should be inspected?

A. Track bar bushings and brackets, tie rod ends, and ball joints together

B. Power steering pressure, flow control valve, and gearbox preload settings

C. Intermediate shaft U-joints and steering column collapse mechanism

D. Front brake caliper drag and rotor thickness variation across both sides

20. A rear coil-spring solid-axle vehicle uses a panhard rod (track bar) for lateral axle location. What symptom would worn track bar end bushings most likely produce?

A. Continuous whining from the rear axle area during normal driving

B. Clunking from the rear during cornering and lane change maneuvers

C. Excessive tire wear on the rear tires with feathered tread pattern

D. Reduced rear ride height on one side compared to the other side

21. A customer reports that after a severe pothole impact, the vehicle sits low at one front corner. A broken coil spring is suspected. What inspection practice is correct before disassembly?

A. Use a properly sized spring compressor engaged in the correct geometric plane

B. Disconnect the lower ball joint and allow the spring to extend freely

C. Support the vehicle on jack stands placed under the lower control arm

D. Remove the strut upper mount nut to release spring tension gradually

22. A late-model crossover with MagneRide (magnetorheological) dampers has developed a clicking fault code at the right rear damper. Scan tool shows an open circuit in the damper coil. What is the correct repair?

A. Drain and refill the MR fluid reservoir with fresh fluid

B. Bypass the damper wiring and operate in passive mode only

C. Replace the affected damper along with the opposite side damper

D. Reset the suspension control module and clear the fault code

23. A pickup truck equipped with torsion bar front suspension has developed a noticeable sag on the driver's side at curb height. What is the correct service approach?

A. Replace the torsion bar with a new bar and set ride height to specification

B. Adjust the torsion bar preload at the frame adjuster while vehicle loaded

C. Swap the torsion bars from left to right to equalize ride height

D. Install an aftermarket coil-over conversion to eliminate the issue

24. Technician A says stabilizer bar bushings and end links should always be replaced in pairs. Technician B says a failed end link on only one side is acceptable to replace as a single-side repair to save cost. Who is correct?

A. Technician A only

B. Both Technicians A and B

C. Technician B only

D. Neither Technician A nor B

WHEEL ALIGNMENT DIAGNOSIS, ADJUSTMENT, AND REPAIR (Questions 25–35)

25. A vehicle presents with the following front alignment readings: left camber +0.5°, right camber -0.5°, both within individual specification. The vehicle pulls strongly to the left on a level road. What is the cause?

A. The right front tire pressure is significantly higher than the left tire

B. The steering wheel is not centered during the front toe adjustment

C. Asymmetric camber — more positive on the left produces leftward pull

D. Both caster readings are near the low end of acceptable specification

26. During a thrust-angle alignment, rear toe readings show the right rear toed in more than the left rear. What is the effect on the vehicle?

A. The thrust line points directly along the geometric centerline

B. The vehicle develops a pull toward the rear axle higher-toed side

C. Rear tires wear evenly across both tread shoulders during service

D. The thrust angle is non-zero and the vehicle crabs down the road

27. A technician completes an alignment on a 2021 vehicle with lane-keep assist. The steering wheel was re-centered during front toe adjustment. After the alignment, which system requires calibration?

A. The steering angle sensor and the forward camera ADAS system

B. The antilock braking system through a manual bleed procedure

C. The electronic stability control module requires a road-test relearn

D. The tire pressure monitoring system requires sensor ID programming

28. Excessive positive caster on a vehicle would most likely produce which handling symptom?

A. Light steering effort and poor self-centering after cornering

B. Heavy steering effort and strong self-centering during cornering

C. Rapid outside-edge tire wear on both front tires during driving

D. Excessive body roll during cornering maneuvers on the highway

29. A vehicle's alignment printout shows normal camber and toe, but the included angle on the left front differs from the right front by 1.8°. What does this indicate?

A. The left front tire pressure needs to be checked and corrected

B. The rear wheels need alignment to establish a proper thrust line

C. The left front steering knuckle is likely bent from impact damage

D. The alignment equipment heads require factory recalibration service

30. A customer complains of inside-edge tire wear on both front tires of a FWD vehicle. Alignment shows front toe reading -0.20° (excessive toe-out). What is the correct diagnosis?

A. Excessive toe-out is causing the tires to scrub inward as they roll

B. Excessive negative camber is causing flat wear on the inner edge

C. Worn shocks are causing cupped wear that appears at the edges only

D. Worn wheel bearings are allowing the tires to lean under cornering

31. Before performing an alignment, a technician measures ride height and finds the right front corner sits 3/4 inch lower than the left front. What is the correct action?

A. Add weight to the left front corner to equalize ride height for measurement

B. Inflate the right front tire to higher pressure to raise that corner

C. Proceed with the alignment and note the discrepancy on the printout

D. Identify and repair the cause — likely sagged or broken spring — first

32. A vehicle with torsion beam rear suspension has rear toe reading out of specification on one side. What is the correct repair?

A. The torsion beam is bent or the trailing arm is damaged and needs replacement

B. Adjust the rear toe eccentric cam at the trailing arm pivot point

C. Install shims at the rear spindle to compensate for the out-of-spec reading

D. Loosen the trailing arm pivot bolt and slide the arm to correct toe

33. During a caster sweep measurement, a technician turns the wheels but the alignment machine reports no change in camber reading during the sweep. What is the most likely cause?

A. The vehicle has excessive positive caster at both front wheels

B. The wheel runout compensation procedure was skipped or failed

C. The rack pressure spring is adjusted too tightly against the rack

D. The power steering fluid is low causing the rack to bind during turn

34. Toe-out on turns (Ackermann) is measured out of specification on the right side only. The left side reads within specification. What is the most likely cause?

A. The rear toe needs adjustment to establish the thrust line first

B. The idler arm has worn and allows the linkage to shift during turns

C. The rack pressure spring has backed off from its factory setting

D. The right-side steering arm on the knuckle is bent from an impact

35. A vehicle completes an alignment with all angles within specification, but the customer returns the next day complaining of a pull that wasn't present before. What should the technician check FIRST?

A. The alignment readings to verify they are still within specification

B. Tire pressures on all four wheels against the door placard values

C. The steering gear mounting bolts for proper torque specification

D. The EPS control module for any stored diagnostic trouble codes

WHEEL AND TIRE DIAGNOSIS AND SERVICE (Questions 36–40)

36. A direct TPMS system on a 2023 vehicle shows a low-pressure warning for the right front tire. The tire gauge reads 35 psi — exactly matching placard specification. What is the most likely cause?

A. The right front TPMS sensor battery has failed and needs replacement

B. The TPMS control module needs to be reset using scan tool command

C. The sensor is reporting an incorrect pressure value due to internal failure

D. The tire was recently filled with nitrogen which affects sensor calibration

37. A wheel-and-tire assembly has been balanced, but the vehicle still exhibits steering wheel shimmy at 60 mph. What is the next diagnostic step?

A. Check for radial and lateral runout of the wheel and tire assembly

B. Replace the wheel bearings on both front wheels regardless of condition

C. Install a new set of shocks to eliminate the vibration at highway speed

D. Perform a front-end alignment to correct any toe or camber issues

38. Technician A says a tire puncture in the sidewall can be repaired with a combination plug/patch from the inside. Technician B says punctures larger than 1/4 inch in the tread area are not repairable. Who is correct?

A. Technician A only

B. Both Technicians A and B

C. Technician B only

D. Neither Technician A nor B

39. A tire sidewall reads "P225/60R16 98H." What does the "98" represent?

A. The tire's tread wear rating on a comparative scale to standard tires

B. The maximum cold inflation pressure specification measured in psi

C. The tire's speed rating threshold in kilometers per hour maximum

D. The load index — maximum load the tire can carry at rated pressure

40. A new set of TPMS sensors is being installed on a vehicle. The shop uses universal aftermarket sensors. What procedure is required before installation?

A. The sensors must be magnetized using a special tool to activate them

B. The sensors must be programmed to match the vehicle's specifications

C. The sensors must be soaked in mounting lubricant for five minutes

D. The sensors must be pre-pressurized with nitrogen before installation

Practice Exam 2: Answer Key and Explanations

1. B — EPS modules calculate assist based on vehicle speed from the network. A stuck-high speed signal makes the module think the vehicle is always at highway speed and commands minimum assist even at parking-lot speeds. This is why EPS diagnosis always begins with verifying network input signals before condemning the EPS hardware itself.

2. D — The SRS disable procedure requires disconnecting the negative battery cable and waiting the specified capacitor discharge time (typically 1–10 minutes) before any work on the airbag or column. Skipping the wait time can result in deployment during service because the SRS module's backup capacitor holds enough charge to fire the airbag after battery disconnect.

3. A — A clockspring must be mechanically centered before steering wheel installation with the road wheels pointing straight. Installing with the wheel or clockspring off-center positions the ribbon cable near one of its internal travel limits, causing it to break the first time the driver turns toward that limit — disabling horn, wheel controls, and potentially the airbag.

4. C — EPS motors can draw 80+ amps during parking maneuvers because they must deliver high torque at stall conditions. This demand requires dedicated heavy-gauge power feeds and robust ground paths; undersized supply circuits cause intermittent faults that mimic module failures. Both technicians are correct.

5. B — When a recirculating ball gearbox has on-center lash but tight lock-to-lock feel, the sector teeth are worn at the center (where the gear operates 95% of the time) while still good at lock. Tightening sector preload makes lock-to-lock bind hard while only partially fixing center lash. The correct repair is gearbox replacement or rebuild.

6. A — Honda vehicles require Honda-specified power steering fluid; substituting ATF or universal power steering fluid damages internal seals and thickens at operating temperature. Dark, thicker-than-spec fluid after a recent service is the diagnostic signature of wrong-fluid installation. Always verify the manufacturer's fluid specification before service.

7. D — Five seconds is the maximum safe duration for holding the steering at full lock. Beyond that, the pump dead-heads against the relief valve, fluid temperature spikes rapidly, and thermal breakdown of the

fluid occurs. This limit applies both during testing and during normal driver use — longer holds damage the pump and fluid.

8. B — When the VSS signal is lost or reads zero, variable-assist systems default to maximum assist (because the module assumes parking-lot speed). The result is overboosted, twitchy steering at actual highway speed. Always verify VSS input before condemning the variable-assist actuator — bad speed data produces the same symptom as a failed actuator.

9. A — After EPS rack replacement, the module must be calibrated or initialized before normal operation. The system knows something is different but hasn't learned the new component's reference values, so it throws warnings and operates in reduced-assist safe mode. Calibration is a mandatory final step on any significant EPS component replacement.

10. C — A notchy feel at the steering wheel when turning slowly is the classic signature of worn U-joint needle bearings in the intermediate shaft. Rack pressure spring and column bearing problems produce different symptoms; fluid contamination doesn't produce notchy rotation. The needle bearings wear unevenly and catch at specific angles during rotation.

11. D — BMW and many other manufacturers require an EPS initialization procedure after any battery disconnect. The EPS module loses certain learned values and operates in reduced-assist mode until the procedure is performed — typically a scan tool command or a specific lock-to-lock cycling sequence. Always consult service information after battery service on European vehicles.

12. A — EHPS systems vary pump motor speed based on vehicle speed input — low speed at highway cruising, high speed during parking maneuvers. When the vehicle speed signal is lost, the controller defaults to full-speed pump operation as a safety fallback. This overheats the pump and wears it prematurely if not corrected.

13. C — Strut mounts and integrated bearings should always be replaced during strut service — the labor to access them is most of the job, and reusing aged mounts on new struts is false economy that usually returns as a complaint within months. Both technicians are correct; this is industry-standard best practice.

14. B — A load-carrying lower ball joint must be unloaded before inspection. Placing a pry bar between the lower control arm and the frame supports the arm and unloads the joint, allowing wear to be detected accurately. Rocking the wheel 12-6 with weight hanging (joint still loaded by the spring) masks the play that's actually present.

15. D — Hard-acceleration clunking on a leaf-spring RWD truck is the signature of loose spring U-bolts or a sheared center bolt allowing axle shift on the spring pack. The axle rotates or walks under torque, creating the clunk. U-bolts are torque-to-yield on many applications and must be verified first because loose U-bolts can cause catastrophic axle shift.

16. A — A torn ball joint boot allows contamination (water, salt, grit) into the joint. Even if no play is currently detectable, contamination has already entered and will cause rapid failure within months. Replacing just the boot traps the existing contamination inside — the joint itself must be replaced. Boot damage is effectively joint failure.

17. D — Worn subframe or rear cradle bushings allow the subframe to shift under dynamic loads, making rear toe unable to hold specification despite fresh adjustment. On high-mileage unibody vehicles, subframe bushings are a common but overlooked cause of "alignment won't stay" complaints. Visual inspection of bushings is the diagnostic step.

18. C — Overnight sag with a short compressor cycle to restore height is the classic pattern of a slow air leak. A 30-second compressor run to refill one corner indicates the leak is slow but continuous, typical of a small crack in the rolling-lobe air spring or a loose air line fitting. Leak testing locates the source before replacement.

19. A — Death wobble on solid-axle vehicles is almost always caused by combined wear in track bar bushings, tie rod ends, and front ball joints. The steering damper masks symptoms temporarily but doesn't address root cause. Replacing only the damper guarantees return of the wobble — the underlying component wear must be identified and repaired.

20. B — Worn track bar end bushings allow the rear axle to shift laterally during cornering and lane changes, producing clunking specifically during direction changes. The symptom is load-related (quiet on straight driving, clunks during lateral load). Tire wear, ride height, and whining noises indicate different failures.

21. A — Coil springs store enormous potential energy under compression; a slipping or improperly engaged spring compressor can launch a spring with fatal force. Always use a correctly sized compressor engaged in the manufacturer-specified geometric plane. Disconnecting ball joints or backing off strut nuts without capturing the spring is extremely dangerous.

22. C — MR dampers are sealed units with no field-serviceable internals. A coil fault requires damper replacement — and replacement must be in pairs (left and right) because the control module cannot compensate for asymmetric damping characteristics between new and worn dampers on opposite sides of the same axle.

23. B — Torsion bars include a frame-mounted adjuster that changes the bar's installed preload, adjusting ride height. Adjustment must be performed with the vehicle loaded at curb weight on the ground, not on a lift. Swapping bars left-to-right will eventually fracture them (heat-treated for one-direction loading), and coil-over conversion is unnecessary for basic height correction.

24. D — Stabilizer end links and bushings should always be replaced in pairs because they wear at similar rates; replacing only one guarantees the other will fail within months, requiring a second service visit. Neither technician is correct — Technician B's "cost-saving" single-side repair is actually more expensive overall and is not industry-standard practice.

25. C — A vehicle pulls toward the side with more positive (or less negative) camber. Left camber at +0.5° and right at –0.5° means the left side is 1.0° more positive than the right, producing a leftward pull even though each individual reading is within specification. Cross-camber comparison side-to-side matters more than individual readings for pull diagnosis.

26. D — Asymmetric rear toe creates a non-zero thrust angle — the rear axle points in a direction different from the vehicle centerline, causing the vehicle to "crab" down the road. The driver must hold the steering wheel off-center to compensate, and tire wear develops. Thrust angle must be zero (symmetric rear toe) before setting front toe.

27. A — Re-centering the steering wheel during toe adjustment invalidates the SAS's learned zero-point, and front geometry changes can invalidate the forward camera's lane reference. Both the SAS and the forward-looking ADAS camera require calibration after such alignment work. Skipping either can cause the lane-keep system to steer toward an incorrect lane reference.

28. B — Excessive positive caster increases steering effort (the contact patch trails further behind the steering axis) and increases self-centering force. The vehicle feels stable at speed but "heavy" in the wheel, especially at parking speeds. Caster doesn't directly cause tire edge wear (that's camber) or body roll (that's stabilizer/spring issue).

29. C — Mismatched included angles with matching camber readings is the diagnostic signature of a bent knuckle. The knuckle's SAI is built into the casting and cannot be adjusted — if the knuckle is bent, camber can be adjusted around the damage but the underlying included angle error remains. The knuckle must be replaced before valid alignment is possible.

30. A — Excessive toe-out causes tires to scrub inward as they roll, producing inside-edge wear with a feathered pattern. Running a hand across the tread reveals the scrubbing direction. Toe is the adjustment that most directly and rapidly causes edge wear — even small amounts of out-of-spec toe produce visible wear within a few thousand miles.

31. D — Asymmetric ride height (3/4" difference side-to-side exceeds typical tolerance of 1/4") indicates a sagged or broken spring, failed strut mount, or collision damage. Ride height must be correct before alignment because every alignment angle changes with height. Proceeding with alignment produces measurements invalid the moment the vehicle returns to normal operating height.

32. A — Torsion beam rear suspensions typically have no rear toe adjustment. An out-of-spec reading on a torsion beam means the beam is bent or the trailing arm is damaged — requiring component replacement, not adjustment. The "repair" is mechanical replacement, not turning an adjuster that doesn't exist on this design.

33. B — Caster is calculated from camber change during a wheel sweep. If the machine reports no camber change during the sweep, the measurement heads are not properly referenced to the wheels — usually because wheel runout compensation was skipped or failed. Runout compensation must be performed before any valid caster measurement can be taken.

34. D — Toe-out on turns (Ackermann) is set by the designed geometry of the steering arm on the knuckle. When TOOT is wrong on only one side, a bent steering arm — typically from impact damage (pothole, curb strike, prior collision) — is the almost-certain cause. The steering arm or the complete knuckle must be replaced.

35. B — When a pull complaint returns shortly after a completed alignment, tire pressures are the first check. Pressure changes from temperature drops or slow leaks can develop between alignment and customer road test. Always verify placard pressures on all four tires before re-examining alignment readings or deeper diagnostic paths.

36. C — When a TPMS sensor reports low pressure while gauge measurement confirms correct pressure, the sensor itself is reporting an incorrect value — typically from internal sensor failure. A dead battery would show as a non-communicating sensor, not a false pressure reading. The sensor must be replaced and the system relearned.

37. A — Residual shimmy after balancing indicates radial or lateral runout that balancing cannot correct. Runout is dimensional deviation of the wheel/tire assembly from perfect round or perfect flat; balancing addresses mass distribution only. Measurement with a dial indicator or road-force balancer identifies runout, which requires tire replacement, wheel replacement, or match-mounting.

38. C — Sidewall punctures cannot be safely repaired — the sidewall carries structural loads no patch can duplicate, and the flex zone would quickly fail any repair. Punctures larger than 1/4 inch in the tread area are also not repairable by industry standards. Technician A is wrong about sidewalls; only Technician B's rule is correct.

39. D — The "98" is the load index — a coded value representing the maximum load the tire can carry at rated pressure (98 = 1,709 lb). Load index is separate from tread wear, maximum pressure, and speed rating (the speed rating "H" means 130 mph). Never install a replacement tire with a lower load index than the original.

40. B — Universal aftermarket TPMS sensors must be programmed with the vehicle-specific frequency, protocol, and ID format before installation. OE sensors come pre-programmed with a factory ID and typically need only a relearn procedure. Programming creates the sensor ID; relearn teaches the vehicle which sensor is at which wheel position.