

# PRACTICE EXAM 16: ASE A5 BRAKES SIMULATION

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**Time Allowed:** 90 Minutes **Total Questions:** 45 **Passing Score:** Approximately 70% (32/45)

**Format:** Multiple Choice — Select the BEST answer

**EXAM INSTRUCTIONS:** Read each question carefully. Select the single best answer. Manage your time — approximately 2 minutes per question. Do not leave any question unanswered.

1. A customer complains that the brake pedal slowly sinks to the floor when held down at a stop, but the vehicle stops normally otherwise. The MOST likely cause is:

- A. A seized brake caliper piston
- B. A worn master cylinder cup seal allowing internal bypass
- C. Air trapped in the brake lines
- D. A restricted brake hose collapsing under pressure

2. A technician is bleeding the brake system using the pressure bleeding method. Which of the following precautions is MOST important?

- A. Keeping the bleeder screws open during filling
- B. Not exceeding the pressure rating of the master cylinder reservoir cap
- C. Bleeding the master cylinder last
- D. Using DOT 3 fluid regardless of manufacturer specification

3. A disc brake rotor measures 0.980 inches. The manufacturer's minimum thickness specification is 0.972 inches. Technician A says the rotor is serviceable and should be resurfaced. Technician B says the rotor must be replaced because it has no material left for machining. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

4. When inspecting drum brakes, a technician notices the brake shoes have a tapered wear pattern — thicker at one end and thinner at the other. This is MOST likely caused by:

- A. Contaminated brake fluid
- B. An out-of-round or tapered brake drum
- C. Incorrect spring tension on the return springs
- D. Improper bleeding of the wheel cylinder

5. A vehicle equipped with ABS pulls hard to the right during normal braking but operates normally during ABS activation. The MOST likely cause is:

- A. A faulty ABS control module
- B. A failed wheel speed sensor on the right front
- C. A seized or dragging left front brake caliper
- D. Low brake fluid in the master cylinder reservoir

6. Brake fluid should be replaced when:

- A. The vehicle reaches 100,000 miles regardless of condition
- B. The fluid has absorbed moisture and its boiling point has dropped below specification
- C. Any brake component is replaced during service
- D. The fluid color changes from amber to clear

7. A vehicle has a soft, spongy brake pedal after a complete brake job. The system has been bled three times. The MOST likely remaining cause is:

- A. A new master cylinder that has not been properly broken in
- B. Flexible brake hoses that are ballooning internally under pressure
- C. Brake pads that have not been properly bedded
- D. A proportioning valve that is stuck in the closed position

**8.** A customer reports the brake warning light is on. The technician checks the brake fluid level and it is full. The NEXT step should be:

- A. Replace the master cylinder immediately
- B. Check the parking brake switch and pad wear indicator circuit
- C. Bleed the entire brake system
- D. Replace the brake fluid and recheck

**9.** During a drum brake inspection, a technician finds the wheel cylinder boots are wet with brake fluid. Technician A says the wheel cylinder should be honed and rebuilt. Technician B says the wheel cylinder should be replaced. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

**10.** A vehicle equipped with a vacuum-assisted power brake booster has a hard pedal complaint. The engine is running. Which test should be performed FIRST?

- A. Check residual pressure in the brake lines
- B. Check vacuum supply to the booster with a vacuum gauge
- C. Bench test the master cylinder off the vehicle
- D. Inspect the brake pad thickness at all four corners

**11.** When replacing disc brake pads, a technician must compress the rear caliper piston to retract it. The piston will NOT compress by pushing straight in. This indicates:

- A. The piston is seized due to corrosion and must be replaced
- B. The rear caliper uses a threaded piston that must be rotated while being compressed
- C. The caliper slide pins are binding and preventing movement
- D. The brake hose is collapsed and must be replaced before compressing

**12.** A vehicle exhibits brake chatter — a rapid vibrating sensation during brake application. The MOST likely cause is:

- A. Glazed brake pads and a warped rotor
- B. Air in the hydraulic brake system
- C. A stuck proportioning valve
- D. Over-torqued lug nuts distorting the rotor

**13.** The purpose of the metering valve in a combination valve is to:

- A. Limit rear brake pressure to prevent wheel lockup
- B. Delay front disc brake application until rear drum brakes begin to actuate
- C. Equalize pressure between left and right brake circuits
- D. Reduce system pressure during ABS activation

**14.** A technician is measuring brake drum diameter with a drum micrometer. The maximum oversize specification stamped on the drum is 9.090 inches. The drum measures 9.095 inches. What should the technician do?

- A. Machine the drum to round it up to 9.100 inches
- B. Install the drum as-is since it is only 0.005 inches over
- C. Replace the drum
- D. Install oversized brake shoes to compensate

**15.** During an ABS self-test at startup, the ABS warning light comes on and stays on. A scan tool shows a C0035 code — Left Front Wheel Speed Sensor Circuit. Technician A says to check the sensor air gap. Technician B says to check the tone ring for damage. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

**16.** A vehicle with front disc / rear drum brakes pulls to the right during braking. All pads and shoes are within specification. The MOST likely cause is:

- A. Unequal tire pressure side to side
- B. A seized right front caliper slide pin preventing full pad release
- C. A weak left rear return spring holding the shoe against the drum
- D. Low fluid in the right side of a split reservoir

**17.** Brake pad wear indicators are designed to:

- A. Alert the driver when rotor thickness reaches minimum specification
- B. Produce a high-pitched squealing noise when pad friction material is nearly worn out
- C. Illuminate the brake warning light when fluid level drops
- D. Monitor brake temperature and warn of thermal overload

**18.** A technician is performing a parking brake adjustment on a rear drum brake vehicle. After adjustment, the parking brake requires more than 12 clicks to hold the vehicle on a slope. The MOST likely cause is:

- A. Stretched parking brake cables
- B. Improperly adjusted service brake shoes
- C. A broken parking brake equalizer
- D. Both A and B

**19.** Which of the following brake fluid specifications has the HIGHEST dry boiling point?

- A. DOT 3
- B. DOT 4
- C. DOT 5
- D. DOT 5.1

**20.** A vehicle's rear brakes are locking up prematurely under moderate brake pedal pressure. The MOST likely cause is:

- A. A leaking master cylinder primary cup
- B. A failed or stuck-open proportioning valve
- C. Contaminated rear brake fluid
- D. Oversized rear brake drums

**21.** When resurfacing a disc brake rotor on a brake lathe, the technician notices a deep groove running around the rotor face. The groove measures 0.045 inches deep. The manufacturer's allowable groove depth is 0.060 inches. Technician A says the groove does not need to be addressed as long as final rotor thickness remains above minimum. Technician B says the rotor must be replaced. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

**22.** A vehicle with a hydro-boost power brake system has a hard pedal complaint. The power steering system operates normally. Technician A says to check the hydro-boost accumulator. Technician B says to check power steering pump pressure. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

**23.** A technician is replacing a front wheel bearing on a vehicle with a unitized (sealed hub assembly) bearing. Which of the following is the correct procedure?

- A. Pack the bearing with grease, then press it into the knuckle
- B. Replace the entire hub/bearing assembly as a sealed unit
- C. Adjust preload to 0.001–0.005 inch end play after installation

D. Torque the axle nut hand-tight only to allow bearing to seat

**24.** A customer reports that the ABS activates on dry pavement during normal, moderate stops. The MOST likely cause is:

- A. Low brake fluid causing pressure drops in the system
- B. A wheel speed sensor producing an erratic or dropping signal
- C. A faulty ABS control module commanding unnecessary intervention
- D. Air in the brake lines near the ABS modulator

**25.** The primary purpose of brake anti-squeal shims installed behind disc brake pads is to:

- A. Increase pad clamping force on the rotor
- B. Dampen vibration between the pad backing plate and caliper piston
- C. Protect the caliper piston from heat transfer
- D. Prevent the pad from shifting laterally in the caliper bracket

**26.** A technician finds a cracked vacuum brake booster diaphragm. Which of the following symptoms would MOST likely be present?

- A. A brake pedal that drops to the floor under steady pressure
- B. A hissing noise and hard brake pedal with the engine running
- C. ABS activation during normal braking stops
- D. Brake fluid leaking from the master cylinder reservoir

**27.** When performing a manual brake bleed, the correct sequence on a vehicle with a diagonally split hydraulic system is:

- A. Left front, right front, left rear, right rear
- B. Right rear, left rear, right front, left front
- C. Right rear, left front, left rear, right front
- D. Left rear, right rear, left front, right front

**28.** A technician is diagnosing a pulsating brake pedal complaint. The FIRST measurement to take is:

- A. Master cylinder bore diameter
- B. Rotor lateral runout with a dial indicator
- C. Caliper slide pin diameter
- D. Brake hose inner diameter

**29.** Brake lining coefficient of friction is indicated by a two-letter code on the edge of the lining. The first letter indicates:

- A. Lining thickness
- B. Normal operating coefficient of friction
- C. High-temperature coefficient of friction
- D. Lining material composition

**30.** A vehicle with electronic stability control (ESC) has the ESC warning light on along with an ABS light. A scan tool shows a rear left wheel speed sensor fault. Which system is MOST likely affected by this single fault?

- A. ABS only
- B. ESC only
- C. Both ABS and ESC
- D. Traction control only

**31.** After replacing all four brake pads and resurfacing the rotors, the technician should:

- A. Immediately road test at highway speed to check brake feel
- B. Perform a bed-in procedure using gradual stops to transfer a thin layer of pad material to the rotor
- C. Apply the parking brake firmly for 30 minutes to seat the pads
- D. Bleed all four corners before performing any road test

**32.** A dual-circuit master cylinder is designed to:

- A. Allow the front and rear brakes to operate at different pressures simultaneously
- B. Provide a backup hydraulic circuit so some braking remains if one circuit fails
- C. Double the hydraulic pressure output compared to a single-circuit design
- D. Prevent brake fluid from returning to the reservoir during hard stops

**33.** A technician notices rust and corrosion on a rear drum brake backing plate. The MOST important concern this creates is:

- A. Increased brake fade during repeated stops
- B. Brake shoe seizure against the ledges, preventing proper shoe movement
- C. Contamination of the brake fluid through the wheel cylinder seals
- D. Reduced parking brake holding capacity

**34.** When inspecting caliper slide pins, a technician finds the rubber boots are torn and the pins are dry and corroded. Technician A says to clean and lubricate the pins with approved caliper grease and replace the boots. Technician B says to replace the caliper assembly. Who is correct?

- A. Technician A only
  - B. Technician B only
  - C. Both Technician A and Technician B
  - D. Neither Technician A nor Technician B
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**35.** A vehicle pulls to the left during ABS activation on a wet road but stops straight during normal braking. The MOST likely cause is:

- A. A faulty ABS modulator solenoid on the right front circuit
- B. A collapsed brake hose on the left front
- C. A faulty ABS wheel speed sensor on the left rear
- D. A stuck closed proportioning valve on the left rear

**36.** A technician measures rotor lateral runout at 0.004 inches. The manufacturer's specification is 0.002 inches maximum. Which of the following is the BEST corrective action?

- A. Replace the rotor immediately without further diagnosis
- B. Clean the hub flange, check for debris, and re-measure before condemning the rotor
- C. Machine 0.002 inches off the rotor face to eliminate the runout
- D. Apply anti-squeal compound to the rotor face to dampen the vibration

**37.** The purpose of residual pressure check valves in older master cylinders is to:

- A. Prevent brake fluid from draining back into the reservoir
- B. Maintain a small amount of pressure in drum brake lines to keep wheel cylinder cups seated
- C. Build hydraulic pressure faster during rapid pedal application
- D. Prevent vapor lock in the brake lines during extreme heat

**38.** A customer reports that the brake pedal goes to the floor on the first application but pumps up firm on repeated pumping. The MOST likely cause is:

- A. Air in the hydraulic system
- B. A severely worn master cylinder with internal cup bypass
- C. A stuck-open ABS modulator valve
- D. Excessive wheel cylinder piston travel due to worn shoes

**39.** When installing new drum brake return springs, the technician should:

- A. Reuse original springs if they are not broken
- B. Always install new springs as old springs lose tension and affect shoe return
- C. Stretch the springs slightly before installation to pre-tension them
- D. Install the springs hand-tight and rely on the adjuster to compensate

**40.** A vehicle equipped with traction control (TCS) is being diagnosed for a TCS warning light. No ABS codes are present. A scan tool shows the TCS module is commanding brake apply to the right rear wheel continuously at low speeds. The MOST likely cause is:

- A. A faulty TCS throttle control actuator
- B. A right rear wheel speed sensor providing an intermittently low or erratic signal
- C. A seized right rear brake caliper causing the module to compensate
- D. Low battery voltage affecting TCS module operation

**41.** A customer complains of a grinding noise from the right front that occurs only when braking. The pads are within specification. The MOST likely cause is:

- A. A worn outer CV joint
- B. A stone or debris lodged between the brake pad and rotor
- C. A loose wheel bearing creating rotor wobble during braking
- D. An overheated rotor that has heat-checked the surface

**42.** Brake hoses should be replaced when:

- A. They feel soft when pinched
- B. They show external cracking, bulging, or kinking, or when internal restriction is suspected
- C. The vehicle reaches 60,000 miles as preventive maintenance
- D. Brake fluid has been flushed and replaced

**43.** A vehicle with a split-diagonal hydraulic system loses pressure in the left front / right rear circuit. The driver will experience:

- A. Complete brake failure with no stopping ability
- B. Partial braking from the right front and left rear circuit only, with a longer stopping distance
- C. Normal braking since the proportioning valve compensates for the lost circuit
- D. Rear wheel lockup due to all pressure routing to the rear axle

**44.** When bleeding a vehicle equipped with ABS, the technician determines that standard manual bleeding is not fully purging air from the ABS modulator. The NEXT step is to:

- A. Add more bleeder fluid and repeat the process four more times
- B. Use a scan tool to cycle the ABS modulator solenoids while bleeding
- C. Remove the modulator and bench bleed it separately
- D. Replace the ABS modulator as air cannot be removed otherwise

**45.** A vehicle has uneven front brake pad wear — the inboard pad on the left front is significantly more worn than the outboard pad. The MOST likely cause is:

- A. A misaligned front brake caliper bracket
- B. A stuck or binding caliper piston preventing full retraction
- C. A weak caliper mounting bolt allowing caliper movement
- D. Incorrect pad compound installed on the inboard side

# PRACTICE EXAM 16 — ANSWER KEY AND EXPLANATIONS

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**Correct Answer Distribution:** A = 11 | B = 12 | C = 11 | D = 11

- 1. B** — Internal master cylinder bypass — A sinking pedal held under steady pressure with normal initial stopping indicates the master cylinder primary cup is bypassing fluid internally. Other causes would show different symptom patterns.
- 2. B** — Pressure bleeder rating — Exceeding the master cylinder reservoir cap pressure rating can crack the reservoir or blow seals. Always match pressure bleeder setting to cap specification.
- 3. D** — Neither technician — The rotor at 0.980 is above the 0.972 minimum discard thickness, but a technician must verify there is enough material above minimum to safely machine it. Without knowing the machine cut specification, neither statement is fully correct.
- 4. B** — Out-of-round or tapered drum — Tapered shoe wear directly reflects the shape of the drum contact surface. A tapered or bell-mouthed drum causes uneven contact and produces this distinctive wear pattern.
- 5. C** — Seized left front caliper — A pull during normal braking that disappears during ABS activation points to a dragging caliper on the opposite side of the pull direction. The non-ABS circuit causes the pull; ABS modulation equalizes it.
- 6. B** — Moisture absorption — Brake fluid is hygroscopic and absorbs moisture over time, lowering its boiling point and creating the risk of vapor lock and brake fade. Replace when wet boiling point drops below specification.
- 7. B** — Ballooning brake hose — After multiple bleeds with no improvement, internally deteriorated flex hoses that expand under pressure are the classic remaining cause of a spongy pedal.
- 8. B** — Check parking brake and pad wear circuit — Before replacing any component, systematically diagnose the warning light circuit. A low-effort parking brake not fully releasing or a pad wear sensor can illuminate the brake warning light.
- 9. C** — Both technicians — Wet boots indicate the wheel cylinder is leaking. Rebuilding with new cups is acceptable if the bore is within spec and unscored; replacement is also a valid and often preferred option. Both are acceptable repair paths.
- 10. B** — Check vacuum supply — Diagnose vacuum-assisted systems by confirming adequate vacuum supply to the booster before condemning the booster or master cylinder itself.

**11. B** — Threaded piston requiring rotation — Many rear disc brake calipers on vehicles with integrated parking brakes use a screw-type piston that must be turned clockwise while being pushed in. Pushing straight in will not work.

**12. A** — Glazed pads and warped rotor — Brake chatter is a rapid vibration felt through the pedal and vehicle body caused by high spots on a glazed or warped rotor interacting with hardened pad material.

**13. B** — Delay front disc application — The metering valve holds off front disc brake pressure momentarily at low pressures, allowing rear drum shoe springs to overcome and the drums to begin contacting before front discs fully clamp. This improves balance.

**14. C** — Replace the drum — The drum measures 9.095 inches, which exceeds the 9.090 inch maximum oversize stamped on the drum. The drum must be replaced; machining further is not permitted.

**15. C** — Both technicians — A C0035 wheel speed sensor code warrants checking the sensor air gap (physical distance from tone ring) and inspecting the tone ring for cracks, missing teeth, or damage — both are valid diagnostic steps.

**16. B** — Seized right front caliper slide pin — A pull toward one side during braking with pads in spec most often indicates a stuck slide pin preventing that caliper from fully releasing after the stop, causing drag and a pull toward that side.

**17. B** — Squealing noise warning — Wear indicators are metal tabs that contact the rotor and produce a high-pitched squeal when pad friction material reaches the minimum usable thickness, alerting the driver to schedule service.

**18. D** — Both A and B — Stretched cables and improperly adjusted service brakes are the two most common causes of excessive parking brake travel. The service brakes must be properly adjusted first, then the cables adjusted to remove slack.

**19. C** — DOT 5 — DOT 5 (silicone-based) has the highest minimum dry boiling point at 500°F (260°C). Note: DOT 5 is NOT compatible with ABS systems and cannot be mixed with glycol-based fluids.

**20. B** — Failed proportioning valve stuck open — A proportioning valve stuck in the open position passes unrestricted pressure to the rear brakes, causing them to apply too aggressively and lock prematurely under moderate pedal pressure.

**21. A** — Technician A only — The groove at 0.045 inches is within the 0.060 inch allowable depth. As long as the rotor can be resurfaced and still remain above minimum thickness, the groove itself does not require replacement.

- 22. C** — Both technicians — A hydro-boost system uses power steering pressure. Both the accumulator (stores emergency pressure reserve) and the power steering pump pressure output are valid diagnostic checks when diagnosing hard pedal on a hydro-boost system.
- 23. B** — Replace as sealed unit — Modern unitized sealed hub/bearing assemblies are not serviceable. They are replaced as a complete assembly. No packing, pressing individual bearings, or preload adjustment applies to sealed units.
- 24. B** — Erratic wheel speed sensor signal — ABS activation on dry pavement during normal stops is a classic symptom of a wheel speed sensor producing a false low-speed signal, causing the ABS module to interpret wheel lockup when none exists.
- 25. B** — Dampen vibration — Anti-squeal shims act as a noise-dampening layer between the pad backing plate and the caliper piston or caliper finger, absorbing the micro-vibration frequencies that produce brake squeal.
- 26. B** — Hissing and hard pedal — A cracked booster diaphragm allows intake vacuum to pull air through the crack, producing a hissing sound at the firewall. Without a functional diaphragm, vacuum assist is lost and the pedal becomes very hard.
- 27. C** — Right rear, left front, left rear, right front — On a diagonally split system, always bleed the end of each circuit that is farthest from the master cylinder first: right rear → left front (circuit 1), then left rear → right front (circuit 2).
- 28. B** — Rotor lateral runout — A pulsating pedal is directly caused by excessive rotor lateral runout (wobble) or thickness variation. Measuring runout with a dial indicator is always the first diagnostic step for this complaint.
- 29. B** — Normal operating coefficient of friction — The edge code's first letter designates the normal (cold) coefficient of friction: C = under 0.15, D = 0.15–0.25, E = 0.25–0.35, F = 0.35–0.45, G = 0.45–0.55, H = 0.55–0.65, Z = unclassified.
- 30. C** — Both ABS and ESC — ESC relies on the same wheel speed sensors as ABS to calculate yaw and directional control. A wheel speed sensor fault simultaneously disables or degrades both ABS and ESC, illuminating both warning lights.
- 31. B** — Bed-in procedure — New pads require a controlled bed-in (break-in) process using a series of moderate to firm stops from approximately 30 mph to transfer an even, thin layer of pad material onto the rotor surface for optimal performance.
- 32. B** — Backup circuit if one fails — A dual-circuit (tandem) master cylinder maintains two independent hydraulic circuits so that if one circuit develops a leak and fails, the other circuit retains hydraulic pressure and provides partial braking capability.

**33. B** — Shoe seizure on ledges — The raised ledges on the backing plate are where the brake shoe lands and slides. Corrosion on these contact points causes the shoes to stick, preventing proper application and return, leading to dragging brakes and uneven wear.

**34. A** — Technician A only — Slide pins with torn boots and corrosion should be cleaned, inspected for scoring, properly lubricated with high-temperature caliper grease, and the boots replaced. Replacing the entire caliper is not necessary if the pins are within diameter specification.

**35. A** — Faulty ABS modulator solenoid right front — A pull during ABS activation but not during normal braking points to the ABS modulator improperly releasing or reducing pressure on one wheel. A stuck or faulty solenoid in the modulator on the opposite-pull side is the most likely cause.

**36. B** — Clean hub and re-measure — Before replacing a rotor for runout, always clean the hub mounting flange and check for debris, corrosion, or a rust ridge between rotor and hub. A small particle can cause a reading that exceeds spec. Re-measure after cleaning.

**37. B** — Maintain pressure in drum brake lines — Residual check valves in older drum brake master cylinders maintain approximately 8–10 psi in the drum brake lines to keep wheel cylinder cups properly seated against the cylinder bores, preventing air ingestion.

**38. A** — Air in the hydraulic system — A pedal that goes to the floor on the first application but firms up with pumping is the textbook symptom of air in the brake lines. Air compresses on first apply but is forced into small pockets on subsequent pumping, creating a firmer pedal.

**39. B** — Always install new springs — Brake return springs lose tension over time and with heat cycling. Reusing weak springs causes delayed shoe return, brake drag, increased pedal travel, and uneven shoe wear. New springs should always be installed.

**40. B** — Erratic wheel speed sensor signal — If the TCS module sees a continuously low-speed signal from one wheel while the vehicle is accelerating or moving, it interprets that wheel as spinning and commands brake application to that wheel. The fault is almost always a faulty wheel speed sensor.

**41. B** — Stone or debris between pad and rotor — A grinding noise that occurs only during brake application with pads in spec is most commonly caused by a stone or road debris lodged between the pad and rotor face, scoring both surfaces on contact.

**42. B** — Visual damage or suspected internal restriction — Brake hoses should be replaced when external inspection reveals cracking, swelling, kinking, or abrasion, or when internal deterioration is suspected based on a dragging brake that releases when the hose is loosened.

**43. B** — Partial braking from the remaining circuit — A split-diagonal system is designed so that the remaining diagonal (right front / left rear or left front / right rear) still provides significant braking force. The vehicle will stop, but with reduced effectiveness and possible pulling.

**44. B** — Scan tool cycling of ABS solenoids — Air trapped in the ABS hydraulic control unit (HCU) cannot always be purged with standard bleeding. Using a scan tool to cycle the modulator solenoids opens internal passages and allows trapped air to be pushed out during bleeding.

**45. B** — Stuck caliper piston — When the inboard pad wears faster than the outboard, the caliper piston is not fully retracting after brake application. A binding or corroded piston maintains residual contact on the inboard side, causing accelerated wear on that pad only.