PRACTICE EXAM 15 — QUESTIONS 1–40

1. The FIRST step in diagnosing any transmission complaint is to:

A. Verify the complaint with a road test

B. Remove the transmission

C. Replace the valve body

D. Flush the cooler lines

2. When diagnosing a shift-quality complaint, the cheapest and most common cause to check FIRST is:

A. Internal clutch wear

B. Fluid level and condition

C. The torque converter

D. The valve body

3. After verifying a transmission complaint and before any teardown, the next logical step is to:

A. Remove the transmission

B. Replace the differential

C. Retrieve codes and review live data

D. Re-phase the driveshaft

4. Before condemning the transmission internals for a slip-like sensation at road speed, the technician should FIRST:

A. Confirm lockup clutch operation

B. Remove the transmission

C. Replace the pump

D. Adjust the wheel bearings

5. When a solenoid tests electrically good but the circuit misbehaves, the next step is to:

A. Replace the TCM

B. Perform a hydraulic pressure test of the circuit

C. Re-phase the driveshaft

D. Adjust the differential

6. Before performing a stall test, the technician must FIRST ensure that:

A. The differential is drained

B. The driveshaft is removed

C. The vehicle is securely held

D. The fluid is cold

7. In the recommended diagnostic sequence, pressure testing comes:

A. Before verifying the complaint

B. After verifying the complaint, checking fluid, and reviewing codes/data

C. Before checking fluid level

D. As the very first step

8. When verifying a completed transmission repair, the correct order is:

A. Road test, then fill the transmission

B. Release the bus, then check fluid later

C. Clear codes only, with no road test

D. Set fluid level, reset adaptives if required, then road test

9. Before condemning the ring and pinion for axle noise, the technician should FIRST confirm:

A. The transmission adaptives

B. The driveshaft phasing

C. The wheel bearing endplay only

D. Correct lubricant type, level, condition, and a clear breather

10. When installing a transmission, the converter must be verified fully seated:

A. After mating to the engine

B. After the road test

C. Before mating to the engine

D. After filling with fluid

11. Before removing a transmission for a complaint, the technician should FIRST:

A. Replace the differential

B. Re-phase the driveshaft

C. Reset the adaptives

D. Exhaust in-vehicle inspection and adjustment

12. When two codes appear — one active, one stored — the technician should address:

A. The active code first

B. The stored code first

C. Neither code

D. Both simultaneously without diagnosis

13. Before balancing a driveshaft to cure a vibration, the technician must FIRST confirm:

A. The adaptives are reset

B. The differential is refilled

C. Phasing, working angles, joints, bearing, slip yoke, and runout are correct

D. The cooler is flushed

14. When setting up a ring and pinion, the correct order generally is:

A. Set backlash, ignore pinion depth

B. Verify the pattern, then skip backlash

C. Set preload by feel, then check nothing

D. Set pinion depth, set backlash, then verify the contact pattern

15. Before adding or condemning transmission fluid, the level must be checked:

A. At any temperature

B. At the specified temperature by the specified method

C. Only when boiling

D. By visual pan estimate

16. When a speed-sensor circuit code is set, before replacing the sensor the technician should FIRST:

A. Inspect the wiring, connector, and reluctor

B. Replace the TCM

C. Reset the adaptives

D. Flush the cooler

17. In diagnosing an overheating complaint, the FIRST-line checks include fluid and then:

A. Disassembling the valve body

B. Lockup operation and the cooler/lines

C. Removing the differential

D. Re-phasing the driveshaft

18. When replacing an axle seal, the breather should be inspected:

A. Only after the seal leaks again

B. Never

C. After the road test only

D. As part of the same repair, before release

19. Before mating the transmission to the engine, fasteners and connections are torqued and reconnected, but the MOST critical pre-mating check is:

A. The driveshaft balance

B. The torque converter is fully seated

C. The wheel bearing adjustment

D. The axle breather

20. When diagnosing a vibration, the FIRST useful step is to determine:

A. Whether it tracks engine speed, road/shaft speed, or selected gear

B. The transmission fluid TES rating

C. The differential backlash

D. The cooler condition

21. Adaptive learning should be reset, when the procedure requires it:

A. Before the repair begins

B. Before disassembly

C. Before the road test only if convenient

D. After the repair, then relearned on the verification road test

22. When a transmission complaint is reported by the driver, the technician should reproduce it:

A. Only after teardown

B. On a road test before forming a conclusion

C. Never

D. After replacing the valve body

23. Before performing component inspection during a rebuild, the technician must FIRST:

A. Reset the adaptives

B. Re-phase the driveshaft

C. Adjust the wheel bearings

D. Remove and disassemble the transmission in a clean area

24. When the basics are confirmed and a shift complaint remains, the next measurement step is to:

A. Replace the transmission

B. Re-phase the driveshaft

C. Pressure test the affected circuits

D. Adjust the differential backlash

25. Before driving a bus after a drivetrain repair, the technician should ensure the bus is:

A. Lowered safely and fluid levels set correctly

B. Still on jack stands

C. Driven without checking fluid

D. Released without inspection

26. When inspecting a driveshaft during service, the correct practice before reassembly is to:

A. Add weight to one end

B. Ignore the U-joints

C. Note and restore correct phase alignment

D. Index the slip yoke arbitrarily

27. In axle noise diagnosis, the technician should FIRST determine:

A. The transmission fluid level

B. The driveshaft balance

C. When the noise occurs — drive, coast, turns, or wheel speed

D. The cooler condition

28. When setting pinion bearing preload, the correct practice is to:

A. Measure rotating torque to specification

B. Set it by feel

C. Skip it if backlash is correct

D. Over-tighten the nut on a crush sleeve

29. Before returning a bus with a seal leak near the brakes to service, the technician must:

A. Reset the adaptives

B. Re-phase the driveshaft

C. Correct the leak and inspect the brakes for contamination

D. Top off and release immediately

30. When supporting a bus for underside service, the FIRST safety action is to:

A. Work under the bus on a jack

B. Skip wheel chocks

C. Chock the wheels and support on rated stands or a lift

D. Rely on the parking brake alone

31. When the tooth contact pattern is off-center but backlash is correct, the next corrective action is to:

A. Reset the adaptives

B. Correct pinion depth with shims

C. Flush the cooler

D. Re-phase the driveshaft

32. Before condemning a transmission filter as the cause of low pressure, the technician should:

A. Inspect the filter and service history

B. Replace the converter

C. Re-phase the driveshaft

D. Adjust the wheel bearings

33. When diagnosing a retarder complaint with high fluid temperature, the technician should FIRST:

A. Check fluid level/condition and cooling system health

B. Replace the rotor

C. Re-phase the driveshaft

D. Adjust the backlash

34. When mating a transmission, the converter-to-flexplate alignment must be confirmed:

A. After the road test

B. After filling with fluid

C. Only if a complaint returns

D. Before final tightening

35. When diagnosing a delayed neutral-to-drive engagement, after confirming fluid the next step is to:

A. Remove the transmission

B. Retrieve codes and review live data and pressures

C. Replace the differential

D. Re-phase the driveshaft

36. Before balancing is even considered for a vibration, the most basic confirmation is that the shaft:

A. Has new balance weights

B. Has runout within specification

C. Has fresh transmission fluid

D. Has a refilled differential

37. When a fleet schedules fluid service on a prognostic-equipped bus, the recommended basis is:

A. Actual operating conditions (condition-based)

B. Only after failure

C. Never

D. Strictly by mileage regardless of duty

38. When inspecting clutch plates during a rebuild, the correct step before reuse is to:

A. Reuse if shiny

B. Replace all without inspection

C. Judge by color

D. Measure against specification and inspect for wear and burning

39. When a vibration tracks road/driveshaft speed independent of gear, the technician should direct diagnosis to:

A. The transmission valve body

B. The torque converter stator

C. The lockup clutch solenoid

D. The driveshaft or drive axle

40. After confirming phasing, angles, joints, bearing, slip yoke, and runout are good but the shaft still vibrates, the remaining step is to:

A. Reset the adaptives

B. Flush the cooler

C. Balance the driveshaft

D. Re-phase again

Answer Key & Full Answer Explanations

1. A — The first step in diagnosing any transmission complaint is to verify the complaint with a road test, since you cannot diagnose what you have not confirmed. Removal, valve body replacement, and cooler flushing skip ahead. Verification anchors the process.

2. B — The cheapest and most common cause to check first on a shift-quality complaint is fluid level and condition. Clutch wear, the converter, and the valve body come later. Fluid resolves or redirects many complaints at minimal cost.

3. C — After verifying the complaint and before teardown, the next step is to retrieve codes and review live data. Removal, differential replacement, and re-phasing skip ahead. Codes and data guide targeted testing.

4. A — Before condemning the internals for a road-speed slip sensation, the technician should first confirm lockup clutch operation, since lockup slip mimics internal wear. Removal, pump replacement, and wheel bearing work are premature. Lockup is checked first.

5. B — When a solenoid tests good but the circuit misbehaves, the next step is a hydraulic pressure test of the circuit. Replacing the TCM, re-phasing, or adjusting the differential do not address it. Electrical and hydraulic testing complement each other.

6. C — Before a stall test, the technician must first ensure the vehicle is securely held. The differential and driveshaft are not removed, and the fluid is at operating temperature. Securing the vehicle is a safety prerequisite.

7. B — Pressure testing comes after verifying the complaint, checking fluid, and reviewing codes/data. It is not before verification or fluid checks, nor the first step. Pressure testing follows the basics.

8. D — Verifying a repair is done by setting fluid level, resetting adaptives if required, then road testing. Road-testing before filling, releasing before checking, or clearing codes with no road test all skip steps. Verification follows this order.

9. D — Before condemning the ring and pinion for noise, the technician should first confirm correct lubricant type, level, condition, and a clear breather. Adaptives, phasing, and wheel bearing endplay alone are not the priority. Axle basics come first.

10. C — The converter must be verified fully seated before mating to the engine, or the pump is destroyed on start-up. Checking after mating, after the road test, or after filling is too late. Full seating precedes mating.

11. D — Before removing a transmission, the technician should first exhaust in-vehicle inspection and adjustment. Replacing the differential, re-phasing, or resetting adaptives are premature. Diagnosis earns the teardown.

12. A — With one active and one stored code, the active code is addressed first because the fault is present now. The stored code may be intermittent, and ignoring or handling both without diagnosis is wrong. Active faults take priority.

13. C — Before balancing, the technician must first confirm phasing, working angles, joints, bearing, slip yoke, and runout are correct. Resetting adaptives, refilling the differential, or flushing the cooler are unrelated. Balance is the last step.

14. D — Ring and pinion setup generally proceeds by setting pinion depth, setting backlash, then verifying the contact pattern. Ignoring depth, skipping backlash, or setting preload by feel are all incorrect. The pattern confirms depth and backlash.

15. B — Fluid level must be checked at the specified temperature by the specified method, because level changes with heat. Any-temperature, boiling, or visual-pan checks are inaccurate. Correct checking prevents false readings.

16. A — When a speed-sensor circuit code sets, the technician should first inspect the wiring, connector, and reluctor before replacing the sensor. Replacing the TCM, resetting adaptives, or flushing the cooler are premature. A code points to a circuit.

17. B — Overheating first-line checks include fluid and then lockup operation and the cooler/lines. Disassembling the valve body, removing the differential, or re-phasing are premature. The cheap, common causes come first.

18. D — The breather should be inspected as part of the same seal repair, before release, since a plugged breather forces lubricant past the new seal. Waiting for a recurrence, never checking, or checking only after the road test are wrong. Clear the breather during the repair.

19. B — The most critical pre-mating check is that the torque converter is fully seated. Driveshaft balance, wheel bearings, and the breather are unrelated to this step. Full seating prevents pump destruction.

20. A — The first useful step in diagnosing a vibration is determining whether it tracks engine speed, road/shaft speed, or selected gear. Fluid rating, backlash, and cooler condition are not the localizing step. The speed relationship localizes the source.

21. D — Adaptive learning is reset after the repair and relearned on the verification road test, when the procedure requires it. Resetting before the repair or disassembly, or treating it as optional, is wrong. Reset and relearn follow the repair.

22. B — A driver-reported complaint should be reproduced on a road test before forming a conclusion. Reproducing only after teardown, never, or after valve body replacement are wrong. Verification precedes diagnosis.

23. D — Before component inspection during a rebuild, the technician must first remove and disassemble the transmission in a clean area. Resetting adaptives, re-phasing, or adjusting wheel bearings are unrelated. Cleanliness and disassembly precede inspection.

24. C — When the basics are confirmed and a shift complaint remains, the next measurement step is to pressure test the affected circuits. Replacing the transmission, re-phasing, or adjusting backlash skip ahead. Pressure testing measures the hydraulic side.

25. A — Before driving a bus after a repair, it must be lowered safely and fluid levels set correctly. Leaving it on stands, driving without checking, or releasing without inspection are unsafe. Proper completion precedes the road test.

26. C — During driveshaft service, the correct practice before reassembly is to note and restore correct phase alignment. Adding weight, ignoring U-joints, or arbitrary slip-yoke indexing are wrong. Correct phasing prevents vibration.

27. C — In axle noise diagnosis, the technician should first determine when the noise occurs — drive, coast, turns, or wheel speed. Fluid level, driveshaft balance, and cooler condition are not the localizing step. The condition of occurrence localizes the source.

28. A — Pinion bearing preload is set by measuring rotating torque to specification. Setting by feel, skipping it, or over-tightening a crush sleeve are wrong. Measured preload prevents looseness and overload.

29. C — Before returning a bus with a seal leak near the brakes, the technician must correct the leak and inspect the brakes for contamination. Resetting adaptives, re-phasing, or topping off and releasing ignore the safety hazard. Brake contamination is urgent.

30. C — The first safety action when supporting a bus is to chock the wheels and support it on rated stands or a lift. Working on a jack, skipping chocks, or relying on the parking brake alone are unsafe. Proper support prevents falling-load injury.

31. B — When the pattern is off-center but backlash is correct, the next corrective action is to correct pinion depth with shims. Resetting adaptives, flushing the cooler, or re-phasing the driveshaft are unrelated. Depth, not backlash, is the remaining variable.

32. A — Before condemning a filter as the low-pressure cause, the technician should inspect the filter and service history. Replacing the converter, re-phasing, or adjusting wheel bearings are unrelated. The filter and its history are checked first.

33. A — For a retarder complaint with high fluid temperature, the technician should first check fluid level/condition and cooling system health, since the retarder shares that system. Replacing the rotor, re-phasing, or adjusting backlash are premature. Fluid and cooling come first.

34. D — Converter-to-flexplate alignment must be confirmed before final tightening. Checking after the road test, after filling, or only on a returning complaint is too late. Alignment is verified during installation.

35. B — For a delayed engagement, after confirming fluid the next step is to retrieve codes and review live data and pressures. Removal, differential replacement, and re-phasing skip ahead. Codes and data guide the next test.

36. B — Before balancing is considered, the most basic confirmation is that the shaft has runout within specification, since balancing cannot fix excessive runout. New weights, fresh fluid, or a refilled differential are not the prerequisite. Runout must be in spec first.

37. A — On a prognostic-equipped bus, fluid service is recommended on the basis of actual operating conditions (condition-based). Servicing only after failure, never, or strictly by mileage ignore real duty. Condition-based service matches actual wear.

38. D — Before reusing clutch plates, the correct step is to measure them against specification and inspect for wear and burning. Reusing if shiny, blanket replacement, or judging by color are wrong. Inspection means measurement.

39. D — Vibration that tracks road/driveshaft speed independent of gear directs diagnosis to the driveshaft or drive axle. The valve body, stator, and lockup solenoid are transmission components. The speed relationship localizes it downstream.

40. C — With phasing, angles, joints, bearing, slip yoke, and runout all good but the shaft still vibrating, the remaining step is to balance the driveshaft. Resetting adaptives, flushing the cooler, or re-phasing again are unrelated. Balance is the final step after all else is ruled out.