



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS
सी ई एन - ०१/२०२५ - CEN - 01/2025
सहायक लोको पायलट की भर्ती/ Recruitment of Assistant Loco Pilot



RRB ALP 2025 CBT 2

Assistant Loco Pilot · CEN 01/2025 · CBT 2 · Mechanic Motor Vehicle Trade · Part B (Mechanic Motor Vehicle) · Question Paper

English

All 2 Shifts (Sets) · Part B (Mechanic Motor Vehicle) Section · Official Answer Key

About this Compilation

This booklet contains all 2 shift papers of the RRB ALP 2025 CBT 2 (Mechanic Motor Vehicle) examination in English (Part B (Mechanic Motor Vehicle) section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

Set 1

28 Jul 2026

9:30 AM - 12:00 PM

Set 2

28 Jul 2026

2:30 PM - 5:00 PM

Part B (Mechanic Motor Vehicle)

75 Questions • Answer Key

Q1 Part B (Mechanic Motor Vehicle)

If the secondary winding of an ignition coil has an open circuit or poor ground connection, what is the most likely effect?

- A. Engine will misfire
- B. The high voltage spark will not be generated efficiently ✓
- C. The primary winding voltage will increase
- D. The high voltage spark will be generated efficiently

Q2 Part B (Mechanic Motor Vehicle)

A ballast resistor is used in a circuit to:

- A. Increase supply voltage
- B. Limit circuit current to a safe value ✓
- C. Convert AC into DC
- D. Store electrical energy

Q3 Part B (Mechanic Motor Vehicle)

Which application best demonstrates the practical use of outside callipers in automotive work?

- A. Measuring internal bore diameter of engine cylinders
- B. Marking reference lines on fabricated metal surfaces
- C. Checking uniform shaft diameter at different locations ✓
- D. Measuring drilled hole depth during machining work

Q4 Part B (Mechanic Motor Vehicle)

Which engine problem is indicated by high carbon monoxide levels in the exhaust?

- A. Air-fuel mixture is too rich in the engine ✓
- B. Worn spark plugs in the ignition system
- C. Poor tire alignment during operation
- D. Low coolant level in the radiator

Q5 Part B (Mechanic Motor Vehicle)

Which tool is typically used to tighten fittings on refrigerant hoses?

- A. Hammer or mallet
- B. Wrench or spanner ✓
- C. Screwdriver or tester
- D. File or rasp

Q6 Part B (Mechanic Motor Vehicle)

Why is emery paper preferred over sandpaper for finishing metal surfaces in marking and measuring tasks?

- A. Emery paper absorbs oil better than sand paper
- B. Emery paper is harder and more durable ✓
- C. Emery paper produces less friction during use
- D. Emery paper is specifically designed for cleaning wood surfaces

Q7 Part B (Mechanic Motor Vehicle)

Which component directly connects the engine crankshaft to the automatic transmission in a torque converter system?

- A. Clutch
- B. Governor
- C. Oil pump
- D. Drive plate ✓

Q8 Part B (Mechanic Motor Vehicle)

Which of the following workshop observations would suggest a steering column is NOT collapsible?

- A. It is built from one continuous solid rod ✓
- B. It is divided into several connected parts
- C. It uses an intermediate collapsible piece
- D. It has a flexible joint near the base

Q9 Part B (Mechanic Motor Vehicle)

If a mechanic finds that the engine does not start even though the battery is fully charged, which electrical connection or component should be checked next?

- A. Faulty ignition switch contacts
- B. Loose battery terminal ✓
- C. Blown main starter fuse
- D. Corroded solenoid switch connection



Q10 Part B (Mechanic Motor Vehicle)

A technician measures only the outside diameter of a rim. What mistake has been made in defining the rim size?

- ☒ A. Omitted the width of the rim
- ☐ B. Included tread depth only
- ☐ C. Measured the inner circumference
- ☐ D. Used tyre sidewall measurement

Q11 Part B (Mechanic Motor Vehicle)

Which warning sign on the dashboard may indicate a seat belt pretensioner issue?

- ☐ A. A radio warning message is shown
- ☒ B. A seat belt warning light remains on
- ☐ C. An air conditioning warning appears
- ☐ D. A headlight warning flashes

Q12 Part B (Mechanic Motor Vehicle)

How does a worn-out piston ring influence hydrocarbon emissions in the exhaust?

- ☐ A. Reduces emission temperature
- ☐ B. Filters hydrocarbons from exhaust
- ☒ C. Allows unburnt fuel to enter exhaust
- ☐ D. Improves engine compression

Q13 Part B (Mechanic Motor Vehicle)

What is the primary function of a proportioning valve in a front disc, rear drum brake system?

- ☒ A. To restrict fluid pressure to the rear brakes during hard braking
- ☐ B. To restrict fluid pressure to the front brakes during hard braking
- ☐ C. To act as a warning device for brake failure
- ☐ D. To increase fluid pressure to the rear brakes at all times

Q14 Part B (Mechanic Motor Vehicle)

Under what condition will the shift valve delay a gear shift in automatic transmission?

- ☐ A. If the vehicle is in idling state.
- ☐ B. If the vehicle is braking heavily.
- ☐ C. If the vehicle is accelerating gently.
- ☒ D. If the vehicle is accelerating quickly.

Q15 Part B (Mechanic Motor Vehicle)

A failure analysis shows a big-end bearing with excessive scoring and shaft damage. Which property was likely insufficient in the bearing material?

- ☐ A. Good thermal conductivity
- ☐ B. High hardness of the bearing
- ☒ C. Embeddability of the bearing material
- ☐ D. High tensile strength of the bearing

Q16 Part B (Mechanic Motor Vehicle)

An engine consumes excessive oil and oil is found in the combustion chamber. What action should be taken?

- ☐ A. Replace the main bearings
- ☐ B. Use oil of higher viscosity
- ☐ C. Remove excess oil
- ☒ D. Replace the piston rings

Q17 Part B (Mechanic Motor Vehicle)

To improve both engine efficiency and emission control in a diesel engine, which piston ring function must be prioritized during maintenance?

- ☐ A. Maintaining piston lubrication and cooling efficiency
- ☐ B. Improving piston alignment and minimizing noise
- ☒ C. Ensuring proper sealing of combustion gases and oil regulation
- ☐ D. Increasing piston speed and reducing heat buildup

Q18 Part B (Mechanic Motor Vehicle)

Which part of a composite headlight is most likely to be made from plastic rather than glass?

- ☐ A. Holder
- ☒ B. Lens
- ☐ C. Reflector
- ☐ D. Bulb

Q19 Part B (Mechanic Motor Vehicle)

Which of the following component links both the steering arms together in the conventional steering system?

- ☐ A. The drop arm links both the steering arms
- ☐ B. The drag link rod links both the steering arms
- ☒ C. The track rod connects both the steering arms.
- ☐ D. The stabilizer bar links both the steering arms



Q20 Part B (Mechanic Motor Vehicle)

What are the likely consequences of air leaking into a lift pump inlet during operation?

- A. Engine power increases
- B. Emissions are improved
- C. Engine may run irregularly ✓
- D. Engine runs cooler

Q21 Part B (Mechanic Motor Vehicle)

Which technology ensures better fuel economy and emission control in modern petrol vehicles?

- A. Single Point Fuel Injection system
- B. Carburettor Fuel Supply system
- C. Common Rail Direct Injection system
- D. Multi Point Fuel Injection system ✓

Q22 Part B (Mechanic Motor Vehicle)

Which component supplies current to the rotor windings in most alternators?

- A. Slip rings and brushes ✓
- B. Ignition switch contacts
- C. Diodes and rectifier
- D. Voltage regulator unit

Q23 Part B (Mechanic Motor Vehicle)

Why must the secondary pulley shaft in a **Continuously Variable Transmission (CVT)** be manufactured precisely?

- A. Resist chemical corrosion
- B. Allow flexibility during operation
- C. Adjust its length automatically
- D. Ensure accurate torque transmission ✓

Q24 Part B (Mechanic Motor Vehicle)

The abbreviation SMF in SMF battery refers to:

- A. Standard Magnetic Fuse
- B. Stored Mechanical Force
- C. Semi Metallic Frame
- D. Sealed Maintenance Free ✓

Q25 Part B (Mechanic Motor Vehicle)

A vehicle's Diagnostic Trouble Code (DTC) is read as a generic code. What does this imply about the fault?

- A. The problem is unique to that vehicle model
- B. The code is not recognized by the code reader, needs update
- C. The issue is defined by industry standards and not unique to the manufacturer ✓
- D. The issue is defined by manufacturer and not unique to the industry standards

Q26 Part B (Mechanic Motor Vehicle)

A technician needs to synchronize the extension speed of two hydraulic cylinders operating under different loads. Which application of flow control valves is most effective?

- A. Using a pressure relief valve to stabilize system pressure for both cylinders
- B. Adjusting pump output to increase overall system pressure for both cylinders
- C. Installing flow control valves in the lines to both cylinders to balance fluid flow ✓
- D. Placing a flow control valve only in the return line from both cylinders

Q27 Part B (Mechanic Motor Vehicle)

How do some run-flat tyres support vehicle weight after a puncture?

- A. By containing a rubber foam insert inside the tyre
- B. By using stiffer sidewalls that can support the vehicle ✓
- C. By reinforcing the tread with steel mesh
- D. By having an extra air reservoir in the rim

Q28 Part B (Mechanic Motor Vehicle)

Which part connects the electric motor to the wheels in an electric vehicle?

- A. Air conditioning unit
- B. Tail light
- C. Display panel
- D. Transmission system ✓



Q29 Part B (Mechanic Motor Vehicle)

In a pure intrinsic semiconductor, where is the Fermi level located?

- A. Near the power supply voltage
- B. Inside the conduction band
- C. Near the middle of the forbidden energy gap ✓
- D. Inside the valence band

Q30 Part B (Mechanic Motor Vehicle)

What happens to the vehicle's rear ride height when the rubber air cylinder is pressurized in a load-adjustable shock absorber?

- A. The rear ride height remains unchanged
- B. The rear ride height decreases
- C. The rear ride height becomes uneven side to side
- D. The rear ride height increases ✓

Q31 Part B (Mechanic Motor Vehicle)

When the accelerator pedal is fully depressed, what happens during kick-down operation in an automatic transmission?

- A. The current gear is maintained for stability
- B. The transmission is disengaged to coast
- C. A lower gear is selected to increase acceleration ✓
- D. A higher gear is selected to save fuel

Q32 Part B (Mechanic Motor Vehicle)

Why is torque specification important when tightening bolts during diesel engine assembly?

- A. It ensures that any arbitrary amount of torque can be applied manually to achieve bolt tightening
- B. It ensures that the hand tightening alone is always sufficient for all bolts to meet torque specifications
- C. It ensures bolts are neither too loose nor too tight for engine safety ✓
- D. It ensures bolts have a clearance fit with the nuts and saves time in assembly

Q33 Part B (Mechanic Motor Vehicle)

What is indicated if the parking lamp glows continuously in a vehicle with ABS and Electronic Brake-force Distribution (EBD)?

- A. Normal EBD operation
- B. Low Brake fluid level
- C. Defective EBD operation ✓
- D. A door is left open

Q34 Part B (Mechanic Motor Vehicle)

Which part of the rack and pinion steering system is responsible for moving the rack?

- A. The track-rod
- B. The steering wheel
- C. The pinion ✓
- D. The wheels

Q35 Part B (Mechanic Motor Vehicle)

Which method is recommended for safely cleaning toxic dust from vehicle components in a workshop?

- A. Dry sweeping with a broom
- B. Compressed air blowing
- C. Wiping by hand with cloth
- D. Vacuum cleaning equipment ✓

Q36 Part B (Mechanic Motor Vehicle)

A technician lifts a box using a hoist. What type of energy is primarily involved in lifting?

- A. Electrical energy
- B. Potential energy ✓
- C. Chemical energy
- D. Kinetic energy

Q37 Part B (Mechanic Motor Vehicle)

Why is it important for the oil cooler to maintain the oil at an optimal temperature range?

- A. To prevent the oil from changing its color during operation.
- B. To cool the combustion gases in the engine cylinders.
- C. To ensure the oil maintains proper viscosity for lubrication. ✓
- D. To increase the oil level in the crankcase automatically.

Q38 Part B (Mechanic Motor Vehicle)

Which state does the refrigerant enter the compressor in an automobile HVAC system?

- A. Low-pressure gas ✓
- B. High-pressure liquid
- C. Low-pressure liquid
- D. High-pressure gas



Q39 Part B (Mechanic Motor Vehicle)

What does a higher octane rating in gasoline primarily indicate about the fuel?

- A. It improves exhaust emission quality
- B. It increases the engine cooling effect
- C. It resists knocking during combustion ✓
- D. It boosts the fuel energy content

Q40 Part B (Mechanic Motor Vehicle)

Which type of vehicle commonly uses **Liquefied Petroleum Gas (LPG)** as its primary fuel source?

- A. Heavy trucks
- B. City taxi cabs ✓
- C. High-performance sports cars
- D. Agricultural tractors

Q41 Part B (Mechanic Motor Vehicle)

What is the standard figure to represent a shaft in a cross-sectional engineering drawing?

- A. Triangle
- B. Circle ✓
- C. Rectangle
- D. Square

Q42 Part B (Mechanic Motor Vehicle)

How is the air gap between the brake pads and the disc restored when the brake is released in a floating caliper disc brake?

- A. By the motion of the locating studs
- B. By the outer brake pad spring
- C. By the force of the piston sealing ring ✓
- D. By renewed hydraulic pressure

Q43 Part B (Mechanic Motor Vehicle)

What is a common symptom of a failing electric vehicle battery?

- A. High oil consumption
- B. Knocking engine sound
- C. Reduced driving range ✓
- D. Unusual exhaust smoke

Q44 Part B (Mechanic Motor Vehicle)

On a technical drawing, the intersection of two axes commonly represents what?

- A. The surface finish type
- B. The hole diameter
- C. The material specification
- D. The center point of a part ✓

Q45 Part B (Mechanic Motor Vehicle)

When performing alternator maintenance, you replace a component that connects the rotor to the external circuit. Which part is this?

- A. Rectifier assembly
- B. Slip rings ✓
- C. Stator winding
- D. Voltage regulator

Q46 Part B (Mechanic Motor Vehicle)

What is a critical factor to consider when selecting a taper reamer for aligning two components with a tapered pin?

- A. Matching the taper angle of the pin and reamer ✓
- B. Ensuring equal tool length to the pin
- C. Selecting the hardest available material
- D. Matching the flute count to the pin

Q47 Part B (Mechanic Motor Vehicle)

Which unit assists the clutch in performing gear shifts in automatic transmissions?

- A. Brake pad system
- B. Torque converter assembly ✓
- C. Planetary gear sets
- D. Steering column linkage

Q48 Part B (Mechanic Motor Vehicle)

A fan runs for 6 hours per day and consumes the rated power of 75 watts. How much energy will it consume in two days?

- A. 75 watt-hours
- B. 825 watt-hours
- C. 900 watt-hours ✓
- D. 150 watt-hours



Q49 Part B (Mechanic Motor Vehicle)

Why is it important to use a V block when drilling a round rod?

- A. It cools the workpiece
- B. It changes the drill size
- C. It prevents the rod from rolling ✓
- D. It increases drilling speed

Q50 Part B (Mechanic Motor Vehicle)

Which tool is most appropriate for checking battery terminal tightness during routine automobile maintenance?

- A. A rubber head hammer
- B. A spanner of correct size ✓
- C. A clean paintbrush
- D. A flathead screwdriver

Q51 Part B (Mechanic Motor Vehicle)

A mechanic is diagnosing a vehicle with poor acceleration and suspects a fuel system issue. Which test would best confirm whether incorrect fuel pressure is the cause?

- A. Listen for the fuel pump sound during ignition
- B. Inspect the injectors for clogging and leaks
- C. Measure pressure at the rail and compare to specifications ✓
- D. Replace the fuel filter and observe improvement

Q52 Part B (Mechanic Motor Vehicle)

Why are hydraulic systems used in automobile power steering mechanisms?

- A. They increase engine speed during turns
- B. They reduce driver effort when turning the wheel ✓
- C. They decrease fuel consumption at high speed
- D. They control the lighting circuits in vehicles

Q53 Part B (Mechanic Motor Vehicle)

A vehicle battery repeatedly becomes discharged while driving. Which charging system component is most likely faulty?

- A. Alternator failing to charge the battery properly ✓
- B. Fuel pump reducing fuel supply to the engine
- C. Ignition coil producing weak spark during ignition
- D. Starter motor causing delayed engine cranking

Q54 Part B (Mechanic Motor Vehicle)

If spurt holes are blocked, what is the most likely immediate effect on engine operation?

- A. Sudden improvement in fuel combustion quality
- B. Rapid increase in coolant flow to cylinder walls
- C. Immediate rise in oil pressure throughout the system
- D. Increased friction in moving engine components ✓

Q55 Part B (Mechanic Motor Vehicle)

Which of the following is NOT a characteristic of extension lines?

- A. They are thin in appearance
- B. They are continuous without gaps
- C. They extend beyond dimension lines
- D. They are drawn thicker than visible lines ✓

Q56 Part B (Mechanic Motor Vehicle)

When might a diesel actuator require recalibration?

- A. After new battery is fitted
- B. When replacing tires
- C. After fuel system repairs ✓
- D. When changing engine oil

Q57 Part B (Mechanic Motor Vehicle)

Which piston ring is designed to maintain proper tension and fit of other rings in the groove?

- A. Expander ring ✓
- B. Oil control ring
- C. Scraper ring
- D. Compression ring

Q58 Part B (Mechanic Motor Vehicle)

What principle does the height sensor use to function in an electronically controlled air suspension system?

- A. Pressure principle
- B. Electromagnetic induction principle ✓
- C. Thermal expansion principle
- D. Piezoelectric effect principle



Q59 Part B (Mechanic Motor Vehicle)

In a workshop calculation, you need to find the side of a square base with an area of 64 cm². What is the correct length?

- ☒ A. The side of the base is 8 cm
- ☐ B. The side of the base is 9 cm
- ☐ C. The side of the base is 7 cm
- ☐ D. The side of the base is 6 cm

Q60 Part B (Mechanic Motor Vehicle)

Which symptom can indicate improper alignment of the piston assembly?

- ☒ A. Irregular wear on piston skirt
- ☐ B. Fuel dilution in oil sump
- ☐ C. High coolant loss from engine
- ☐ D. Increased oil pressure reading

Q61 Part B (Mechanic Motor Vehicle)

If two vehicles have the same motor but one carries more passengers, which will need higher tractive effort on the same road?

- ☐ A. Vehicle with newer battery brand
- ☐ B. Vehicle with brighter paint color
- ☒ C. Vehicle with more passengers
- ☐ D. Vehicle with different tyre tread pattern

Q62 Part B (Mechanic Motor Vehicle)

Which part of a depth micrometer ensures stable positioning during measurement?

- ☐ A. The spindle that extends downward
- ☐ B. The ratchet that applies pressure
- ☒ C. The broad base that rests on the surface
- ☐ D. The thimble used to rotate the spindle

Q63 Part B (Mechanic Motor Vehicle)

Which practice best ensures driver safety during road testing of vehicles after major repairs?

- ☐ A. Monitoring engine sounds during the complete test
- ☐ B. Depending on previous records before the road test
- ☐ C. Inspecting vehicle systems without using safety gear
- ☒ D. Following safety checks and wearing proper gear

Q64 Part B (Mechanic Motor Vehicle)

If the Engine Control Unit (ECU) detects a fault, how can the specific problem area be identified?

- ☐ A. By checking engine spark plugs
- ☐ B. By checking engine oil viscosity
- ☐ C. By checking compression pressure
- ☒ D. By a code provided by the ECU

Q65 Part B (Mechanic Motor Vehicle)

Why is it important for the thermostat to begin opening at a specific temperature during engine operation?

- ☐ A. Closes only when temperature exceeds safe limit
- ☒ B. Ensures engine reaches and maintains optimal temperature
- ☐ C. Permits random coolant flow regardless of heat
- ☐ D. Allows thermostat to remain fully open at all times

Q66 Part B (Mechanic Motor Vehicle)

When using a depth micrometer, which constructional aspect helps keep the instrument stable and reduce measurement error?

- ☐ A. The thimble resists external vibrations
- ☐ B. The ratchet stop absorbs vibration impacts
- ☐ C. The rods stabilize the entire instrument
- ☒ D. The rigid base minimizes movement during use

Q67 Part B (Mechanic Motor Vehicle)

Which failure is most likely if the camshaft drive gears are worn out?

- ☐ A. Alternator will generate excess current
- ☐ B. Fuel delivery will be blocked
- ☒ C. Valve timing will become inaccurate
- ☐ D. Coolant will leak from the radiator

Q68 Part B (Mechanic Motor Vehicle)

Which scenario best demonstrates the advantage of electronic adjustable shock absorbers on different road conditions?

- ☐ A. Using only manual adjustments without electronics
- ☒ B. Changing the dampening rate according to road conditions
- ☐ C. Maintaining a fixed soft setting for all driving conditions
- ☐ D. Keeping the dampening rate unchanged regardless of speed



Q69 Part B (Mechanic Motor Vehicle)

Which exhaust emission produced from sulphur present in automotive fuel contributes significantly to acid rain formation?

- ☒ A. Sulphur oxides
- ☐ B. Unburnt hydrocarbons
- ☐ C. Nitrogen oxides
- ☐ D. Carbon monoxide

Q70 Part B (Mechanic Motor Vehicle)

If the centrifugal advance mechanism fails and does not advance the ignition timing, what is a likely result?

- ☐ A. Engine may lose power at lower speeds
- ☐ B. Engine will run at maximum efficiency
- ☒ C. Engine may lose power at higher speeds
- ☐ D. Engine will overheat quickly

Q71 Part B (Mechanic Motor Vehicle)

Which engine cooling method removes heat by circulating a liquid around the cylinder walls and transferring it to a radiator?

- ☐ A. Exhaust cooling method using outlet gases
- ☐ B. Air cooling method using cooling fins
- ☒ C. Water cooling method using liquid coolant
- ☐ D. Oil cooling method using lubricating oil

Q72 Part B (Mechanic Motor Vehicle)

If the potentiometer in the vane-type air flow sensor fails, what is a likely result?

- ☒ A. The ECU receives inaccurate airflow data
- ☐ B. The sensor measures fuel pressure in place of air
- ☐ C. The injectors are directly controlled by the potentiometer
- ☐ D. The ECU ignores all sensor inputs

Q73 Part B (Mechanic Motor Vehicle)

When adjusting the speed of a drilling machine, what is generally decreased for harder materials?

- ☐ A. The depth of the hole drilled
- ☒ B. The rotational speed of the drill
- ☐ C. The length of the drill tool
- ☐ D. The feed rate of the material

Q74 Part B (Mechanic Motor Vehicle)

Which impact is most directly associated with the use of extractors in a vehicle's exhaust system under sustained high engine speeds?

- ☐ A. Reduced exhaust temperature during operation
- ☐ B. Improved noise insulation in the cabin
- ☐ C. Increased overall engine size
- ☒ D. Enhanced exhaust gas flow at high rpm

Q75 Part B (Mechanic Motor Vehicle)

Which of the following is a sign of a faulty starter solenoid?

- ☒ A. Clicking sound but engine does not turn over
- ☐ B. Strong fuel smell during ignition
- ☐ C. Engine cranks faster than normal
- ☐ D. Dashboard lights are brighter than normal



Part B (Mechanic Motor Vehicle)

75 Questions • Answer Key

Q1 Part B (Mechanic Motor Vehicle)

In an automobile alternator, if one rectifier diode becomes open-circuited, what is the most likely effect on battery charging?

- A. Battery charging current reduces and AC ripple increases. ✓
- B. Alternator produces only AC output without any mechanical effect.
- C. Ignition system voltage becomes fully stabilized automatically.
- D. Battery receives smooth DC charging with no change in output.

Q2 Part B (Mechanic Motor Vehicle)

Which tool is commonly used to tighten cylinder head bolts during diesel engine assembly?

- A. Torque wrench is used to tighten cylinder head bolts. ✓
- B. Combination spanner is used for cylinder head bolts
- C. Adjustable wrench is best for all types of bolt tightening
- D. Soft mallet is ideal for tightening cylinder head bolts

Q3 Part B (Mechanic Motor Vehicle)

Which ECU-controlled feature adjusts the intake air path into the engine?

- A. Idle speed control
- B. Variable intake manifold. ✓
- C. Evaporative emission container
- D. Air: Fuel ratio

Q4 Part B (Mechanic Motor Vehicle)

Which action should be taken first when fuel is accidentally spilled on a workshop floor?

- A. Moving nearby tools without removing the spill
- B. Opening fuel containers to improve air circulation
- C. Applying absorbent material and cleaning the area. ✓
- D. Continuing work until the current task is finished

Q5 Part B (Mechanic Motor Vehicle)

What is the main function of the anvil in the construction of a micrometer?

- A. Provides a stationary measuring surface. ✓
- B. Displays the main scale reading
- C. Rotates the spindle
- D. Adjusts the measuring pressure

Q6 Part B (Mechanic Motor Vehicle)

If the length of the insulator nose is long, what is the direct effect on the spark plug heat range?

- A. The plug will transfer heat faster
- B. The plug will run hotter. ✓
- C. The plug will foul easily
- D. The plug will run cooler

Q7 Part B (Mechanic Motor Vehicle)

What could be a consequence of operating a diesel engine without a functioning vibration damper?

- A. Increased combustion efficiency under load
- B. Stable camshaft timing at all speeds
- C. Improved fuel atomization in injectors
- D. Crankshaft failure due to excessive stress. ✓

Q8 Part B (Mechanic Motor Vehicle)

During a workshop repair, which sign would suggest a failed gasket in a manual transmission case?

- A. Difficulty shifting between gears
- B. Unusual noise coming from inside the case
- C. Visible fluid seeping from between the case and cover plate. ✓
- D. Vibration felt during gear changes



Q9 Part B (Mechanic Motor Vehicle)

What action do the pistons perform once they are moved by the hydraulic fluid?

- A. They pump the hydraulic fluid back into the reservoir and slow down the vehicle.
- B. They retract the brake pads to release the brakes.
- C. They move against the brake pads, pressing them against the rotating brake disc. ✓
- D. They rotate the brake disc and slow down the vehicle.

Q10 Part B (Mechanic Motor Vehicle)

Which SAE viscosity grade is most suitable for a heavy-duty diesel engine operating continuously under high-load conditions in hot summers and moderately cold winters?

- A. SAE 15W-40 ✓
- B. SAE 5W-20
- C. SAE 40
- D. SAE 10W-30

Q11 Part B (Mechanic Motor Vehicle)

A student hypothesizes that using ethanol-blended gasoline requires a different stoichiometric air-fuel ratio than pure gasoline. Which consideration supports this claim?

- A. Oxygen content in fuel blend ✓
- B. Color of gasoline blend
- C. Evaporation rate of fuel
- D. Octane rating of the fuel

Q12 Part B (Mechanic Motor Vehicle)

At what point inside the torque converter is the flow called the 'coupling point'?

- A. When the impeller rotates faster than the turbine
- B. When the stator is locked on its shaft
- C. When the vehicle is idling at low speed
- D. When the impeller and turbine reach the same speed ✓

Q13 Part B (Mechanic Motor Vehicle)

Which of these is the best footwear for personal safety in an automotive workshop?

- A. Canvas shoes
- B. Steel-toed shoes ✓
- C. Rubber slippers
- D. Sandals

Q14 Part B (Mechanic Motor Vehicle)

Which component of vehicle exhaust is most closely linked to hydrocarbon emissions?

- A. Nitrogen oxides
- B. Excess water vapor
- C. Carbon monoxide
- D. Unburned fuel vapors ✓

Q15 Part B (Mechanic Motor Vehicle)

What is a key reason for selecting carbon fiber reinforced carbon composite for racing car brake pads?

- A. It is more cost-effective than all metals
- B. It can handle extreme pressures without failing
- C. It is more fuel efficient than other materials
- D. It can handle extreme temperatures without failing ✓

Q16 Part B (Mechanic Motor Vehicle)

Which feature is designed on pistons to reduce friction with the cylinder wall?

- A. A pin bore is designed on pistons to reduce friction
- B. A skirt is designed on pistons to reduce friction ✓
- C. A dome is designed on pistons to reduce friction
- D. A groove is designed on pistons to reduce friction

Q17 Part B (Mechanic Motor Vehicle)

According to Ohm's law, current in a conductor is directly proportional to:

- A. Voltage ✓
- B. Resistance
- C. Resistivity
- D. Power

Q18 Part B (Mechanic Motor Vehicle)

Which signal is used to indicate special movement instructions for emergency vehicles at an intersection?

- A. A flashing blue signal is used for emergency vehicles ✓
- B. A flashing yellow signal is used for emergency vehicles
- C. A flashing red signal is used for emergency vehicles
- D. A flashing green signal is used for emergency vehicles



Q19 Part B (Mechanic Motor Vehicle)

Which of the following best describes the driver's experience in a four-wheel steering vehicle during a sharp turn?

- A. Movement becomes unstable during sharp turns
- B. More effort is required to initiate a turn
- C. Response to steering input is delayed
- D. Less effort is needed to steer sharply

Q20 Part B (Mechanic Motor Vehicle)

Why is it important to use insulated tools when servicing hybrid electric vehicles?

- A. To avoid scratching metal parts
- B. To prevent oil spills in engine bay
- C. To prevent accidental electric shock
- D. To reduce the weight of tools

Q21 Part B (Mechanic Motor Vehicle)

Which part of the charging system detects changes in battery voltage and adjusts output accordingly?

- A. Regulator unit
- B. Starter motor
- C. Fuse box
- D. Ignition coil

Q22 Part B (Mechanic Motor Vehicle)

When connecting phase windings in a star configuration, what is formed at the common point?

- A. A neutral terminal is formed at the common point
- B. A negative terminal is formed at the common point
- C. A disruptive ground loop shared at one connection
- D. A positive terminal is formed at the common point

Q23 Part B (Mechanic Motor Vehicle)

During which engine operating condition does the alternator supply maximum current to the battery?

- A. During engine starting
- B. At higher engine speeds
- C. At engine idle only
- D. When the engine is off

Q24 Part B (Mechanic Motor Vehicle)

Which construction type is most commonly used in modern passenger vehicles for its durability and handling?

- A. Radial ply construction
- B. Tubeless construction
- C. Bias ply construction
- D. Solid rubber construction

Q25 Part B (Mechanic Motor Vehicle)

Which component directly transmits movement to the front wheels in a recirculating ball and nut system?

- A. The drop arm transmits movement to the front wheels.
- B. The ball nut transmits movement to the front wheels.
- C. The worm transmits movement to the front wheels.
- D. The sector transmits movement to the front wheels.

Q26 Part B (Mechanic Motor Vehicle)

Why are gear ratios arranged in a specific sequence in manual transmissions?

- A. To maximize engine noise at all speeds
- B. To confuse the driver while shifting gears
- C. To reduce the vehicle's fuel tank capacity
- D. To provide smooth acceleration and efficient speed control

Q27 Part B (Mechanic Motor Vehicle)

Which part works closely with actuators to ensure correct fuel injection?

- A. Electronic Control Unit (ECU)
- B. Air filter assembly
- C. Radiator fan blade
- D. Gear lever handle

Q28 Part B (Mechanic Motor Vehicle)

During a precision tapping job, an operator notices the tap slipping within the wrench. Which corrective action should be taken to resolve this using an adjustable tap wrench?

- A. Retighten the jaws to secure the tap firmly in the wrench
- B. Switch to a fixed tap wrench for the operation
- C. Replace the tap with a new one of the same size
- D. Apply greater force while turning the tap



Q29 Part B (Mechanic Motor Vehicle)

What does a typical immobilizer system use to verify authorized access?

- A. Manual window crank handle
- B. Engine oil dipstick
- C. Coded electronic key or fob
- D. Standard metal ignition key

Q30 Part B (Mechanic Motor Vehicle)

Why is the body of a flat chisel slightly tapered towards the cutting edge?

- A. To provide hand grip
- B. To add striking surface
- C. To prevent sticking in work
- D. To increase striking force

Q31 Part B (Mechanic Motor Vehicle)

What feature can be changed in a manual adjustable-rate shock absorber to control oil flow?

- A. The amount of oil used
- B. The size of the spring inside
- C. The position of the valves in the piston
- D. The shape of the piston head

Q32 Part B (Mechanic Motor Vehicle)

Which device in a clean diesel exhaust system is responsible for reducing NO_x pollutants chemically?

- A. Diesel oxidation catalyst
- B. Urea injection system
- C. Air filter device
- D. Turbocharger assembly

Q33 Part B (Mechanic Motor Vehicle)

Which is the lightest among the following commonly used workshop materials?

- A. Steel rod
- B. Aluminum rod
- C. Iron rod
- D. Copper rod

Q34 Part B (Mechanic Motor Vehicle)

Which material property is most critical for the packing material in absorptive mufflers to maximize sound absorption efficiency?

- A. High electrical conductivity
- B. Moderate surface hardness
- C. Low density and water resistance
- D. High porosity and thermal stability

Q35 Part B (Mechanic Motor Vehicle)

Why is a flywheel essential for starting a diesel engine equipped with a manual transmission?

- A. It cools the engine oil during initial cycles
- B. It supplies electrical current to the glow plugs
- C. It generates fuel pressure for the injectors
- D. It provides inertia for easier engine rotation during cranking

Q36 Part B (Mechanic Motor Vehicle)

Which of the following is a likely cause of low engine power output?

- A. Engine oil high viscosity
- B. Low oil level in the sump
- C. Defective injector
- D. Engine oil low viscosity

Q37 Part B (Mechanic Motor Vehicle)

Which method of heat transfer is most responsible for removing excess engine heat in a water-cooled diesel engine's radiator system?

- A. Air conduction through engine block
- B. Conduction of heat through engine block
- C. Radiation from engine surfaces
- D. Convection of coolant through radiator tubes

Q38 Part B (Mechanic Motor Vehicle)

Internal combustion engines offer which advantage in terms of start-up?

- A. Internal combustion engines start without a compression process
- B. Internal combustion engines start without cranking
- C. Internal combustion engines have quick start-up time
- D. Internal combustion engines have slow start-up time



Q39 Part B (Mechanic Motor Vehicle)

What is the role of the adjustment spring in a thermostatic expansion valve?

A. To set the superheat value ✓

B. To filter the refrigerant

C. To transmit pressure

D. To sense refrigerant heat

Q40 Part B (Mechanic Motor Vehicle)

What should be done if oil is mixed with water in oil sump and the engine does not start?

A. Repair the pitted valve seat

B. Clean the exhaust ports

C. Replace ruptured cylinder head gasket ✓

D. Replace cracked valve seat

Q41 Part B (Mechanic Motor Vehicle)

What should be checked before using a divider to ensure accuracy in workshop practice?

A. Both legs are of equal length ✓

B. The surface finish is shiny

C. The divider is heavy

D. The color of the divider

Q42 Part B (Mechanic Motor Vehicle)

How does the use of nylon or rayon cords contribute to the reduction of hysteresis in tyres?

A. They provide flexibility and recover quickly ✓

B. They reduce the tread's grip on wet roads

C. They make the tyre rigid and stiff

D. They increase the overall tyre weight

Q43 Part B (Mechanic Motor Vehicle)

What is a practical effect of using helical gears in a vehicle's steering mechanism?

A. Steering becomes harder to turn

B. Steering transmits less force to the wheels

C. Steering feels harder and has less vibration

D. Steering feels smoother and has less vibration ✓

Q44 Part B (Mechanic Motor Vehicle)

What is the primary purpose of gasoline's volatility in a motor vehicle fuel system?

A. To reduce exhaust emissions automatically

B. To ensure rapid vaporization for ignition ✓

C. To increase the octane rating directly

D. To prevent corrosion of metal parts

Q45 Part B (Mechanic Motor Vehicle)

How does high humidity in the workshop air affect drying of paint on vehicle surfaces?

A. Causes immediate rusting

B. Slows down the drying process ✓

C. Speeds up the drying process

D. Changes paint color instantly

Q46 Part B (Mechanic Motor Vehicle)

Why is the vernier scale constructed with divisions slightly different from those on the main scale in a vernier caliper?

A. To make the vernier scale divisions identical to the main scale divisions.

B. To make the vernier scale divisions twice as large as the main scale divisions.

C. To allow precise matching of a vernier division with a main scale division at specific points. ✓

D. To ensure the vernier scale is always smaller than the main scale.

Q47 Part B (Mechanic Motor Vehicle)

What happens to the boiling point of coolant when the pressure inside the cooling system increases?

A. The boiling point of coolant remains unchanged

B. The boiling point of coolant increases ✓

C. The boiling point of coolant decreases

D. The boiling point of coolant fluctuates

Q48 Part B (Mechanic Motor Vehicle)

A vehicle's thermostat is working erratically, leading to overheating. What should be done?

A. Replace water pump

B. Repair thermostat

C. Open radiator shutter

D. Replace thermostat ✓



Q49 Part B (Mechanic Motor Vehicle)

How does the condenser assist the ignition coil after the contact breaker points separate?

- A. It enables the high voltage surge through the primary winding
- B. It enables the high voltage surge through the secondary winding ✓
- C. It slows down the current in the primary circuit
- D. It triggers the spark plug to fire directly

Q50 Part B (Mechanic Motor Vehicle)

What is the role of eddy currents in an electromagnetic retarder?

- A. To generate thermal energy to lock the vehicle brakes
- B. To create magnetic drag without physical contact ✓
- C. To create magnetic drag through direct physical contact
- D. To maintain a stationary magnetic field in the stator

Q51 Part B (Mechanic Motor Vehicle)

A technician needs a quick approximate measurement of a machined slot in workshop practice. Which task best represents the use of a steel rule?

- A. Marking reference positions near slot edges
- B. Comparing internal bore sizes of cylindrical parts
- C. Guiding straight layout lines on metal surfaces
- D. Checking slot width against a given dimension ✓

Q52 Part B (Mechanic Motor Vehicle)

Which of the following component is most likely worn or failed if there is excessive lateral chassis movement in a rigid non drive rear suspension?

- A. Coil spring
- B. Upper control arm
- C. Tracking bar ✓
- D. Shock absorber

Q53 Part B (Mechanic Motor Vehicle)

A lathe machine performs work at a constant rate. What does this indicate about its power output?

- A. The power output is decreasing
- B. The power output is constant ✓
- C. The power output is zero
- D. The power output is increasing

Q54 Part B (Mechanic Motor Vehicle)

If the length of a conductor is doubled while keeping other factors constant, its resistance will:

- A. Become zero
- B. Become half
- C. Remain unchanged
- D. Double ✓

Q55 Part B (Mechanic Motor Vehicle)

If a technician is asked to estimate the distance a vehicle can travel after a full recharge or refuel, what is the term used to describe this value?

- A. Horsepower
- B. Fuel economy
- C. Driving range ✓
- D. Charge time

Q56 Part B (Mechanic Motor Vehicle)

What does a simple zig-zag line typically symbolize in automobile engineering drawings?

- A. A horn in a circuit
- B. A fuse in a circuit
- C. A bulb in a circuit
- D. A resistor in a circuit ✓

Q57 Part B (Mechanic Motor Vehicle)

Why does an automatic transmission vehicle require a torque converter in stop-and-go driving situations?

- A. Increases the braking force during stops
- B. Directly locks the engine to the wheels
- C. Eliminates the need for transmission fluid
- D. Smooth engine power transmission at low speed ✓

Q58 Part B (Mechanic Motor Vehicle)

During which stroke of the engine cycle are nitrogen oxides produced in the highest amount?

- A. Compression stroke
- B. Intake stroke
- C. Exhaust stroke
- D. Power stroke ✓



Q59 Part B (Mechanic Motor Vehicle)

How can a properly sealed gasket improve manual transmission longevity and care?

- A. Synchronizes gear shifting
- B. Requires frequent replacement
- C. Increases gear wear over time
- D. Reduces maintenance by preventing leaks ✓

Q60 Part B (Mechanic Motor Vehicle)

On an engineering drawing, what does a circle with two parallel lines inside typically indicate?

- A. A ball bearing ✓
- B. A ground connection
- C. A junction box
- D. A fuse

Q61 Part B (Mechanic Motor Vehicle)

When used in hydraulic power packs, internal gear pumps are preferred because they:

- A. Filter out particles at extremely high pressure
- B. Separate air from oil in the reservoir
- C. Circulate coolant efficiently through the pack
- D. Provide consistent flow for actuator control ✓

Q62 Part B (Mechanic Motor Vehicle)

Which piston pin arrangement normally requires thrust washers least often?

- A. Taper pin type
- B. Fixed pin type
- C. Fully floating with circlips ✓
- D. Semi-floating clamped rod type

Q63 Part B (Mechanic Motor Vehicle)

Which feature distinguishes a heavy load vehicle from a light load vehicle?

- A. Aerodynamic shape
- B. High payload capacity ✓
- C. Steering wheel
- D. Headlights

Q64 Part B (Mechanic Motor Vehicle)

Which component in an electric vehicle stores electrical energy for propulsion?

- A. Carburetor set
- B. Alternator unit
- C. Fuel tank set
- D. Battery pack ✓

Q65 Part B (Mechanic Motor Vehicle)

How does an electronic fuel injection (EFI) system protect an overspeeding engine using fuel?

- A. Temporarily cuts fuel injection ✓
- B. Causes immediate acceleration
- C. Lowers fuel pump voltage
- D. Accelerates combustion

Q66 Part B (Mechanic Motor Vehicle)

Which step is essential before using an inch tap to obtain the correct internal thread size?

- A. Drill a hole of correct size for the tap ✓
- B. Mark the center with a prick punch
- C. Apply lubricant to the tap before use
- D. Use a die to test the tap size

Q67 Part B (Mechanic Motor Vehicle)

What movement does the shackle perform when the vehicle passes over a bump or ditch?

- A. It moves forward to accommodate the spring's elongation
- B. It moves backward to accommodate the spring's elongation ✓
- C. It stays fixed in one position to accommodate the spring's elongation
- D. It moves vertically to support the axle

Q68 Part B (Mechanic Motor Vehicle)

What is the correct action after fuel is accidentally spilled on a workshop floor?

- A. Absorb the fuel and wipe the area immediately ✓
- B. Flush the area thoroughly using running water
- C. Allow the fuel to dry naturally before cleaning
- D. Cover the area and continue normal workshop activity



Q69 Part B (Mechanic Motor Vehicle)

A solenoid actuator converts electrical energy into:

- A. Optical energy
- B. Chemical energy
- C. Thermal insulation
- D. Linear magnetic actuation ✓

Q70 Part B (Mechanic Motor Vehicle)

What is the main function of an oil pressure relief valve in a diesel engine lubrication system?

- A. It cools the engine oil during operation
- B. It limits maximum oil pressure in the system ✓
- C. It blocks oil flow completely if pressure is high
- D. It filters contaminants from the oil

Q71 Part B (Mechanic Motor Vehicle)

Which component in the EFI wiring system is responsible for effective atomization characteristics during cold starting condition?

- A. Air flow sensor
- B. Spiral coil spring
- C. Cold start valve ✓
- D. Fuel regulator

Q72 Part B (Mechanic Motor Vehicle)

Why must the starter motor disengage from the flywheel after the engine starts?

- A. To prevent damage to the starter and flywheel ✓
- B. To improve fuel efficiency during driving
- C. To adjust ignition timing automatically
- D. To increase battery life during operation

Q73 Part B (Mechanic Motor Vehicle)

A hydraulic system is designed to lift heavy loads but requires fluid to flow in only one direction to prevent backflow. Which application most appropriately uses a non-return valve?

- A. Mounting a non return valve in a control valve line for flow regulation
- B. Fitting a non return valve in the reservoir return line for fluid direction
- C. Inserting a non return valve in the pump discharge line to stop reverse fluid flow ✓
- D. Placing a non return valve in the system inlet line to enhance pressure

Q74 Part B (Mechanic Motor Vehicle)

Which scenario best describes zero work being done?

- A. Pushing a trolley across the floor
- B. Pulling a rope to lift a load
- C. Lifting a box onto a table
- D. Holding a suspended weight without moving it ✓

Q75 Part B (Mechanic Motor Vehicle)

In most vehicles, where is the headlight relay typically located?

- A. Mounted on the headlight housing
- B. Inside the glove compartment
- C. In the fuse box under the hood ✓
- D. Attached to the battery terminal

