



RRB ALP 2025 CBT 2

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

English

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

About this Compilation

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

✓ Correct option (highlighted green)

7 of these 150 questions are shown in Hindi. Our saved English papers do not carry them in English, so the official Hindi version of the same question is printed instead and marked with a **HINDI** chip. Nothing here is machine translated.

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 Tractor)

75 Questions • Answer Key

Q1 Part B (Mechanic Tractor)

If a force acts on a body but no displacement occurs, the work done is:

- A. Negative always
- B. Maximum
- C. Zero
- D. Infinite

Q2 Part B (Mechanic Tractor)

What is typically achieved by using a lower gear in a tractor manual transmission?

- A. Increased torque at the wheels
- B. Lower engine temperature
- C. Increased fuel tank capacity
- D. Decreased torque and higher speed

Q3 Part B (Mechanic Tractor)

Why should piston rings be checked for cracks before fitting?

- A. To prevent carbon buildup on rings
- B. To ensure smooth piston rotation
- C. To avoid premature engine failure
- D. To reduce friction during operation

Q4 Part B (Mechanic Tractor)

According to IS:1444-1989, which drawing board designation has size 1500 × 1000 × 25 mm?

- A. D3
- B. D1
- C. D2
- D. D0

Q5 Part B (Mechanic Tractor)

When troubleshooting oil pressure drops, why should the oil filter be inspected?

- A. A filter can cause air leaks in tires
- B. A blocked filter can cause low oil pressure
- C. A filter can control coolant circulation
- D. A filter can affect alternator output

Q6 Part B (Mechanic Tractor)

Which valve must close tightly to ensure proper compression in a diesel engine?

- A. Both Inlet and exhaust valves
- B. Only inlet valve
- C. Only exhaust valve
- D. Only fuel injector

Q7 Part B (Mechanic Tractor)

A digital multimeter measures current by developing a proportional voltage across a:

- A. Transformer winding
- B. Capacitor plate
- C. Shunt resistance
- D. Relay coil

Q8 Part B (Mechanic Tractor)

How does the differential lock affect the motion of the drive wheels?

- A. It automatically adjusts air pressure in the tires
- B. It forces both drive wheels to rotate at the same speed
- C. It makes one drive wheel rotate in reverse
- D. It causes one wheel to stop rotating in all cases

Q9 Part B (Mechanic Tractor)

Which component transmits power from the engine to implements in a power tiller?

- A. Main clutch lever
- B. Power take off shaft
- C. Steering lever
- D. Front stand

Q10 Part B (Mechanic Tractor)

Which part works together with the camshaft to achieve variable valve timing?

- A. The valve spring stiffness
- B. The valve lubrication system
- C. The valve magnetic mechanism
- D. The valve actuator mechanism



Q11 Part B (Mechanic Tractor)

In a tractor power tiller, which configuration is most likely to minimize power loss during transmission from the engine to wheel?

- A. Belt drive with adjustable tension pulleys
- B. Chain drive with variable pitch sprockets
- C. Hydraulic transfer using single circuit fluid
- D. Direct shaft drive with constant mesh gearing ✓

Q12 Part B (Mechanic Tractor)

What is the suggested remedy for a faulty regulator in an alternator?

- A. Lubricate
- B. Replace ✓
- C. Rectify
- D. Tighten

Q13 Part B (Mechanic Tractor)

Which sequence correctly represents the four-stroke cycle in a spark ignition engine?

- A. Suction, exhaust, compression, power
- B. Suction, power, compression, exhaust
- C. Suction, compression, exhaust, power
- D. Suction, compression, power, exhaust ✓

Q14 Part B (Mechanic Tractor)

Which of these conditions can cause reading errors in a dial indicator?

- A. Parallax error ✓
- B. Zero error elimination
- C. Automatic error correction
- D. Magnetic field immunity

Q15 Part B (Mechanic Tractor)

How does the ball and socket joint contribute to the durability of a tractor's steering system?

- A. Reduces wear by allowing free movement under load ✓
- B. Locks the steering components in place
- C. Prevents any movement in the steering assembly
- D. Increases friction for better grip in steering

Q16 Part B (Mechanic Tractor)

A mechanic is repairing a gearbox and finds the original gasket is missing. Which approach would best replace the function of the missing gasket?

- A. Apply liquid gasket material to the mating faces ✓
- B. Wrap with adhesive tape around the joint
- C. Tighten the bolts as much as possible for fit
- D. Use grease instead of a sealing material

Q17 Part B (Mechanic Tractor)

What is the normal condition of the ignition warning lamp after the engine starts?

- A. It turns off if charging is normal ✓
- B. It continues glowing brightly
- C. It flashes continuously
- D. It changes colour repeatedly

Q18 Part B (Mechanic Tractor)

In third angle projection, the object lies:

- A. Above Horizontal Plane (H.P.) and in front of Vertical Plane (V.P.)
- B. Above Horizontal Plane (H.P.) and behind Vertical Plane (V.P.)
- C. Below Horizontal Plane (H.P.) and behind Vertical Plane (V.P.) ✓
- D. Below Horizontal Plane (H.P.) and in front of Vertical Plane (V.P.)

Q19 Part B (Mechanic Tractor)

Which part supports the camshaft inside the engine block?

- A. Springs support the camshaft inside the engine block.
- B. Pulleys support the camshaft inside the engine block.
- C. Gears support the camshaft inside the engine block.
- D. Bearings support the camshaft inside the engine block. ✓

Q20 Part B (Mechanic Tractor)

Which type of tyre tread pattern has teeth-like edges?

- A. Saw tooth tread ✓
- B. Lug tread
- C. Diamond tread
- D. Highway tread



Q21 Part B (Mechanic Tractor)

Which statement best describes the construction of a double ended hydraulic cylinder?

- A. Has a rod only on one side of the cylinder
- B. Uses a single central seal for both chambers
- C. Contains two pistons in one tube assembly
- D. Has piston rods extending from both sides of the cylinder ✓

Q22 Part B (Mechanic Tractor)

Which of the following does the camshaft use to convert rotational motion into linear motion for valve operation?

- A. Gears
- B. Cam lobes ✓
- C. Pulleys
- D. Bearings

Q23 Part B (Mechanic Tractor)

What safety concern is associated with a faulty high-pressure diesel fuel line?

- A. Risk of electrical short circuit
- B. Emission of engine noise
- C. Coolant leakage risk
- D. Risk of fuel spray ✓

Q24 Part B (Mechanic Tractor)

In overhead transmission lines, insulators are used to:

- A. Reduce conductor resistance
- B. Produce magnetic shielding
- C. Increase conductor current
- D. Prevent leakage current to earth ✓

Q25 Part B (Mechanic Tractor)

Which of the following is NOT an effect of heat?

- A. Change in size
- B. Change in gravitational force ✓
- C. Change in state
- D. Change in temperature

Q26 Part B (Mechanic Tractor)

Which statement correctly differentiates heat and temperature based on their SI units?

- A. Both heat and temperature are measured in kelvin
- B. Heat is measured in joule while temperature is measured in kelvin ✓
- C. Heat is measured in kelvin while temperature is measured in joule
- D. Both heat and temperature are measured in joule

Q27 Part B (Mechanic Tractor)

How does the construction of multilayer metallic gaskets benefit their use in engines with frequent load changes?

- A. They provide insulation from engine heat
- B. They reduce the need for joint lubrication
- C. They prevent corrosion of fasteners
- D. They compensate for flange movement during operation ✓

Q28 Part B (Mechanic Tractor)

A worker notices clutter blocking an emergency exit. What is the best immediate course of action according to good housekeeping practices?

- A. Wait for a supervisor to give instructions
- B. Move the clutter to another part of the workshop
- C. Remove the clutter and report the hazard ✓
- D. Ignore the clutter and continue working

Q29 Part B (Mechanic Tractor)

A student needs to drill several identical holes in a metal plate using a bench drilling machine. Which feature would help achieve consistent results?

- A. Changing the drill bit after each hole
- B. Using the depth stop to control drilling depth ✓
- C. Varying the feed pressure continuously
- D. Adjusting the table height for each hole

Q30 Part B (Mechanic Tractor)

A technician notices excessive smoke from a diesel engine. Which Electronic Control Unit (ECU)-related issue could cause this?

- A. Blocked air filter system
- B. Incorrect fuel delivery ✓
- C. Low tire pressure level
- D. Faulty alternator output



Q31 Part B (Mechanic Tractor)

What is a non-functional dimension?

- A. A dimension essential for assembly operation
- B. A dimension related only to colour finishing
- C. A hidden dimension used in sectional views
- D. A dimension not essential for the function of the component ✓

Q32 Part B (Mechanic Tractor)

During discharging of lead acid battery, which substance is formed at both battery plates?

- A. Lead acetate
- B. Lead sulfate ✓
- C. Lead carbonate
- D. Lead bromide

Q33 Part B (Mechanic Tractor)

When smoothing a rough metal surface, which file type would provide a faster finish?

- A. Double cut file ✓
- B. Rasp file
- C. Single cut file
- D. Triangular file

Q34 Part B (Mechanic Tractor)

Which of the following best describes the relationship between the radiator pressure cap and coolant loss prevention?

- A. It adds coolant to the reservoir automatically
- B. It restricts airflow into the engine compartment
- C. It blocks debris from entering the radiator
- D. It keeps coolant from boiling and escaping as vapor ✓

Q35 Part B (Mechanic Tractor)

A fitter is required to file the inner curvature of a pipe and its flat edge. Which file is most suitable?

- A. Needle file
- B. Round file
- C. Half round file ✓
- D. Flat file

Q36 Part B (Mechanic Tractor)

A workshop must finish ceramic parts with extremely tight tolerances and mirror-like surfaces. Which lapping abrasive should be chosen?

- A. Diamond paste ✓
- B. Boron carbide slurry
- C. Silicon carbide cream
- D. Aluminum oxide powder

Q37 Part B (Mechanic Tractor)

Which process is directly managed by the camshaft in a diesel engine?

- A. Spark generation
- B. Valve actuation ✓
- C. Fuel atomization
- D. Coolant circulation

Q38 Part B (Mechanic Tractor)

How does MoRTH (Ministry of Road Transport and Highways) impact the safety of road users in India?

- A. Regulating vehicle insurance companies
- B. Inspecting railway tracks for safety
- C. Issuing driving licenses to citizens
- D. Implementing road safety measures ✓

Q39 Part B (Mechanic Tractor)

A tractor operator notices that the wheels are not turning equally when steering. Which component is likely malfunctioning?

- A. Steering wheel grip has worn out over time
- B. Fuel pump is not maintaining pressure properly
- C. A linkage may not be transmitting motion correctly ✓
- D. Axle lubrication is insufficient for smooth motion

Q40 Part B (Mechanic Tractor)

What does the compensation port in a master cylinder do during brake release?

- A. Opens to maintain fluid level
- B. Releases pressure to the reservoir ✓
- C. Closes to block air entry
- D. Seals the piston from dust



Q41 Part B (Mechanic Tractor)

Which factor has contributed most significantly to the growth of the tractor industry in India in recent years?

- A. Manual labor availability has declined
- B. Urbanization has remained constant
- C. Export demand for tractors has decreased
- D. Mechanization of agriculture has increased ✓

Q42 Part B (Mechanic Tractor)

Why are tractor wheels often larger at the rear compared to those at the front?

- A. To enhance steering precision
- B. To reduce load on the engine
- C. To improve stability and traction ✓
- D. To decrease tyre wear in fields

Q43 Part B (Mechanic Tractor)

What is the remedy for a loose drive belt causing charging problems?

- A. Replace stator winding
- B. Tighten wheel bolts
- C. Replace battery terminal
- D. Adjust belt tension ✓

Q44 Part B (Mechanic Tractor)

The hitching device mainly helps in:

- A. Engine lubrication
- B. Implement attachment ✓
- C. Wheel balancing
- D. Fuel injection

Q45 Part B (Mechanic Tractor)

In a practical scenario, why might a technician choose a reactive muffler over an absorptive one?

- A. It is more effective at reducing low-frequency engine sounds ✓
- B. It lasts longer in high-temperature environments
- C. It needs less maintenance over time
- D. It increases engine power output

Q46 Part B (Mechanic Tractor)

Which innovation most significantly increased mass production in the early automobile industry?

- A. Wooden chassis frames
- B. Handcrafted carriages
- C. Steam-powered engines
- D. Moving assembly line ✓

Q47 Part B (Mechanic Tractor)

In a real-life workshop scenario, how could improper use of a drill vice affect the outcome of a drilling operation?

- A. It may result in inaccurate holes and potential safety hazards ✓
- B. It makes the drilling machine operate more quietly
- C. It increases the spindle speed automatically
- D. It extends the life of the drill bit significantly

Q48 Part B (Mechanic Tractor)

What could happen if incompatible brake fluids are mixed in a tractor?

- A. Hydraulic lift arms may move slowly
- B. Seals may be damaged and braking performance may be reduced ✓
- C. Cooling system may overheat rapidly
- D. Engine oil pressure may drop sharply

Q49 Part B (Mechanic Tractor)

A screw extractor failed to remove a broken screw because the hole was drilled off-center. What is the main risk in this situation?

- A. Damaging the original threaded hole ✓
- B. Softening the broken screw
- C. Breaking the screw extractor
- D. Sticking the extraction tool

Q50 Part B (Mechanic Tractor)

Which of the following is a correct use of a centre punch during layout work?

- A. Sharpening tool edges
- B. Tightening bolts and nuts
- C. Measuring sheet thickness
- D. Creating indentation for drill bit ✓



Q51 Part B (Mechanic Tractor)

Valve overlap in diesel engines is primarily used to:

- A. Improve scavenging and cylinder filling** ✓
- B. Lubricate the crankshaft bearings
- C. Decrease temperature in the cylinder
- D. Clean the spark plugs automatically

Q52 Part B (Mechanic Tractor)

Two ideal capacitors of 6 μF and 3 μF are connected in series. Their equivalent capacitance is:

- A. 2 μF** ✓
- B. 1 μF
- C. 18 μF
- D. 9 μF

Q53 Part B (Mechanic Tractor)

Which cooling system is least suitable for use in areas with high humidity?

- A. Air cooling system
- B. Dry cooling system
- C. Evaporative cooling system** ✓
- D. Liquid cooling system

Q54 Part B (Mechanic Tractor)

In an NPN transistor operating in cut-off region, what happens to the collector current?

- A. Collector current reaches maximum value
- B. Collector current becomes zero or only leakage current flows** ✓
- C. Collector current continuously increases with temperature
- D. Collector current becomes half of the rated value

Q55 Part B (Mechanic Tractor)

Which front axle type allows the wheels to move up and down independently to adapt to uneven ground?

- A. Rigid front axle
- B. Four-wheel drive front axle
- C. Oscillating front axle** ✓
- D. Adjustable front axle

Q56 Part B (Mechanic Tractor)

If you must recommend a fit up inspection step for a complex joint in gas welding, which would ensure the highest joint integrity?

- A. Measuring only the uniformity of gap
- B. Checking only the alignment of pieces
- C. Inspecting only the joint surface cleanliness
- D. Checking both alignment and uniform gap** ✓

Q57 Part B (Mechanic Tractor)

Which maintenance problem is linked to overloading tractor implements during field work?

- A. Frequent bolt loosening in joints** ✓
- B. Lower grease consumption rates
- C. Slower battery discharge rate
- D. Cleaner hydraulic fluid lines

Q58 Part B (Mechanic Tractor)

Which application is most suitable for brazed joints rather than welded joints in industrial manufacturing?

- A. Brazed joints are ideal for fusing thick aluminum sheets.
- B. Brazed joints are ideal for joining thin-walled copper tubes.** ✓
- C. Brazed joints are ideal for assembling large cast iron components.
- D. Brazed joints are ideal for connecting heavy steel plates.

Q59 Part B (Mechanic Tractor)

Which material is commonly used to manufacture diesel tanks in automobiles?

- A. Mild steel** ✓
- B. Zinc
- C. Cast iron
- D. Copper

Q60 Part B (Mechanic Tractor)

Why are bearing shells designed with a specific thickness and shape in diesel engines?

- A. To increase coolant speed
- B. To ensure proper load distribution** ✓
- C. To optimize exhaust gas flow
- D. To maximize fuel injection



Q61 Part B (Mechanic Tractor)

Which feature distinguishes a centre punch from a prick punch in terms of construction?

- A. Longer overall length
- B. Knurled hand grip
- C. Blunter point angle ✓
- D. Steel material body

Q62 Part B (Mechanic Tractor)

In a tractor hydraulic system, where would you typically use a 2-2 way valve?

- A. For simple on/off fluid control applications ✓
- B. For proportional direction control
- C. For pressure-compensated flow division
- D. For controlling multiple actuators simultaneously

Q63 Part B (Mechanic Tractor)

While giving first aid for a suspected fracture, what is the most critical step before moving the injured person?

- A. Apply cold packs to reduce swelling
- B. Check for bleeding and bandage the wound
- C. Ask the person to move the injured part
- D. Immobilize the injured area with a splint or support ✓

Q64 Part B (Mechanic Tractor)

Why is a gear type oil pump used more commonly than a plunger type in diesel engines?

- A. Gear type is more suitable for small engines
- B. Plunger type operates at lower speeds
- C. Gear type offers continuous and reliable flow ✓
- D. Plunger type cannot withstand high temperatures

Q65 Part B (Mechanic Tractor)

Which symptom indicates the presence of bad brake fluid?

- A. Sudden steering stiffness
- B. Soft or spongy brake pedal ✓
- C. Rapid loss of tire pressure
- D. Increase in engine knocking sound

Q66 Part B (Mechanic Tractor)

A student marks a line with a scribe, but the line is barely visible. What might be the most likely cause?

- A. Scribe tip is blunt or worn out ✓
- B. Metal surface is too oily
- C. Measuring tape was used instead
- D. Ruler engravings are faint

Q67 Part B (Mechanic Tractor)

When refueling a hot diesel engine, what is the safest practice?

- A. Add fuel quickly to avoid delays
- B. Refuel with engine running to save time
- C. Open radiator cap before refueling
- D. Allow the engine to cool before refueling ✓

Q68 Part B (Mechanic Tractor)

What causes ignition in a compression ignition engine?

- A. Spark plug activation
- B. High temperature of compressed air ✓
- C. Low temperature of compressed air
- D. External flame

Q69 Part B (Mechanic Tractor)

Which part of the Vernier caliper is used to measure inside diameters?

- A. Lower jaws
- B. Locking screw
- C. Depth rod
- D. Upper jaws ✓

Q70 Part B (Mechanic Tractor)

A control circuit must implement the logic function $Y = (A \cdot B) + C$. How should the switches be connected?

- A. All three switches (A, B, and C) must be wired in a single common parallel block.
- B. Switches A and B are wired in series, and this entire branch is wired in parallel with Switch C. ✓
- C. All three switches (A, B, and C) must be wired in a continuous single series line.
- D. Switches A and B are wired in parallel, and this entire branch is wired in series with Switch C.



Q71 Part B (Mechanic Tractor)

Why is glass wool preferred over other materials for absorptive mufflers?

- A. Prevents corrosion of the muffler shell
- B. Acts as a filter for exhaust gases
- C. Reflects sound waves efficiently
- D. Resists high temperatures ✓

Q72 Part B (Mechanic Tractor)

Why do cushion springs help reduce wear on clutch components?

- A. They improve the heat resistance of the clutch
- B. They increase the thickness of clutch plates
- C. They distribute engagement force more evenly ✓
- D. They reduce the need for lubrication

Q73 Part B (Mechanic Tractor)

How does the diameter of an exhaust pipe affect engine performance and efficiency?

- A. Smaller size improves air filtration
- B. Any size functions equally well
- C. Proper size maintains optimal gas flow ✓
- D. Larger size increases brake power

Q74 Part B (Mechanic Tractor)



Which type of bar section is represented in the given figure?

- A. Angle bar section
- B. Channel bar section ✓
- C. Circular bar section
- D. Flat bar section

Q75 Part B (Mechanic Tractor)

What is the fraction form of $87\frac{1}{2}\%$?

- A. $\frac{15}{16}$
- B. $\frac{5}{6}$
- C. $\frac{7}{8}$ ✓
- D. $\frac{11}{12}$



Part B (Mechanic Tractor)

75 Questions • Answer Key

Q1 Part B (Mechanic Tractor)

Which tool is primarily used to create straight layout lines on metal surfaces?

- A. Vernier caliper with divider
- B. Outside micrometer with try square
- C. Scribe with steel rule
- D. Centre punch with hammer

Q2 Part B (Mechanic Tractor)

When reversing a tractor with a mounted cultivator, what effect can an incorrect top link adjustment have?

- A. It can cause the implement to lift unevenly
- B. It can increase the gear ratio sharply
- C. It can drop the hydraulic fluid level
- D. It can change the injector sequence

Q3 Part B (Mechanic Tractor)

Which of the following is a safety step before adjusting the drawbar?

- A. Release the clutch lever
- B. Open the fuel tank
- C. Rev up the engine
- D. Engage the parking brake

Q4 Part B (Mechanic Tractor)

What is a significant impact of Ministry of Road Transport and Highways (MoRTH's) regulatory initiatives on highway safety?

- A. Implementing uniform signage across states
- B. Supervising driver training schools
- C. Regulating taxi permit allocation
- D. Issuing pollution control certificates

Q5 Part B (Mechanic Tractor)

According to IEC 60445 wiring colour codes, the neutral conductor is identified by:

- A. Blue
- B. Brown
- C. Red
- D. Green-yellow

Q6 Part B (Mechanic Tractor)

Which property is most important for a cylinder sleeve material?

- A. High wear resistance
- B. High electrical conductivity
- C. High transparency
- D. High friction

Q7 Part B (Mechanic Tractor)

Why are diodes used in the alternator circuit?

- A. To increase the magnetic field strength
- B. To store electrical charge
- C. To allow current flow in one direction only
- D. To reduce mechanical losses

Q8 Part B (Mechanic Tractor)

During a practical assessment, a student sharpens a centre punch at 45 degrees instead of the recommended angle. What is a likely result of this error?

- A. The punch tip will wear out quickly
- B. The punch will become stronger
- C. The punch will lose its weight
- D. The marks will be deeper and clear

Q9 Part B (Mechanic Tractor)

Why is calibration necessary for a micrometer?

- A. To measure the reading up to the three decimal point
- B. To ensure accurate measurement readings
- C. To change the measuring range of the tool
- D. To increase the size of the instrument

Q10 Part B (Mechanic Tractor)

Which factor is most improved by using synthetic oils in diesel engine lubrication systems?

- A. Resistance to breakdown at higher temperatures
- B. Ability to attract moisture into the system
- C. Formation of abrasive particles
- D. Speed of oil degradation



Q11 Part B (Mechanic Tractor)

Which situation best demonstrates a limitation of paper gaskets in sealing applications?

- A. Sealing a coolant system with high pressure and heat ✓
- B. Sealing a non-pressurized valve cover
- C. Temporary repair for a small oil leak
- D. Covering a low-stress inspection panel

Q12 Part B (Mechanic Tractor)

What is the effect on back pressure if the exhaust pipe diameter is too small?

- A. Only decreases back pressure
- B. Eliminates back pressure
- C. Only increases back pressure ✓
- D. Has no effect on back pressure

Q13 Part B (Mechanic Tractor)

Why are bearing shells made slightly thinner in the middle, than at the ends?

- A. To accommodate thermal expansion ✓
- B. To reduce overall engine weight
- C. To increase structural strength
- D. To improve noise reduction

Q14 Part B (Mechanic Tractor) HINDI

एक अश्वशक्ति (horse power), _____ के बराबर होती है।

- A. 6000 kgf metre/min
- B. 4500 kgf metre/min ✓
- C. 3000 kgf metre/min
- D. 1500 kgf metre/min

Q15 Part B (Mechanic Tractor)

Why is a 4-3 way valve preferred for controlling the direction of a double-acting actuator?

- A. It is smaller than other valve types
- B. It can reverse flow and provide a neutral position ✓
- C. It only allows one-way fluid movement
- D. It increases pressure automatically

Q16 Part B (Mechanic Tractor)

An operator notices excessive soot in the flame during welding. What adjustment should be made?

- A. Lower both gases at the same rate
- B. Reduce the oxygen supply to the flame
- C. Add more acetylene to the flame
- D. Increase the oxygen supply to the flame ✓

Q17 Part B (Mechanic Tractor)

What is the main advantage of split (dual) brake pedals in tractors according to the context?

- A. They increase the power of the braking system
- B. They allow independent braking for better turning ability ✓
- C. They provide consistent braking on rough terrain
- D. They reduce the need for regular maintenance

Q18 Part B (Mechanic Tractor)

How does the chemical structure of synthetic oils affect their performance in diesel engines?

- A. It increases the possibility of sludge formation
- B. It decreases the oil's ability to resist thermal breakdown
- C. It enables superior molecular uniformity for consistent lubrication ✓
- D. It encourages irregular molecular arrangement for inconsistent results

Q19 Part B (Mechanic Tractor)

Aluminium is used in overhead transmission lines because it has:

- A. High resistance and high weight
- B. Zero electrical conductivity
- C. Good electrical conductivity and low weight ✓
- D. Infinite resistivity

Q20 Part B (Mechanic Tractor)

Which issue can arise from manufacturing a bearing shell with low-grade material?

- A. Reduced vibration
- B. Improved engine speed
- C. Premature bearing failure ✓
- D. Enhanced oil pressure



Q21 Part B (Mechanic Tractor) HINDI

एक अनुरक्षण अभियंता को कंपन और तेल दोनों के संपर्क में आने वाले फ्लेंज जोड़ (flange joint) के लिए एक गैस्केट का चयन करना है। इसके लिए किस सामग्री पर विचार किया जाना चाहिए?

- A. संपीड़ित ऐस्बेस्टॉस चादर (Compressed asbestos sheet)
- B. शुद्ध धातु गैस्केट चादर (Pure metal gasket sheet)
- C. रबड़-प्रबलित कॉर्क चादर (Rubber-reinforced cork sheet) ✓
- D. सादे कागज की गैस्केट चादर (Plain paper gasket sheet)

Q22 Part B (Mechanic Tractor)

What is the main function of variable valve timing in a diesel engine?

- A. To change the timing of piston mechanism system
- B. To provide the lubrication system for smooth operation
- C. To optimize valve opening and closing events ✓
- D. To reduce the overall size of the valve mechanism

Q23 Part B (Mechanic Tractor)

A technician must drill holes at multiple heights on a construction site with limited access to power outlets. Which portable drilling solution is most suitable?

- A. Using a corded electric bench drill
- B. Using a battery-operated cordless drill ✓
- C. Using a heavy stationary drill press
- D. Using a pneumatic drilling machine

Q24 Part B (Mechanic Tractor)

How does the Electronic Control Unit (ECU) contribute to emission control in diesel engines?

- A. Increases fuel tank capacity
- B. Enhances radiator fan speed
- C. Adjusts fuel delivery ✓
- D. Modifies gear lever position

Q25 Part B (Mechanic Tractor)

The introduction of which system has most reduced soil compaction in Indian tractor operations?

- A. Low-pressure radial tires ✓
- B. Triangular caterpillar tracks
- C. Solid rubber treads
- D. Cast iron wheels

Q26 Part B (Mechanic Tractor)

Which maintenance action is essential for a tractor clutch shaft to function properly?

- A. Applying grease to all clutch components
- B. Tightening all nearby gearbox mounting bolts
- C. Ensuring correct alignment during assembly and repairs ✓
- D. Regular cleaning of the shaft with solvents

Q27 Part B (Mechanic Tractor)

If only a half round file is available, what limitation might a worker face?

- A. Difficulty accessing sharp internal corners ✓
- B. Excess removal of material
- C. Inability to finish flat surfaces
- D. Inability to work on curved surfaces

Q28 Part B (Mechanic Tractor)

How does the use of advanced electronic control units (ECUs) in clean diesel technology improve emission performance?

- A. Increases diesel tank size
- B. Optimizes injection timing precisely ✓
- C. Bypasses emission control sensors
- D. Runs injectors at maximum rate

Q29 Part B (Mechanic Tractor)

How does the use of a recovery system during maintenance support workplace safety?

- A. It automatically shuts off the system during faults
- B. It prevents harmful refrigerant exposure to technicians ✓
- C. It lubricates moving parts inside the unit
- D. It insulates electrical wires from short circuits

Q30 Part B (Mechanic Tractor)

Which component is primarily responsible for maintaining alignment between the left and right front wheels in a mechanical steering system?

- A. Drag link mechanism
- B. Tie rod assembly ✓
- C. Steering gear box
- D. Pitman arm lever



Q31 Part B (Mechanic Tractor)

An operator wants to weld a thin sheet metal using gas welding. Which equipment adjustment is most critical for this task?

- A. Increase gas pressure for deeper penetration
- B. Use large nozzle for wider flame spread
- C. Set low gas pressure with correct nozzle size
- D. Change mixer setting to higher oxygen ratio

Q32 Part B (Mechanic Tractor) HINDI

यदि प्रचालन के दौरान ट्रेलर हिच (trailer hitch) की लॉकिंग पिन, पूर्ण रूप से संलग्न (engage) नहीं है, तो इस परिदृश्य में प्राथमिक जोखिम क्या है?

- A. लोड के अधीन ट्रेलर अप्रत्याशित रूप से अलग हो सकता है
- B. टायरों का वायु दाब तेजी से कम हो सकता है
- C. टिलर इंजन (tiller engine) तीव्रता से अधितप्त हो सकता है
- D. ड्रॉबार (drawbar) मुड़ जाएगा और गलत तरीके से संरेखित हो जाएगा

Q33 Part B (Mechanic Tractor)

Projection lines or extension lines are usually drawn using:

- A. Continuous thick line
- B. Chain thick line
- C. Dashed thin line
- D. Continuous thin line

Q34 Part B (Mechanic Tractor)

In a capacitor, the dielectric material is used to:

- A. Increase current flow
- B. Insulate the plates from each other
- C. Join the plates together
- D. Reduce supply voltage

Q35 Part B (Mechanic Tractor)

A file made from which material will provide the best performance for finishing hardened steel parts?

- A. Brass
- B. Tool steel
- C. Copper
- D. Aluminium

Q36 Part B (Mechanic Tractor)

Why is it necessary for tractors to have manual transmissions instead of fixed gear systems?

- A. They allow tractors to adapt to varying work conditions
- B. They are primarily used to reduce engine noise
- C. They eliminate the need for regular brake usage
- D. They ensure tractors always run at a constant speed

Q37 Part B (Mechanic Tractor)

Which phenomenon primarily causes knocking in spark-ignition (SI) engines and limits their compression ratio?

- A. Excessive temperature of the engine lubrication oil
- B. Too high amount of oxygen causing incomplete combustion
- C. Incomplete vaporization of fuel during injection
- D. Auto-ignition of unburned mixture ahead of flame front

Q38 Part B (Mechanic Tractor)

Which emissions are primarily reduced using variable valve timing in diesel engines?

- A. Reduction in nitrogen oxide emissions
- B. Reduction in hydrogen emissions
- C. Reduction in the sulfur dioxide emissions
- D. Rise in particulate matter emissions

Q39 Part B (Mechanic Tractor)

If a tractor starter emits grinding noises, what is the likely issue?

- A. Damaged fan blade
- B. Worn starter pinion
- C. Faulty governor spring
- D. Clogged fuel line

Q40 Part B (Mechanic Tractor)

Which sequence should be followed when adjusting the pinion in the final drive assembly?

- A. Adjust backlash, check depth, set contact pattern
- B. Check contact pattern, set backlash, adjust depth
- C. Set the depth, adjust the backlash, check contact pattern
- D. Check pattern, adjust depth, set backlash



Q41 Part B (Mechanic Tractor)

What role does earthing play in electrical installations?

- A. Reduces voltage to devices
- B. Directs fault current to ground ✓
- C. Stores excess electricity
- D. Increases device power

Q42 Part B (Mechanic Tractor)

Which component is directly affected by changes in compression ratio within the engine cycle?

- A. Alternator
- B. Timing belt
- C. Air filter
- D. Combustion chamber ✓

Q43 Part B (Mechanic Tractor)

What is the common cross-sectional shape of a connecting rod used in diesel engines?

- A. T-section
- B. Square
- C. I-section ✓
- D. Circular

Q44 Part B (Mechanic Tractor)

A tractor safety interlock circuit allows engine starting only when both clutch and neutral switches are active. Which logic gate is most suitable for this operation? (Assume active switch means logic HIGH)

- A. OR gate
- B. NOT gate
- C. XOR gate
- D. AND gate ✓

Q45 Part B (Mechanic Tractor) HINDI

एक ड्राइवर लंबी ड्राइव के बाद रेडिएटर से भाप निकलते हुए देखता है। रेडिएटर के कार्य के संबंध में यह किस प्रकार का संकेत देता है?

- A. रेडिएटर में शीतक द्रव्य अधिक मात्रा में भरा है
- B. रेडिएटर ऊष्मा को प्रभावी तरीके से हटाने में विफल हो रहा है ✓
- C. रेडिएटर, टायर का दाब बनाए रखता है
- D. रेडिएटर ईंधन लाइनों की सफाई कर रहा है

Q46 Part B (Mechanic Tractor)

Why is speed called a scalar quantity?

- A. It depends only on force
- B. It changes with acceleration only
- C. It has magnitude but no direction ✓
- D. It acts opposite to motion

Q47 Part B (Mechanic Tractor)

If a machinist wants to drill a precise hole with minimal wandering, which twist drill feature is most critical?

- A. Shank
- B. Flute
- C. Point angle ✓
- D. Margin

Q48 Part B (Mechanic Tractor)

Which property is essential for materials used in piston rings of diesel engines?

- A. Low corrosion resistance
- B. High wear resistance ✓
- C. High corrosion resistance
- D. Low wear resistance

Q49 Part B (Mechanic Tractor)

Why is it important to use a die stock rather than gripping the die directly with pliers when threading a rod?

- A. Die stock increases cutting speed only
- B. Die stock is lighter in weight
- C. Die stock provides stability and alignment ✓
- D. Die stock creates more torque than pliers

Q50 Part B (Mechanic Tractor) HINDI

एक विद्यार्थी ने ड्रिलिंग के लिए पॉइंट मार्क करने हेतु सेंटर पंच का उपयोग किया, लेकिन फिर भी ड्रिल बिट फिसल गई। इसका सबसे संभावित कारण क्या है?

- A. निशान (indentation) बहुत कम गहरा था ✓
- B. बहुत अधिक बल (force) का उपयोग किया गया था
- C. पंच अत्यधिक कठोरित (hardened) हो गया था
- D. गलत पंच (wrong punch) का चयन किया गया था



Q51 Part B (Mechanic Tractor)

In the event of a suspected electrical fire in the workshop, which action should be avoided to ensure safety?

- A. Using an electrical-rated fire extinguisher
- B. Evacuating the workshop if smoke increases
- C. Using water to extinguish the electrical fire ✓
- D. Disconnecting power supply immediately

Q52 Part B (Mechanic Tractor)

In a tractor, why is it important that brakes are applied equally to both rear wheels?

- A. To increase the fuel efficiency of the tractor
- B. To reduce wear on the engine components
- C. To achieve faster stopping in all conditions
- D. To maintain straight movement while stopping ✓

Q53 Part B (Mechanic Tractor)

Hidden edges in two wheeler drawing are generally represented using:

- A. Dashed lines ✓
- B. Continuous thick lines
- C. Double curved lines
- D. Chain thick lines

Q54 Part B (Mechanic Tractor)

Which component regulates the timing of diesel injection?

- A. Air intake
- B. Glow plug
- C. Injection pump ✓
- D. Fuel filter

Q55 Part B (Mechanic Tractor)

How does periodic testing improve overall safety in lifting operations?

- A. It ensures new equipment is always safe
- B. It helps identify hidden defects early ✓
- C. It focuses mainly on equipment appearance
- D. It depends on user experience and training

Q56 Part B (Mechanic Tractor)

What could happen if a tractor is operated in a high gear while pulling a heavy load?

- A. The engine produces more power for the load
- B. The engine switches to a lower gear automatically
- C. The engine may stall due to insufficient torque ✓
- D. The engine runs more efficiently under load

Q57 Part B (Mechanic Tractor)

Which of the following is a type of brake booster commonly used in vehicles?

- A. Electromagnetic brake booster
- B. Centrifugal brake booster
- C. Mechanical brake booster
- D. Vacuum brake booster ✓

Q58 Part B (Mechanic Tractor)

Which type of projection is commonly used in engineering drawing to represent the exact shape and size of an object?

- A. Isometric projection
- B. Perspective projection
- C. Orthographic projection ✓
- D. Oblique projection

Q59 Part B (Mechanic Tractor)

Which type of lamps is commonly used for the rear lights in a tractor?

- A. Spot lamp
- B. Flood lamp
- C. Headlamp
- D. Tail lamp ✓

Q60 Part B (Mechanic Tractor)

Why must both tie rod ends be adjusted equally on a tractor during alignment?

- A. To ensure both wheels track straight ahead ✓
- B. To create additional toe-in for the wheels
- C. To provide more toe-out for field turns
- D. To improve hydraulic fluid performance



Q61 Part B (Mechanic Tractor)

Which characteristic is essential for the material used in exhaust manifolds?

- A. High thermal resistance ✓
- B. High electrical conductivity
- C. High magnetic permeability
- D. Low density for lightweight

Q62 Part B (Mechanic Tractor)

What is the main function of the ignition warning lamp in a tractor electrical system?

- A. To increase battery voltage
- B. To indicate charging system faults ✓
- C. To reduce engine temperature
- D. To control wheel alignment

Q63 Part B (Mechanic Tractor)

In a dimensioning system, the ends of a dimension line usually touch:

- A. Centre lines
- B. Extension lines ✓
- C. Hidden outlines
- D. Hatching lines

Q64 Part B (Mechanic Tractor) HINDI

'B' तापमान रेटिंग वाला ट्रैक्टर टायर किस प्रकार के उपयोग के लिए सबसे उपयुक्त है?

- A. हल्के लोड और निम्न चाल के लिए
- B. केवल ऑफ-रोड उपयोग के लिए
- C. उच्च चाल और भारी लोड के लिए
- D. मध्यम चाल और मध्यम लोड के लिए ✓

Q65 Part B (Mechanic Tractor)

What does the ply rating of a tractor tyre indicate?

- A. The size and width of the tyre
- B. The air pressure required in the tyre
- C. The type of tread pattern on the tyre
- D. The strength and load-carrying capacity of the tyre ✓

Q66 Part B (Mechanic Tractor)

What does the valve timing diagram illustrate in a diesel engine?

- A. The variation of fuel pressure during combustion
- B. Mechanical designing of inlet and exhaust valves
- C. Fuel injection pressure variation
- D. Sequence of valve operations ✓

Q67 Part B (Mechanic Tractor)

When would a solid die be unsuitable for threading work?

- A. When using a die stock for support
- B. When slight size adjustments are needed ✓
- C. When threading by hand operation
- D. When threading steel rods

Q68 Part B (Mechanic Tractor) HINDI

2 m व्यास और 3.5 m ऊँचाई वाले एक बेलनाकार टैंक में पेट्रोल भरा हुआ है। $\pi = 22/7$ का उपयोग करते हुए, इसका आयतन ज्ञात कीजिए।

- A. 11 m^3 ✓
- B. 9 m^3
- C. 12 m^3
- D. 15 m^3

Q69 Part B (Mechanic Tractor)

What is the basic working principle of a power tiller?

- A. It works through only hydraulic systems for field movement
- B. It operates completely using battery-driven mechanisms
- C. It transmits engine power to wheels and implements ✓
- D. It uses compressed air systems for field operation

Q70 Part B (Mechanic Tractor)

Among the following metals, which has the lowest boiling point?

- A. Cobalt
- B. Cadmium ✓
- C. Calcium
- D. Aluminium



Q71 Part B (Mechanic Tractor)

A thyristor continues to conduct even after the gate pulse is removed. What is the main reason for this behavior?

- A. The thyristor acts like a fuse
- B. Gate current continuously increases
- C. The device latches ON after triggering ☒
- D. Collector-emitter junction remains reverse biased

Q72 Part B (Mechanic Tractor)

Why might extractors be chosen over a standard exhaust manifold in automotive design?

- A. They decrease the temperature of exhaust gases
- B. They increase performance by optimizing exhaust flow timing ☒
- C. They reduce the overall weight of the vehicle significantly
- D. They lower the manufacturing cost of the exhaust system

Q73 Part B (Mechanic Tractor)

When would a four post hoist be less advantageous than a two post hoist?

- A. When checking underbody rust ☒
- B. When accessing side body panels
- C. During oil filter replacement
- D. While draining engine coolant

Q74 Part B (Mechanic Tractor)

Why is an outside micrometer not suitable for measuring deep internal grooves?

- A. It expands to fit into grooves automatically
- B. It is designed for measuring large holes
- C. It measures multiple grooves simultaneously
- D. The spindle cannot reach into grooves ☒

Q75 Part B (Mechanic Tractor)

Which company is known for introducing the first indigenous tractor in India?

- A. Swaraj Tractors ☒
- B. Escorts Limited
- C. TAFE Tractors
- D. Eicher Tractors

