



RRB ALP 2024 CBT 2

Assistant Loco Pilot · CEN 01/2024 · 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 2024 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)

15 questions of 02 May 2025, 9:30 AM - 12:00 PM are not in our bank in any language (not saved from any response sheet), so this paper prints 60 of 75 questions.

15 questions of 06 May 2025, 2:30 PM - 5:00 PM are not in our bank in any language (not saved from any response sheet), so this paper prints 60 of 75 questions.

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

02 May 2025
9:30 AM - 12:00 PM

Set 2

06 May 2025
2:30 PM - 5:00 PM

Part B (Mechanic Tractor)

60 Questions • Answer Key

Q1 Part B (Mechanic Tractor)

Arrange the following steps in the correct order to draw an equilateral triangle with each side of 35 mm.

1. Join CA and CB.
2. Draw a line and mark AB 35 mm as the side of the triangle.
3. With radius AB and center A and B, draw arcs cutting at C.
4. ABC is the required triangle.

A. 2, 3, 1, 4



B. 1, 2, 4, 3

C. 2, 1, 3, 4

D. 3, 2, 1, 4

Q2 Part B (Mechanic Tractor)

Non-functional dimensions are _____.

A. not essential for the function of the space or component



B. essential for the function of the space or component

C. derived from the values of the related features of a drawing

D. directly derived from the values given on a drawing

Q3 Part B (Mechanic Tractor)

Which of the following is an important safety measure during a power failure?

A. Using candles for lighting

B. Continuing to use equipment without verifying power status

C. Ensuring all machines and electrical equipment are turned off



D. Ignoring alarm systems

Q4 Part B (Mechanic Tractor)

Gaskets, seals and spacers are made using:

A. centre punch

B. hollow punch



C. pin punch

D. prick punch

Q5 Part B (Mechanic Tractor)

Which of the following elements is used in lubrication oil as an anti-wear additive?

A. Copper (Cu)



B. Barium (Ba)

C. Boron (B)

D. Calcium (Ca)

Q6 Part B (Mechanic Tractor)

A circuit consists of three resistors; 15 ohms, 10 ohms, and 20 ohms. The 15-ohm resistor is in series with the parallel combination of the 10-ohm and 20-ohm resistors. If a 24 V battery is applied across the circuit, what is the total current flowing through the circuit?

A. 3.1 A

B. 0.1 A

C. 1.1 A



D. 2.1 A

Q7 Part B (Mechanic Tractor)

Which of the following types of pliers is used to shape loops in wires and to form curves in light metal strips?

A. Flat nose pliers

B. Round nose pliers



C. Slip-joint pliers

D. End cutting pliers

Q8 Part B (Mechanic Tractor)

A type of internal spring force expands a piston ring based on the design and properties of the material used. It is determined by _____.

A. forced piston ring gap

B. compressed spring ring gap

C. compressed ring gap

D. free piston ring gap



Q9 Part B (Mechanic Tractor)

Which of the following instruments works on the principle of the magnification of the small movement of the plunger or stylus that is converted into a rotary motion of the pointer on a circular scale?

- A. Pressure gauge
- B. Micrometer
- C. Vernier caliper
- D. Dial test indicator ✓

Q10 Part B (Mechanic Tractor)

For what purpose are pins and clips used in engineering drawings?

- A. To transfer dimensions and dividing lines into a number of equal parts
- B. To draw horizontal lines, parallel lines and to guide/hold the set squares
- C. To fasten the drawing sheet on to the drawing board firmly so that it does not shake ✓
- D. To support the drawing paper/tracing paper for making drawings

Q11 Part B (Mechanic Tractor)

What is the purpose of an emergency evacuation plan?

- A. To ensure safe and orderly evacuation during emergencies ✓
- B. To avoid safety drills
- C. To increase productivity
- D. To allow workers to leave early

Q12 Part B (Mechanic Tractor)

What is the advantage of giving heat treatment to a material?

- A. To decrease the melting point of the material
- B. To increase the weight of the material
- C. To change it from one element to another element
- D. To make surgical knives of sharp edges ✓

Q13 Part B (Mechanic Tractor)

What is the name of the tool used for force amplification?

- A. Wheel
- B. Allen key
- C. Screw driver
- D. Lever ✓

Q14 Part B (Mechanic Tractor)

Which of the following parts of a file is the part fitted to the tang for holding the file?

- A. Tip or Point
- B. Handle ✓
- C. Edge
- D. Tang

Q15 Part B (Mechanic Tractor)

Which of the following metals is NOT used for manufacturing of piston bearing?

- A. Copper
- B. Lead
- C. Cast iron ✓
- D. Silicon

Q16 Part B (Mechanic Tractor)

When using a multimeter to measure current, which of the following is correct?

- A. The multimeter is connected directly to the power source.
- B. The multimeter is connected in series with the load. ✓
- C. The multimeter is connected only across resistive components.
- D. The multimeter is connected in parallel with the load.

Q17 Part B (Mechanic Tractor)

What is the correct name of the top portion of the valve that interacts with the camshaft during operation of the engine?

- A. Tip ✓
- B. Puppet
- C. Mushroom
- D. Butterfly

Q18 Part B (Mechanic Tractor)

Which of the following vices consists of a handle and a small collet chuck at one end?

- A. Hand vice
- B. Pin vice ✓
- C. Pipe vice
- D. Toolmaker's vice



Q19 Part B (Mechanic Tractor)

Which of the following systems is used to transmit engine torque to the driving wheels to drive a vehicle on the road?

A. Transmission system



B. Steering system

C. Differential gear mechanism

D. Four bar chain mechanism

Q20 Part B (Mechanic Tractor)

Why is it important for every person to follow safety procedures in the workplace?

A. To increase overall production efficiency

B. To minimise risks and avoid accidents



C. To reduce operational costs significantly

D. To limit the need for frequent supervision

Q21 Part B (Mechanic Tractor)

What is the main function of a master cylinder in a braking system?

A. To build up hydraulic pressure to operate the brakes



B. To measure the brake fluid level

C. To control the engine speed

D. To absorb vibrations from the road

Q22 Part B (Mechanic Tractor)

A vital component of a car's clutch system positioned on the clutch housing, which slides along a hollow shaft and moves through the clutch fork aided by hydraulic or cable pressure, is known as:

A. cushion spring

B. clutch release bearing



C. lever

D. fork arm

Q23 Part B (Mechanic Tractor)

A circular hole of radius 3 cm is cut from a rectangular sheet of dimensions 12 cm × 10 cm. Find the remaining area.

(Take $\pi = 3.14$)

A. 100 cm²

B. 91.74 cm²



C. 95.86 cm²

D. 75.74 cm²

Q24 Part B (Mechanic Tractor)

What is the primary reason for electrical injuries when a person comes in contact with electrical equipment?

A. Electrical equipment is not properly grounded.

B. Current flows through the body causing harm.



C. Devices are used for too long.

D. Electrical devices are too powerful.

Q25 Part B (Mechanic Tractor)

Which of the following statements is correct about engine valves?

A. The camshaft and its associated parts control the flame of sparks during ignition of the engine.

B. The valve's head is perfectly positioned at a 30-45 degree angle that ideally fits with the valve seat, creating a firm seal.



C. Valves with their conical shapes control the flow of the entry of gasses into an engine.

D. Poppet or mushroom valves are commonly found in two stroke engines for their remarkable features.

Q26 Part B (Mechanic Tractor)

The temperature of the air after compression stroke in a CI engine is:

A. less than ambient temperature

B. ambient temperature only

C. high but not enough to ignite the fuel as spark plug is used to ignite the fuel

D. high enough to auto-ignite the fuel without any external ignition source



Q27 Part B (Mechanic Tractor)

Which type of gear applies in a car when the engine is running and the clutch is engaged, and the clutch shaft gear drives the drive gear of the lay shaft and thus lay shaft also rotates and the main shaft remains stationary as no gears in main shaft are engaged with lay shaft gears?

A. Top gear

B. First gear

C. Neutral gear



D. Reverse gear



Q28 Part B (Mechanic Tractor)

Which of the following organisations is responsible for enforcing workplace safety regulations in India?

- A. World Health Organization (WHO)
- B. Food and Drug Administration (FDA)
- C. Directorate General of Factory Advice Service and Labour Institutes (DGFASLI) ✓
- D. Environmental Protection Agency (EPA)

Q29 Part B (Mechanic Tractor)

A drawing instrument box is used to carry all _____ instruments.

- A. drawing ✓
- B. screening
- C. drilling
- D. casting

Q30 Part B (Mechanic Tractor)

Which of the following type of lubricants are used as solid particles?

- A. Solid wax
- B. Grease
- C. Graphite ✓
- D. Silica

Q31 Part B (Mechanic Tractor)

When selecting a sheet size for an original drawing, what should be the primary consideration?

- A. The standard size of the drawing office.
- B. The clarity and resolution required. ✓
- C. The orientation of the drawing (horizontal or vertical).
- D. The size of the reproduction.

Q32 Part B (Mechanic Tractor)

The unit for specific gravity is ____.

- A. m/s^2
- B. g/cm^3
- C. kg/m^3
- D. no unit (dimensionless) ✓

Q33 Part B (Mechanic Tractor)

A tube-like structure lies between a piston and cylinder wall that regulates the flow of air and fuel inside the cylinder. This valve has a small hole in the side that promptly lines up with the hole of a cylinder. This valve is known as:

- A. butterfly valve
- B. sleeve valve ✓
- C. valve in form of port
- D. poppet valve

Q34 Part B (Mechanic Tractor)

If the current flowing through a conductor is 5 A and the resistance of the conductor is 10 ohms, what will be the voltage across the conductor, according to Ohm's Law?

- A. 15 V
- B. 50 V ✓
- C. 5 V
- D. 10 V

Q35 Part B (Mechanic Tractor)

In an F-shaped combustion chamber, which of the following parts is generally NOT located on the extended side of the combustion chamber in a petrol engine?

- A. Inlet valve
- B. Spark plug
- C. Outlet valve
- D. Camshaft ✓

Q36 Part B (Mechanic Tractor)

What should you do to ensure your personal safety at work?

- A. Wear personal protective equipment. ✓
- B. Work in a hurry without checking equipment.
- C. Ignore warning signs and instructions.
- D. Take risks to finish tasks quickly.

Q37 Part B (Mechanic Tractor)

Which of the following steps is INCORRECT for micrometer adjustment?

- A. Insert the large end of wrench in the hole on the external cylinder.
- B. Use the wrench to rotate the cylinder until zero is aligned.
- C. Find set screw and loosen it.
- D. Open the micrometer using friction stop. ✓



Q38 Part B (Mechanic Tractor)

Which of the following instruments is used for the measurement of piston ring end gap in the cylinder?

- A. Micrometer
- B. Vernier caliper
- C. Dial gauge
- D. Feeler gauge



Q39 Part B (Mechanic Tractor)

Which of the following types of lube oils are used in airline industries?

- A. Grease and bee wax lubricants
- B. Natural petroleum lubricants
- C. Synthetic lubricants
- D. Biodiesel lubricants



Q40 Part B (Mechanic Tractor)

Which of the following options is correct when the pressure plate position is such that the cushion spring of clutch is NOT compressed?

- A. It is in the engagement phase.
- B. It is in the partial engagement phase.
- C. The clutch is closed.
- D. The clutch is open.



Q41 Part B (Mechanic Tractor)

Which of the following hand-operated drilling machines is used for drilling small diameter holes up to 6 mm?

- A. Electric hand drill
- B. Ratchet drilling machine
- C. Breast drilling machine
- D. Bevel gear type drilling machine



Q42 Part B (Mechanic Tractor)

In a diesel engine, heat is supplied at which of the following thermodynamic processes?

- A. At constant pressure process
- B. At constant volume process
- C. At constant temperature process
- D. At adiabatic compression process



Q43 Part B (Mechanic Tractor)

What is a key advantage of using MOSFETs in electronic circuits compared to other types of transistors?

- A. High frequency response
- B. High input impedance and low power consumption
- C. Ability to handle higher voltages and currents than BJTs
- D. Ability to amplify both AC and DC signals



Q44 Part B (Mechanic Tractor)

What is the limiting value of compression ratio on which usually a petrol engine works?

- A. Compression ratio = 6
- B. Compression ratio = 8
- C. Compression ratio = 22
- D. Compression ratio = 14



Q45 Part B (Mechanic Tractor)

In a velocity-time graph, the negative slope represents

- A. retardation
- B. displacement
- C. acceleration
- D. distance



Q46 Part B (Mechanic Tractor)

Which of the following designs have the advantage of effectively preventing contact slippage and axial misplacement of the connecting rod cover and connecting rod body?

- A. Straight cut design
- B. Oval cut design
- C. Obliquely cut design
- D. Curvilinear cut design



Q47 Part B (Mechanic Tractor)

Which of the following files is used for filing narrow grooves and angles above 10°?

- A. Knife-edge file
- B. Half round file
- C. Square file
- D. Triangular file



Q48 Part B (Mechanic Tractor)

The percentage of energy loss per unit deformation from friction happening inside the rubber, which creates heat build-up in the rubber, and is measured as in terms of the temperature, is known as ____.

- A. creep
- B. resilience
- C. stress-strain test
- D. hysteresis

Q49 Part B (Mechanic Tractor)

A mechanism that can split the power of a propeller shaft to the rear axle and produce variation in the speed of rear wheels when the vehicle takes a turn is called a/an:

- A. integral unit
- B. automatic clutch unit
- C. torque convertor
- D. differential unit

Q50 Part B (Mechanic Tractor)

In which part of the IC engine are the cylinder liners fitted?

- A. Piston
- B. Cylinder head
- C. Cylinder block
- D. Crankcase

Q51 Part B (Mechanic Tractor)

Which of the following methods helps the easier assembly and disassembly by providing a more efficient way to fit the connecting rod around the crankshaft journal, particularly in tight engine compartment, in an internal combustion engine?

- A. Small end trimming linearly on a connecting rod
- B. Big end split orthogonally on a connecting rod
- C. Big end split obliquely on a connecting rod
- D. Small end union linearly on a connecting rod

Q52 Part B (Mechanic Tractor)

In a lead-acid battery, what is the chemical composition of the material used for the positive plate during discharge?

- A. Sulphuric acid (H_2SO_4)
- B. Lead (Pb)
- C. Lead dioxide (PbO_2)
- D. Lead sulfate (PbSO_4)

Q53 Part B (Mechanic Tractor)

According to BIS SP 46-2003, which of the following applications is correctly represented by a chain-thin line in engineering drawings?

- A. Center lines
- B. Hidden edges
- C. Dimension lines
- D. Visible edges

Q54 Part B (Mechanic Tractor)

When measuring the resistance of a resistor using an ohmmeter, what does a reading of zero resistance indicate?

- A. The resistor is functioning normally.
- B. The resistor is open-circuited.
- C. The resistor is short-circuited.
- D. The ohmmeter is malfunctioning.

Q55 Part B (Mechanic Tractor)

Which of the following statements is INCORRECT about the four-stroke diesel engine?

- A. Cycles in both petrol and diesel engines consist of suction, compression, ignition, expansion and exhaust.
- B. In C.I. engines, air-fuel mixture is sucked during the stroke and the fuel is injected in the cylinder near the end of the compression stroke.
- C. In C.I. engines, only air is sucked during the stroke and the fuel is injected in the cylinder near the end of the compression stroke.
- D. The operation of C.I. engines (or diesel engines) is practically the same as those of S.I. engines.

Q56 Part B (Mechanic Tractor)

Which of the following is NOT the correct characteristic of an I-head combustion chamber used in a petrol engine?

- A. I-head has higher surface to volume ratio and therefore there is a high amount of heat loss.
- B. I-head is superior to an L-head engine at high compression ratios.
- C. I-head has a higher volumetric efficiency from larger valves or valve lifts.
- D. I-head has less flame travel length and hence there is a greater freedom from knock.



Q57 Part B (Mechanic Tractor)

When does a vacuum booster create a vacuum?

- A. When the engine is off, and brake is applied
- B. When the engine is running, and the brake is not applied ☒
- C. When the fuel level is low
- D. When the brake is applied

Q58 Part B (Mechanic Tractor)

$\cos\theta$

- A. $\frac{3}{5}$
- B. $\frac{4}{5}$ ☒
- C. $\frac{5}{4}$
- D. $\frac{3}{4}$

Q59 Part B (Mechanic Tractor)

$(\frac{3}{8}) + (\frac{5}{12})$

- A. $\frac{17}{24}$
- B. $\frac{19}{24}$ ☒
- C. $\frac{8}{20}$
- D. $\frac{7}{12}$

Q60 Part B (Mechanic Tractor)

Which of the following is the correct expression for power developed at the crankshaft in terms of mechanical efficiency?

Consider BP - brake power, IP - Indicated power

- A. $BP = IP \times \text{Mechanical efficiency}$ ☒
- B. $IP = \text{Mechanical efficiency} \times PB$
- C. $BP = \frac{(\text{Mechanical efficiency} + IP)}{100}$
- D. $BP = \frac{\text{Mechanical Efficiency}}{IP}$



Part B (Mechanic Tractor)

60 Questions • Answer Key

Q1 Part B (Mechanic Tractor)

Which of the following statements is INCORRECT about end standard?

- A. It measures the distance between two parallel flat surfaces.
- B. Faces are subject to wear.
- C. It is slower but more accurate.
- D. It is used to measure the distance between two engraved lines. ✓

Q2 Part B (Mechanic Tractor)

A type of piston which provides an even distribution of the air-fuel mixture, consistent flame front during combustion and it has the smallest surface area on top is known as:

- A. semi-spherical piston
- B. dish piston
- C. flat piston ✓
- D. dome piston

Q3 Part B (Mechanic Tractor)

When creating 10 mm single-stroke capital letters in vertical style, what does the 10 mm distance between horizontal parallel lines represent?

- A. Letter width
- B. Letter height ✓
- C. Stroke thickness
- D. Interline spacing

Q4 Part B (Mechanic Tractor)

Which of the following types of additives are blended with the lubricant to reduce the surface tension of the oil?

- A. Tackiness agents
- B. Demulsifiers
- C. Mist suppressors
- D. Emulsifiers ✓

Q5 Part B (Mechanic Tractor)

A crucial engine component that ensures proper sealing of the intake and exhaust valves is known as:

- A. valve barrier
- B. valve gasket
- C. valve seat ✓
- D. valve ring

Q6 Part B (Mechanic Tractor)

Which of the following is NOT the purpose of lubrication oil in an engine?

- A. Separation of lighter boiling materials such as gasoline, jet fuel, diesel, etc.
- B. Finishing to improve oxidation and heat stability
- C. Mixing of impurities uniformly that include aromatics and polar compounds ✓
- D. Dewaxing to improve low-temperature fluidity

Q7 Part B (Mechanic Tractor)

What is the SI unit of 'volume'?

- A. Litres
- B. Cubic centimetre
- C. Cubic metre ✓
- D. Millilitres

Q8 Part B (Mechanic Tractor)

Which of the following symptom or indicator does NOT show the failure of an oil pump?

- A. When the engine oil flow slows or stops, the components continue to be lubricated by hot oil that is not permitted to flow
- B. When the engine runs at a normal temperature and oil flow is steady. ✓
- C. If a hydraulic lifter in a vehicle creates noise
- D. Able to push oil through the system adequately and with low pressure in oil lines



Q9 Part B (Mechanic Tractor)

A voltmeter with a resistance of 10,000 ohms is connected across a circuit that has a voltage of 50 V. What is the current flowing through the voltmeter?

A. 2 mA

B. 1 mA

C. 5 mA



D. 4 mA

Q10 Part B (Mechanic Tractor)

Which of the following calipers are used for marking lines, parallel to inside and outside edges and for locating the centre of round bars?

A. Spring joint calipers

B. Leg and point calipers



C. Simple calipers

D. Firm joint calipers

Q11 Part B (Mechanic Tractor)

In a logic circuit, two inputs A and B are applied to an AND gate, and the output of the AND gate is connected to the input of a NOT gate. If the inputs A and B are both at logic 0, what will be the output of the entire circuit?

A. Undefined

B. 0

C. 1



D. 2

Q12 Part B (Mechanic Tractor)

Find the lateral surface area of a cube with side length 5 cm.

A. 125 cm²

B. 150 cm²

C. 200 cm²

D. 100 cm²

**Q13 Part B (Mechanic Tractor)**

Which of the following statements about title block is/are true?

Statement 1: The title block is situated in the bottom right-hand corner of the drawing sheet.

Statement 2: The contents of the title block are standardised and cannot be modified to suit individual company needs.

A. Both statements are false

B. Statement 1 is false, but statement 2 is true

C. Statement 1 is true, but statement 2 is false



D. Both statements are true

Q14 Part B (Mechanic Tractor)

If the length of a resistor is doubled, what happens to its resistance, assuming all other factors remain constant?

A. The resistance is doubled.



B. The resistance remains the same.

C. The resistance is halved.

D. The resistance quadruples.

Q15 Part B (Mechanic Tractor)

In a hydraulic brake booster system, where is the hydraulic pressure stored before it is used to assist braking?

A. Power steering pump

B. Master cylinder

C. Accumulator



D. Brake caliper

Q16 Part B (Mechanic Tractor)

What is the reason that cam lobe causes the engine to make a ticking or tapping noise, especially when idling, and is often rhythmic and varies in loudness?

A. When the cam lobe is subjected to higher load.

B. When the cam lobe wears out.



C. When the cam lobe is hot.

D. When cam lobe is has insufficient lubrication.



Q17 Part B (Mechanic Tractor)

The process in which an oil pump housing is first filled with oil, especially for oil pumps that are driven by the crankshaft, is known as:

- A. alignment of a pump
- B. ferrography of a pump
- C. priming of a new oil pump
- D. cavitation of a pump

Q18 Part B (Mechanic Tractor)

A single plate friction clutch consists of a clutch disk between the:

- A. differential gear and transmission gear box
- B. pressure plate and driving shaft
- C. driving shaft and differential gear
- D. flywheel and a pressure plate

Q19 Part B (Mechanic Tractor)

The SI unit of temperature is/are ____.

- A. both kelvin and celsius
- B. celsius
- C. kelvin
- D. fahrenheit

Q20 Part B (Mechanic Tractor)

Which of the following colours is commonly used for caution signs?

- A. Blue
- B. Yellow
- C. Red
- D. Green

Q21 Part B (Mechanic Tractor)

Which of the following devices is used to insert a micrometer in the hole of an external cylinder for zero aligning?

- A. Spanner
- B. Allen key
- C. Screw driver
- D. Wrench

Q22 Part B (Mechanic Tractor)

What is the accuracy level of metric micrometer reading?

- A. 0.5 mm
- B. 1.0 mm
- C. 0.1 mm
- D. 0.01 mm

Q23 Part B (Mechanic Tractor)

Which of the following parts is NOT associated with camshaft responsible for the opening and closing of engine valves?

- A. Tappets
- B. Connecting rod
- C. Rocker arms
- D. Push rods

Q24 Part B (Mechanic Tractor)

In a series circuit, three resistors of 10 ohms, 20 ohms, and R ohms are connected in series with a 12 V battery. What is the value of resistance R if current flowing in the circuit is 0.2 A?

- A. 10 ohms
- B. 20 ohms
- C. 30 ohms
- D. 40 ohms

Q25 Part B (Mechanic Tractor)

Which of the following types of chisels is used for separating metals after chain drilling?

- A. Cross-cut chisel
- B. Flat chisel
- C. Web chisel
- D. Diamond point chisel

Q26 Part B (Mechanic Tractor)

The wave set of hacksaw teeth set has a pitch of _____.

- A. 2.0 mm
- B. 0.5 mm
- C. 0.8 mm
- D. 1.0 mm



Q27 Part B (Mechanic Tractor)

Which type of line is used to represent hidden edges or surfaces in a technical drawing, as per BIS SP 46-2003?

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

**Q28 Part B (Mechanic Tractor)**

Which of the following types of valve seats are commonly used in cast iron head of the engine?

- A. Integral valve seats
- B. Insert valve seats
- C. Elliptical valve seats
- D. Two piece valve seats

**Q29 Part B (Mechanic Tractor)**

The camshaft is driven by the crankshaft through which of the following types of power transmission techniques?

- A. Flat belt transmission drive
- B. Timing gears drive
- C. Chain drive
- D. Epicyclic gear train drive

**Q30 Part B (Mechanic Tractor)**

The emergency brake locks the wheels by bypassing which system?

- A. Electric brake system
- B. Air pressure system
- C. Hydraulic brake system
- D. Fuel injection system

**Q31 Part B (Mechanic Tractor)**

Which of the following is the primary reason why copper is widely used as a conductor in electrical wiring?

- A. Copper has low resistance and high conductivity.
- B. Copper has a low melting point.
- C. Copper is abundant and inexpensive.
- D. Copper has high resistance to electricity.

**Q32 Part B (Mechanic Tractor)**

When passing stationary vehicles, keep a watch on _____ who may come out suddenly from the front of the stationary vehicle. While overtaking, it should be done on the _____ side. Always keep a good _____ between your vehicle and others.

- A. cyclists; left; interval
- B. vehicles; right; gap
- C. drivers; left; space
- D. pedestrians; right; distance

**Q33 Part B (Mechanic Tractor)**

Which of the following 'V' blocks will have one 'V' groove and two grooves (slots) on either side for clamping in two positions?

- A. Double level single groove 'V' block
- B. Matched pair 'V' block
- C. Single level double groove 'V' block
- D. Single level single groove 'V' block

**Q34 Part B (Mechanic Tractor)**

What is the typical temperature range of a mercury-based clinical thermometer?

- A. 0°C to 100°C
- B. 35°C to 42°C
- C. 0°C to 50°C
- D. -10°C to 110°C

**Q35 Part B (Mechanic Tractor)**

A carburetor used in a petrol engine is designed so as to fit in which of the following parts of the engine?

- A. Piston
- B. Casing
- C. Cylinder head
- D. Connecting rod

**Q36 Part B (Mechanic Tractor)**

Which of the following types of engine classifications is based on cylinder arrangement?

- A. Diesel cycle engine
- B. Dual cycle engine
- C. V-engine
- D. Otto cycle engine



Q37 Part B (Mechanic Tractor)

Which of the following parts of the engine is used to compress the charge during compression stroke and to transmit the gas force to the connecting rod and then to the crankshaft during power stroke?

- A. Crankcase
- B. Cylinder head
- C. Cylinder block
- D. Piston



Q38 Part B (Mechanic Tractor)

Which of the following provisions is provided in the cylinder head during design for increasing the air cooling effect?

- A. Fins or extended surfaces are provided on the cylinder walls and cylinder blocks.
- B. Cylinder head is provided with water jackets.
- C. Cylinder block is provided with high speed cooling air flow.
- D. Dimple like shapes on surfaces are provided on the cylinder walls.



Q39 Part B (Mechanic Tractor)

Which of the following statements is NOT correct for using scribers?

- A. Scribe points are very sharp, so they are to be handled very carefully.
- B. While scribing lines, the scribe is used like a pencil.
- C. Do not put the scribe in your pocket.
- D. Place a cork on the point when in use to prevent accidents.



Q40 Part B (Mechanic Tractor)

For the given tire size, as per specification as 205/55R16, what is the width of the tire?

- A. 205/55 mm
- B. 550 mm
- C. 205 mm
- D. 880 mm



Q41 Part B (Mechanic Tractor)

For your safety at work, which of the following should be ensured?

1. All the required protective clothing and equipment are used.
2. Training and instruction necessary for performing tasks safely have been received.

- A. Only statement 1
- B. Neither statement 1 nor 2
- C. Only statement 2
- D. Both statements 1 and 2



Q42 Part B (Mechanic Tractor)

Who is authorised to conduct road tests on workshop vehicles?

- A. Only trained and certified personnel
- B. Visitors to the workshop
- C. Any employee
- D. The company accountant



Q43 Part B (Mechanic Tractor)

Which of the following metals has the lowest melting point?

- A. Mercury
- B. Iron
- C. Lead
- D. Gold



Q44 Part B (Mechanic Tractor)

Match the following types of lines with their correct descriptions according to their orientation and characteristics.

Description	Type of Line
A. A line that is neither parallel to a horizontal plane nor perpendicular to it.	1. Horizontal line
B. A line that is perpendicular to horizontal lines.	2. Vertical line
C. A line that changes its direction continuously.	3. Inclined line
D. A line that is parallel to a horizontal plane.	4. Curved line

A. A - 1, B - 2, C - 3, D - 4

B. A - 2, B - 3, C - 4, D - 1

C. A - 3, B - 2, C - 4, D - 1

D. A - 2, B - 1, C - 4, D - 3

Q45 Part B (Mechanic Tractor)

Which of the following information is necessary to construct a rectangle?

A. Length of two adjacent sides

B. Length of one side and the area of the rectangle

C. Only the length of one side

D. Only the length of the diagonal

Q46 Part B (Mechanic Tractor)

In two-stroke engines, one power cycle is completed in how many revolutions of the crankshaft?

A. Two revolutions

B. Four revolutions

C. Three revolutions

D. One revolution

Q47 Part B (Mechanic Tractor)

What happens if air is NOT removed from a hydraulic brake system?

A. The fuel efficiency improves.

B. The engine runs smoother.

C. The tires wear out faster.

D. The brakes feel spongy and less effective.

Q48 Part B (Mechanic Tractor)

Which of the following is NOT the correct function of the front axle?

A. It transmits the torque of a vehicle through springs to the front wheels.

B. It absorbs torque applied on it due to braking of vehicle.

C. An axle is a central shaft for a rotating wheel or gear.

D. It supports the weight of the front part of the vehicle.

Q49 Part B (Mechanic Tractor)

Which of the following is NOT a part of the gear changing mechanism in an automatic transmission system?

A. Universal coupling

B. Epicyclic gear arrangement

C. Fluid coupling

D. Torque converter

Q50 Part B (Mechanic Tractor)

Convert 8.5% into a decimal.

A. 0.85

B. 8.5

C. 0.085

D. 85

Q51 Part B (Mechanic Tractor)

How much clearance is to be provided for compression ring fitted into the piston of an IC engine?

A. Approximately 0.035 – 0.080 mm for compression rings

B. Approximately 0.095 – 1.80 mm for compression rings

C. 0.002 D to 0.004 D where D is the cylinder bore

D. Approximately 0.9 – 1.80 mm for compression rings



Q52 Part B (Mechanic Tractor)

Where is a typical clutch actuated by a number of coil springs?

- A. On a pitch circle near the central axis of the shaft
- B. On a base circle near the centre of the circle
- C. On an addendum circle near the centre of the radius
- D. On a pitch circle near the periphery ✓

Q53 Part B (Mechanic Tractor)

What is the minimum age for employment in factories or mines or other hazardous employment, according to Article 24 of the Indian Constitution?

- A. 14 years ✓
- B. 12 years
- C. 16 years
- D. 18 years

Q54 Part B (Mechanic Tractor)

What is the best method of manufacturing of connecting rod used in an engine?

- A. Drop forging ✓
- B. Investment casting
- C. Sand casting
- D. Machining operation

Q55 Part B (Mechanic Tractor)

Which of the following terms in the 5S concept refers to making a habit of maintaining the established procedures?

- A. Shine
- B. Set
- C. Sort
- D. Sustain ✓

Q59 Part B (Mechanic Tractor)

For the given tire size, as per specification as 205/55R16, what is the width of the tire?

- A. 880 mm
- B. 550 mm
- C. $\frac{205}{55}$ mm
- D. 205 mm ✓

Q56 Part B (Mechanic Tractor)

Which of the following statements is correct about the clutch used in vehicles?

- A. It allows the driver to couple or decouple the power transmission at will without stopping the engine. ✓
- B. It allows the driver to lift and unload the bulk material from engine and transmission.
- C. It allows the driver to change the drive of engine in any direction.
- D. It allows the driver to change the speed of engine.

Q57 Part B (Mechanic Tractor)

Which of the following types of engine classifications is based on the thermodynamic cycle?

- A. In-line cylinder engine
- B. V-engine
- C. Radial engine
- D. Otto cycle engine ✓

Q58 Part B (Mechanic Tractor)

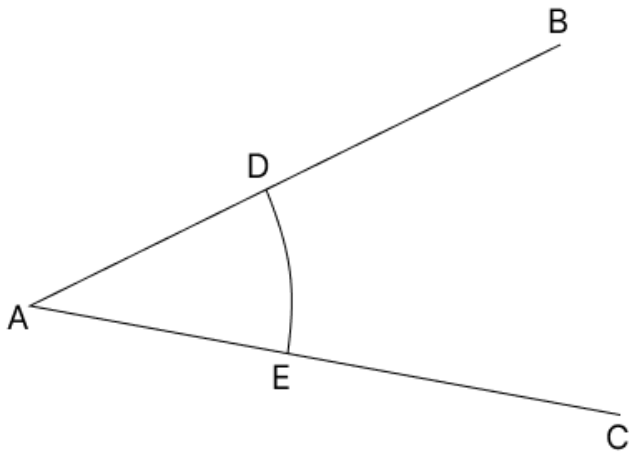
A 100-mm prick punch with a 7-mm diameter body could have a 2.5-mm diameter point ground to an angle of _____.

- A. 90°
- B. 30° ✓
- C. 120°
- D. 45°



Q60 Part B (Mechanic Tractor)

In the process of bisecting angle BAC in the given figure, why do we draw arcs from points D and E?



- A. To find midpoint AB
- B. To mark equal lengths
- C. To intersect line AC
- D. To intersect above A

