



RRB ALP 2024 CBT 2

Assistant Loco Pilot · CEN 01/2024 · CBT 2 · Armature & Coil Winder Trade · Part B (Armature & Coil Winder) · Question Paper

English

Complete Paper · 75 Questions · Part B (Armature & Coil Winder) Section · Official Answer Key

About this Compilation

This booklet contains the complete question paper of the **RRB ALP 2024 CBT 2 (Armature & Coil Winder)** examination in **English (Part B (Armature & Coil Winder) 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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Set 1

06 May 2025

2:30 PM - 5:00 PM

Part B (Armature & Coil Winder)

75 Questions • Answer Key

Q1 Part B (Armature & Coil Winder)

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



Q2 Part B (Armature & Coil Winder)

Which DC motor is preferred in steel rolling mills and elevators?

- A. Permanent Magnet DC Motor
- B. DC Series Motor
- C. Cumulative Compound Motor
- D. DC Shunt Motor



Q3 Part B (Armature & Coil Winder)

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

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



Q4 Part B (Armature & Coil Winder)

Transformer is a _____.

- A. moving device
- B. static device
- C. synchronous motor as a rotating transformer
- D. rotating device



Q5 Part B (Armature & Coil Winder)

Which of the following is the most common application of an Earth Leakage Circuit Breaker (ELCB)?

- A. Preventing electrical fires in buildings
- B. Protecting high-voltage transmission lines
- C. Detecting voltage fluctuations in the system
- D. Protecting electrical appliances from overload



Q6 Part B (Armature & Coil Winder)

When should the measurement of electrode resistance be conducted during the installation of an earthing system?

- A. After backfilling the earth electrode
- B. At the time of initial design
- C. Only when the earthing system shows signs of malfunction
- D. Before backfilling the earth electrode



Q7 Part B (Armature & Coil Winder)

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



Q8 Part B (Armature & Coil Winder)

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.



Q9 Part B (Armature & Coil Winder)

What is the main purpose of the field winding in a DC generator?

- A. To conduct load current
- B. To produce the required magnetic field
- C. To reduce armature reaction
- D. To convert AC to DC



Q10 Part B (Armature & Coil Winder)

The insulation resistance of any wiring installation should NOT be less than _____ for operating voltage 1000 volt.

- A. 100 ohm
- B. 1 mega ohm ✓
- C. 1 kilo ohm
- D. 10 ohm

Q11 Part B (Armature & Coil Winder)

What should be done if a DC motor overheats during normal operation?

- A. Increase the motor speed
- B. Disconnect the field winding
- C. Reduce the load and check ventilation ✓
- D. Increase brush pressure

Q12 Part B (Armature & Coil Winder)

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

Q13 Part B (Armature & Coil Winder)

Increasing which of the following will decrease the inductance of a solenoid?

- A. Core permeability
- B. Length of the coil ✓
- C. Cross-sectional area
- D. Number of turns

Q14 Part B (Armature & Coil Winder)

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

Q15 Part B (Armature & Coil Winder)

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 ✓

Q16 Part B (Armature & Coil Winder)

A layer insulation cutter is widely utilised in AC motor winding to:

- A. sever the insulation material between the wire layers ✓
- B. insert the coil into the stator slots
- C. shorten the surplus wire post-winding
- D. measure the resistance of each coil winding

Q17 Part B (Armature & Coil Winder)

A transformer having a voltage ratio of 1000/100 V takes a current of 0.8 A from the primary current at a power factor of 0.6 under open circuit condition. Calculate the magnetising current of the transformer.

- A. 0.64 A ✓
- B. 0.48 A
- C. 1 A
- D. 0.36 A

Q18 Part B (Armature & Coil Winder)

Convert 8.5% into a decimal.

- A. 0.85
- B. 8.5
- C. 0.085 ✓
- D. 85

Q19 Part B (Armature & Coil Winder)

Which of the following switch types is required along with an intermediate switch to control a lamp from three or more positions?

- A. Two-way switches ✓
- B. One-way switches
- C. Dimmer switches
- D. Push-button switches



Q20 Part B (Armature & Coil Winder)

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°

Q21 Part B (Armature & Coil Winder)

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

Q22 Part B (Armature & Coil Winder)

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

Q23 Part B (Armature & Coil Winder)

If the supply frequency (f) of a transformer doubles, then the frequency on the transformer's secondary output voltage side will also:

A. become three times

B. become half

C. become four times

D. become double



Q24 Part B (Armature & Coil Winder)

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.

Q25 Part B (Armature & Coil Winder)

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 (Armature & Coil Winder)

According to Faraday's law, the magnitude of induced EMF in a DC generator depends on the _____.

A. length of the conductor only

B. resistance of the conductor

C. material of the conductor

D. rate of change of magnetic flux



Q27 Part B (Armature & Coil Winder)

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

Q28 Part B (Armature & Coil Winder)

The SI unit of temperature is/are _____.

A. both kelvin and celsius

B. celsius

C. kelvin



D. fahrenheit

Q29 Part B (Armature & Coil Winder)

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



Q30 Part B (Armature & Coil Winder)

Which of the following tests is most important for confirming the windings' insulation resistance, following a rewinding of an AC motor before motor starting?

- A. No-load test
- B. Insulation resistance test ✓
- C. Speed test
- D. Earth fault test

Q31 Part B (Armature & Coil Winder)

What should be checked after calculating the cross-section of the coil?

- A. Electrical resistance
- B. Magnetic flux
- C. Wire temperature
- D. Available space in the coil slot ✓

Q32 Part B (Armature & Coil Winder)

According to IEEE 80, the resistance of the ground system should be _____.

- A. equal to the system's total load current
- B. moderate to prevent excessive current flow
- C. as high as possible to ensure efficient operation
- D. low enough to allow fault currents to safely dissipate into the earth ✓

Q33 Part B (Armature & Coil Winder)

Which of the following statements about earth resistance in context of earthing is true?

- A. Earth resistance does not affect electrical safety.
- B. Higher earth resistance increases the effectiveness of grounding.
- C. Lower earth resistance improves the performance of an electrical system. ✓
- D. Earth resistance only affects power transmission efficiency.

Q34 Part B (Armature & Coil Winder)

For a DC motor installation with explosion-proof certification, which standard must be followed for enclosure and wiring compliance?

- A. ANSI C84.1
- B. ISO 9001
- C. IEC 60034-1 ✓
- D. NFPA 70

Q35 Part B (Armature & Coil Winder)

Data centre transformers commonly utilise laminated core materials, typically made of:

- A. Paper
- B. Amorphous ✓
- C. Plastic
- D. Rubber

Q36 Part B (Armature & Coil Winder)

Which parameters of two identical transformers are determined using Back-to-back test?

- A. Friction loss and resistance
- B. Mechanical loss and inductance
- C. Efficiency and voltage regulation ✓
- D. Friction loss and inductance

Q37 Part B (Armature & Coil Winder)

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

Q38 Part B (Armature & Coil Winder)

Which component in a thermal relay is responsible for detecting temperature changes?

- A. Bimetallic element ✓
- B. Transformer
- C. Electromagnet
- D. Resistor



Q39 Part B (Armature & Coil Winder)

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

Q40 Part B (Armature & Coil Winder)

What happens to the speed of a DC series motor when load decreases significantly?

A. Speed remains constant

B. Speed increases dangerously high

C. Speed decreases slightly

D. Speed reduces to zero

Q41 Part B (Armature & Coil Winder)

Toroidal inductors are shaped like a:

A. cone

B. ring

C. cube

D. cylinder

Q42 Part B (Armature & Coil Winder)

The dry-type transformer uses:

A. air as a coolant

B. moisture as a coolant

C. oil as a coolant

D. water as a coolant

Q43 Part B (Armature & Coil Winder)

In a long-shunt compound DC generator, the shunt field winding is connected _____.

A. in series with the armature

B. in parallel with both armature and series field winding

C. between the series field and load

D. only to the load

Q44 Part B (Armature & Coil Winder)

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

Q45 Part B (Armature & Coil Winder)

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

Q46 Part B (Armature & Coil Winder)

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.



Q47 Part B (Armature & Coil Winder)

Which of the following metals has the lowest melting point?

A. Mercury



B. Iron

C. Lead

D. Gold

Q48 Part B (Armature & Coil Winder)

What does the term 'Ferreed' in Ferreed relay stand for?

A. A type of current sensing relay

B. A combination of ferrite and reed switch



C. A voltage stabiliser component

D. A thermally operated relay

Q49 Part B (Armature & Coil Winder)

Which component(s) is/are required to obtain a proportional DC voltage for a voltage sensing relay?

A. Transformer and rectifier



B. Motor and generator

C. Resistor and inductor

D. Capacitor and diode

Q50 Part B (Armature & Coil Winder)

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

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.



Q51 Part B (Armature & Coil Winder)

For which purpose is mineral oil provided in an oil-filled transformer?

A. Prevent moisture

B. Insulation purpose only

C. Both cooling and insulation purpose



D. Cooling purpose only

Q52 Part B (Armature & Coil Winder)

In step-up transformer:

A. primary turns are more than secondary turns

B. primary turns are less than secondary turns



C. primary induced emf is more than secondary induced emf

D. primary turns are equal to secondary turns

Q53 Part B (Armature & Coil Winder)

How does an Earth Leakage Circuit Breaker (ELCB) work in an electrical system?

A. It compares the incoming and outgoing currents to detect imbalance, indicating leakage to earth.



B. It regulates the current flowing to the earth electrode.

C. It detects high current flow and trips to prevent overloads.

D. It monitors the voltage drop in the system.

Q54 Part B (Armature & Coil Winder)

Which class of insulation has the lowest temperature rating?

A. Class E

B. Class B

C. Class Y



D. Class A

Q55 Part B (Armature & Coil Winder)

In an ideal transformer, the primary and secondary windings resistance is:

A. 1000 ohm

B. 0 ohm



C. 100 ohm

D. 1000000 ohm

Q56 Part B (Armature & Coil Winder)

What is NOT an advantage of using plate earthing over other types of earthing?

A. More suitable for high-voltage systems



B. Low installation cost

C. Requires less maintenance

D. Provides low resistance in high-resistivity soil



Q57 Part B (Armature & Coil Winder)

What is the primary purpose of conducting a high-voltage withstand test on an AC motor after rewinding?

- A. To measure the power factor
- B. To check the motor's thermal efficiency
- C. To evaluate the balance of the motor's phases

D. To ensure the motor's insulation can withstand the rated voltage and prevent electrical breakdown ✓

Q58 Part B (Armature & Coil Winder)

In a four-band resistor, what does the third band represent?

A. Multiplier ✓

- B. First significant digit
- C. Tolerance
- D. Second significant digit

Q59 Part B (Armature & Coil Winder)

If inductance (L) is doubled, what happens to inductive reactance?

A. It remains the same.

B. It doubles. ✓

- C. It becomes zero.
- D. It becomes half.

Q60 Part B (Armature & Coil Winder)

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

Q61 Part B (Armature & Coil Winder)

If 50 W of power is applied to the primary of an ideal transformer with a turns ratio of 10, the power delivered to the secondary load is:

- A. 500 W
- B. 100 W
- C. 50 W** ✓
- D. 5 W

Q62 Part B (Armature & Coil Winder)

What is the SI unit of 'volume'?

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

Q63 Part B (Armature & Coil Winder)

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

Q64 Part B (Armature & Coil Winder)

In the procedure of dismantling the burned winding wire from an AC motor stator, start with:

A. cutting the power supply to the motor and taking the rotor off the stator ✓

- B. removing the burned wire from the stator slots using a winding extractor
- C. removing the stator slot winding
- D. heating the stator core to soften the insulating, before cutting the winding wire

Q65 Part B (Armature & Coil Winder)

Short circuit test is carried out in transformers to determine which of the following?

- A. Hysteresis loss
- B. Eddy current loss
- C. Equivalent impedance of the transformer** ✓
- D. Iron loss



Q66 Part B (Armature & Coil Winder)

Apart from lamp holders, where else is a cord grip or underwriter's knot used?

- A. Pull switches** ✓
- B. Earthing systems
- C. High-voltage substations
- D. Circuit breaker panels

Q67 Part B (Armature & Coil Winder)

A typical sign that the stator winding of an AC motor might need rewinding is:

- A. reduced motor efficiency under load** ✓
- B. appropriate current consumption under load
- C. excessive vibration
- D. elevated insulating resistance

Q68 Part B (Armature & Coil Winder)

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** ✓

Q69 Part B (Armature & Coil Winder)

If a DC motor fails to start, what should be checked first?

- A. Motor shaft alignment
- B. Field winding resistance
- C. Commutator polishing
- D. Power supply connections and voltage** ✓

Q70 Part B (Armature & Coil Winder)

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** ✓

Q71 Part B (Armature & Coil Winder)

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

Q72 Part B (Armature & Coil Winder)

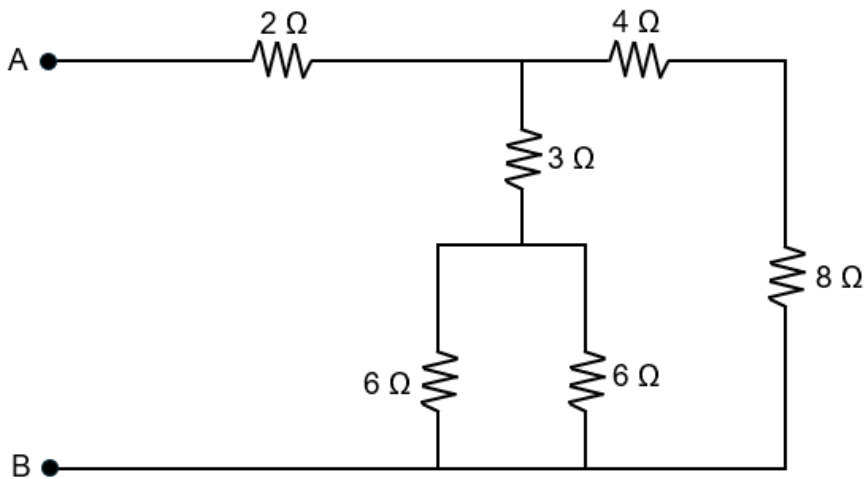
What may happen if a flexible cable in a pendant lamp is not secured with a cord grip or underwriter's knot?

- A. The lamp will consume more power.
- B. The lamp will emit dim light.
- C. The cable connection may come out, leading to a shock hazard.** ✓
- D. The ceiling will overheat.



Q73 Part B (Armature & Coil Winder)

After solving the series and parallel combinations, what is the final equivalent resistance between A and B?



A. $6\ \Omega$



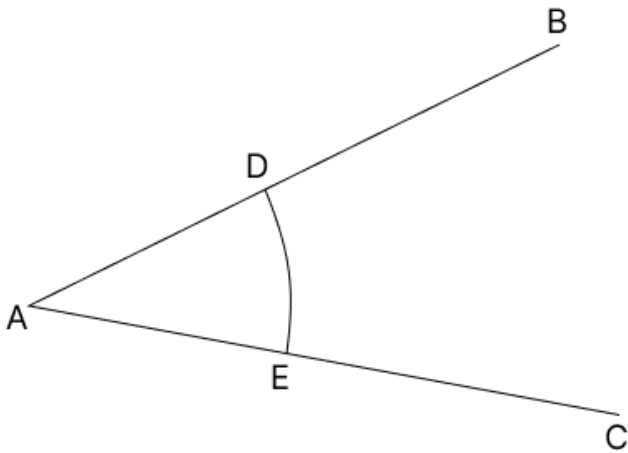
B. $4\ \Omega$

C. $8\ \Omega$

D. $10\ \Omega$

Q74 Part B (Armature & Coil Winder)

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



Q75 Part B (Armature & Coil Winder)

What is the formula for the total capacitance of capacitors connected in parallel?

A. $C_{\text{Total}} = C_1 + C_2 + C_3 + \dots$



B. $\frac{1}{C_{\text{TOTAL}}} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \dots$

C. $C_{\text{TOTAL}} = \frac{(C_1 * C_2)}{(C_1 + C_2)}$

D. $C_{\text{TOTAL}} = (C_1 + C_2)^2$

