



RRB ALP 2024 CBT 2

Assistant Loco Pilot · CEN 01/2024 · CBT 2 · Wireman Trade · Part B (Wireman) · Question Paper

English

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

About this Compilation

This booklet contains all 2 shift papers of the RRB ALP 2024 CBT 2 (Wireman) examination in English (Part B (Wireman) section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

29 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

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

Set 2

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

Part B (Wireman)

75 Questions • Answer Key

Q1 Part B (Wireman)

A 220 V shunt generator has a field resistance of $110\ \Omega$. What is the field current?

- A. 10 A
- B. 20 A
- C. 5 A
- D. 2 A



Q2 Part B (Wireman)

Which of the following best describes the construction of a mica capacitor?

- A. A thin polymer film rolled into a cylinder
- B. A ceramic disc with metal coatings
- C. Alternating layers of metal foil and mica sheets
- D. A liquid electrolyte between two aluminium plates



Q3 Part B (Wireman)

At what overload percentage does the solenoid attract the armature fully, causing instantaneous tripping in a MCB?

- A. 700%
- B. 130%
- C. 300%
- D. 1000%



Q4 Part B (Wireman)

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.



Q5 Part B (Wireman)

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



Q6 Part B (Wireman)

Read the given statements carefully and select the correct option.

Statement 1: Plate earthing ensures a low-resistance path for fault current to safely flow into the earth.
Statement 2: The resistance of the earthing system is not affected by the soil type or moisture content.

- A. Both Statement 1 and Statement 2 are correct.
- B. Statement 1 is incorrect, but Statement 2 is correct.
- C. Statement 1 is correct, but Statement 2 is incorrect.
- D. Both Statement 1 and Statement 2 are incorrect.



Q7 Part B (Wireman) HINDI

केबलों में तांबे की तुलना में ऐलुमिनियम चालकों का उपयोग करने का नुकसान निम्नलिखित में से कौन-सा है?

- A. तांबे की तुलना में ऐलुमिनियम में उच्चतर प्रतिरोध होता है, जिससे अधिक विद्युत हानि होती है।
- B. तांबे की तुलना में ऐलुमिनियम अधिक महंगा होता है।
- C. तांबे की तुलना में ऐलुमिनियम कम चिरस्थायी होती है।
- D. तांबे की केबल की तुलना में ऐलुमिनियम केबल अधिक नम्य होती हैं।



Q8 Part B (Wireman) HINDI

किस प्रकार का केबल चैनल उन क्षेत्रों के लिए सबसे उपयुक्त होता है, जहां बार-बार अनुरक्षण या वायरिंग प्रणाली में परिवर्तन की आवश्यकता होती है?

- A. धातु नलिका चैनल (Metal conduit channel)
- B. नम्य केबल चैनल (Flexible cable channel)
- C. दृढ़ केबल चैनल (Rigid cable channel)
- D. खांचित केबल चैनल (Slotted cable channel)



Q9 Part B (Wireman)

What is the effect of increasing the field current in a DC shunt motor?

- A. The motor speed increases.
- B. The torque decreases.
- C. The motor stops immediately.
- D. The motor speed decreases. ✓

Q10 Part B (Wireman)

What is the basic working principle of a DC generator?

- A. Electrostatic induction
- B. Mutual induction
- C. Faraday's law of electromagnetic induction ✓
- D. Lenz's law

Q11 Part B (Wireman)

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

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

Q12 Part B (Wireman)

What is the primary material used in the resistance wire of wire-wound resistors?

- A. Aluminium
- B. Silver
- C. Nichrome ✓
- D. Copper

Q13 Part B (Wireman)

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.

Q14 Part B (Wireman)

Calculate the voltage regulation (in percentage) of the transformer if the no load secondary voltage is 250 V and full load secondary voltage is 200 V?

- A. 20%
- B. 100%
- C. 50%
- D. 25% ✓

Q15 Part B (Wireman)

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

Q16 Part B (Wireman)

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 ✓

Q17 Part B (Wireman)

Which of the following instruments is used to test the earth resistance of an earthing system?

- A. Multimeter
- B. Megger ✓
- C. Clamp meter
- D. Oscilloscope

Q18 Part B (Wireman)

Permeability of ideal transformer core is equal to:

- A. low value
- B. zero
- C. unity
- D. infinite ✓



Q19 Part B (Wireman) HINDI

जब सामान्यतः खुले (NO) संपर्क को ऊर्जित किया जाता है, तो क्या होता है?

- A. संपर्क, परिपथ से वियोजित हो जाता है।
- B. परिपथ खुला रहता है।
- C. संपर्क अपनी स्थिति में लॉक हो जाता है।
- D. परिपथ बंद हो जाता है। ✓

Q20 Part B (Wireman)

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 ($PbSO_4$)

Q21 Part B (Wireman)

Air-cored inductors are most commonly used in circuits operating at/in:

- A. high frequencies from 1 MHz to several hundred MHz ✓
- B. DC power supply circuits
- C. low frequencies below 50 Hz
- D. audio frequency range (20 Hz – 20 kHz)

Q22 Part B (Wireman)

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

Q23 Part B (Wireman)

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 ✓

Q24 Part B (Wireman)

What does the 'Make and Break after delay' function primarily protect against in electrical systems?

- A. Voltage spikes and electromagnetic interference
- B. Sudden mechanical movements of motors
- C. High inrush currents and voltage surges ✓
- D. Overheating of the circuit

Q25 Part B (Wireman)

A transformer's open circuit test is used to determine:

- A. core losses and no load current ✓
- B. stray loss
- C. windage loss
- D. copper loss

Q26 Part B (Wireman)

Where are ceramic capacitors commonly used?

- A. Mobile Phones
- B. High-power motors
- C. TV circuits ✓
- D. Transformers

Q27 Part B (Wireman) HINDI

केसिंग और कैपिंग तार स्थापन प्रणाली कहाँ उपयोग के लिए सबसे उपयुक्त है?

- A. सुंदर दिखने और विस्तार के लिए भीतरी पृष्ठीय तार-स्थापन ✓
- B. बाह्य उच्च-वोल्टेज पारेषण लाइन
- C. भूमिगत केबल अधिष्ठापन
- D. जलगत विद्युत अधिष्ठापन

Q28 Part B (Wireman)

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.



Q29 Part B (Wireman)

A DC generator is running at constant speed. If the load current increases, what happens to the terminal voltage?

- A. Decreases** ✓
- B. Increases
- C. Remains constant
- D. Fluctuates randomly

Q30 Part B (Wireman)

Which of the following statements is NOT true if any electrical system is not properly earthed?

- A. It provides voltage constant voltage supply regardless of perturbation in load side.** ✓
- B. It may lead to damage of electrical equipment.
- C. It can increase the risk of electric shock.
- D. It may cause the electric current to flow in an uncontrolled manner.

Q31 Part B (Wireman)

In the context of earthing in an electrical system, _____ has the greatest impact on earth resistance.

- A. the length of the earthing conductor
- B. the voltage applied to the ground
- C. the material of the grounding rod
- D. soil resistivity** ✓

Q32 Part B (Wireman)

What type of components are used for tapping in the ring main system?

- A. Directly from the main supply
- B. Using transformers
- C. Through capacitors
- D. Through fuses and controlling switches** ✓

Q33 Part B (Wireman)

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

Q34 Part B (Wireman) HINDI

तारों को बदलते समय इंसुलेटेड कनेक्टर का उपयोग करने का मुख्य कारण क्या है?

- A. आकस्मिक शॉर्ट सर्किट या विद्युत प्रघात को रोकना** ✓
- B. धारावाही क्षमता को बढ़ाना
- C. तार को अधिक नम्य बनाना
- D. संस्थापन की लागत को कम करना

Q35 Part B (Wireman) HINDI

यदि कुल लोड 800 वाट से कम हो, तो कितने लाइटिंग परिपथों (lighting circuits) की आवश्यकता होती है?

- A. दो
- B. चार
- C. एक** ✓
- D. तीन

Q36 Part B (Wireman)

Which of the following factors DOES NOT affect the rating of a fuse?

- A. The ambient temperature
- B. The colour of the fuse holder** ✓
- C. The type of electrical load
- D. The cross-sectional area of the conductor

Q37 Part B (Wireman)

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

Q38 Part B (Wireman)

Which component in a magnetic hydraulic MCB holds the ferrous plunger?

- A. A non-ferrous tube** ✓
- B. A bimetallic strip
- C. A thermal coil
- D. A fuse element



Q39 Part B (Wireman)

What is the main purpose of continuity testing in a DC generator?

A. To detect open or broken windings ✓

B. To test insulation resistance

C. To measure current flow

D. To check voltage regulation

Q40 Part B (Wireman)

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

Q41 Part B (Wireman)

In a velocity-time graph, the negative slope represents _____.

A. retardation ✓

B. displacement

C. acceleration

D. distance

Q42 Part B (Wireman)

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

Q43 Part B (Wireman) HINDI

दोषपूर्ण तार को बदलते समय सबसे महत्वपूर्ण सुरक्षा कदम क्या है?

A. खुले धातु भागों वाले टूल का उपयोग करें

B. प्रभावित क्षेत्र में बिजली की आपूर्ति बंद करें ✓

C. आर्द्र परिस्थितियों में काम करें

D. कनेक्शन के लिए उचित इन्सुलेशन का उपयोग करें

Q44 Part B (Wireman)

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

Q45 Part B (Wireman) HINDI

जंक्शन बॉक्स में तारों के सुरक्षित कनेक्शन के लिए निम्नलिखित में से किस वायरिंग उपकरण (accessories) मुख्य रूप से उपयोग किया जाता है?

A. स्विच (Switch)

B. टर्मिनल ब्लॉक (Terminal Block) ✓

C. सॉकेट (Socket)

D. फ्यूज (Fuse)

Q46 Part B (Wireman)

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

Q47 Part B (Wireman)

Which of the following is a key safety measure to follow when installing an earthing system?

A. Use thin copper wires for earthing to reduce costs.

B. Use flexible conductors for earthing connections.

C. Ensure the earthing system is properly inspected and tested for safety compliance. ✓

D. Ensure the earthing system is designed for maximum efficiency.

Q48 Part B (Wireman)

In the open circuit test of a transformer, the supply frequency should be:

A. higher than the rated frequency

B. equal to the rated frequency ✓

C. independent of the rated frequency

D. lower than the rated frequency



Q49 Part B (Wireman)

When a strong magnet is placed near a weak magnet, what will likely happen?

- A. The weak magnet will disappear.
- B. The strong magnet will induce magnetism in the weak magnet. ✓
- C. The strong magnet will lose its magnetism.
- D. The weak magnet will repel the strong magnet.

Q50 Part B (Wireman)

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

Q51 Part B (Wireman)

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.

Q52 Part B (Wireman) HINDI

प्राथमिक और द्वितीयक अंतः क्षेपण परीक्षण (injection testing) का उद्देश्य क्या है?

- A. शक्ति गुणक का परीक्षण करना
- B. ब्रेकर और रिले प्रचालन की जाँच करना ✓
- C. विद्युत रोधन प्रतिरोध की जाँच करना
- D. संपर्क प्रतिरोध को मापना

Q53 Part B (Wireman)

A 20 kVA, 2500/250 V, 50 Hz, single phase transformer gave the open circuit test result (on low voltage side) as 250 V and 100 W; then core loss current is:

- A. 0.4 A ✓
- B. 0.1 A
- C. 0.3 A
- D. 0.2 A

Q54 Part B (Wireman) HINDI

विद्युत प्रणाली के संदर्भ में 'अधिकतम मांग' का क्या अर्थ है?

- A. प्रचालन के लिए आवश्यक न्यूनतम लोड
- B. किसी महीने में खपत की गई कुल ऊर्जा
- C. किसी अवधि में औसत लोड
- D. किसी विशिष्ट अवधि में रिकॉर्ड किया गया उच्चतम लोड ✓

Q55 Part B (Wireman)

How long does a fuse element take to melt when carrying twice its rated current?

- A. 1 minute
- B. 5 minutes
- C. 30 seconds
- D. 2 minutes ✓

Q56 Part B (Wireman)

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

Q57 Part B (Wireman)

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

Q58 Part B (Wireman)

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.



Q59 Part B (Wireman)

Where are Kit-Kat type fuses commonly used?

- A. Electronic circuits
- B. High-voltage transmission systems
- C. Domestic and small industrial electrical circuits ✓
- D. Power generation plants

Q60 Part B (Wireman)

Gaskets, seals and spacers are made using:

- A. centre punch
- B. hollow punch ✓
- C. pin punch
- D. prick punch

Q61 Part B (Wireman) HINDI

विद्युत वायरिंग में फेरूल (ferrule) का प्राथमिक कार्य क्या है?

- A. तार के स्ट्रैंड को टूटने से बचाकर सुरक्षित और विश्वसनीय कनेक्शन सुनिश्चित करना ✓
- B. तार को यांत्रिक क्षति से बचाना
- C. तार को इन्सुलेशन प्रदान करना
- D. तार की वोल्टता रेटिंग को बढ़ाना

Q62 Part B (Wireman)

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

Q63 Part B (Wireman)

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

Q64 Part B (Wireman)

The unit for specific gravity is ____.

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

Q65 Part B (Wireman)

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

Q66 Part B (Wireman) HINDI

किसी पैनल में दोषपूर्ण तार को बदलते समय, तार की रूटिंग के संबंध में क्या सावधानी बरतनी चाहिए?

- A. भविष्य में मरम्मत को आसान बनाने के लिए तार में अतिरिक्त ढीलापन छोड़ दें।
- B. सुविधा के लिए तार को अन्य परिपथों में रूट करें।
- C. सुनिश्चित करें कि तार ताप स्रोतों और गतिशील भागों से दूर रूट हो। ✓
- D. पैनल के अंदर किसी भी उपलब्ध स्थान पर तार को रूट करें।

Q67 Part B (Wireman)

IEEE 80 provides recommendations for ____.

- A. standards for electrical insulation materials
- B. voltage regulation in power systems
- C. measurement of electrical power consumption
- D. proper installation of grounding and bonding systems in electrical installations ✓

Q68 Part B (Wireman)

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)



Q69 Part B (Wireman) **HINDI**

घरेलू तार-स्थापन प्रणाली में, निम्नलिखित में से कौन-सा उपकरण सामान्य तौर पर प्रतिरोधी लोड को प्रदर्शित करता है?

- A. प्रशीतक (Refrigerator)
- B. वैद्युत तापक (Electric heater) ✓
- C. प्रतिदीप्ति लैम्प (Fluorescent lamp)
- D. छत पंखा (Ceiling fan)

Q70 Part B (Wireman)

A 20 kVA, 2500/250 V, 50 Hz, single phase transformer gave the open circuit test result (on low voltage side) as 250 V, 1.6 A and 100 W; then no load power factor is:

- A. 0.15
- B. 0.2
- C. 0.25 ✓
- D. 0.1

Q71 Part B (Wireman) **HINDI**

भार गुणक (Load Factor) के संबंध में निम्नलिखित में से कौन-सा कथन सत्य है?

- A. भार गुणक घरेलू तार-स्थापन के लिए अप्रासंगिक है।
- B. भार गुणक की गणना केवल उच्चतम मांग का उपयोग करके की जाती है।
- C. अधिक भार गुणक के परिणामस्वरूप विद्युत अवसंरचना का बेहतर उपयोग होता है। ✓
- D. भार गुणक सदैव 1 से अधिक होता है।

Q72 Part B (Wireman)

Why is armature resistance control NOT suitable for speed control in high-power DC motors?

- A. It results in poor efficiency due to high power loss. ✓
- B. It causes high torque fluctuations.
- C. It cannot reduce the motor speed.
- D. It increases field current.

Q73 Part B (Wireman)

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

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

Q74 Part B (Wireman)

If two inductors are connected in series with mutual inductance M (aiding), what is the equivalent inductance?

- A. $L_{eq} = L_1 + L_2 - 2M$
- B. $L_{eq} = \frac{L_1 + L_2}{2}$
- C. $L_{eq} = L_1 + L_2 + 2M$ ✓
- D. $L_{eq} = \frac{L_1 + L_2}{L_1 * L_2}$



$\cos\theta$

A. $\frac{3}{5}$

B. $\frac{4}{5}$ 

C. $\frac{5}{4}$

D. $\frac{3}{4}$



Part B (Wireman)

75 Questions • Answer Key

Q1 Part B (Wireman)

The SI unit of 'ultimate stress' is _____.

- A. pascal (Pa) ✓
- B. newton (N)
- C. newton per meter (N/m)
- D. joule per square meter (J/m²)

Q2 Part B (Wireman)

Which of the following is a primary difference between a primary and a secondary electrochemical cell?

- A. A secondary cell produces more energy than a primary cell.
- B. A primary cell can be recharged, while a secondary cell cannot be recharged.
- C. A primary cell cannot be recharged, while a secondary cell can be recharged. ✓
- D. There is no difference between primary and secondary cells.

Q3 Part B (Wireman) HINDI

निम्नलिखित में से कौन-सा, वायरिंग संस्थापनों में कंड्यूट का सही अनुप्रयोग नहीं है?

- A. सर्किट की वोल्टता को कम करना ✓
- B. दोष की स्थिति में आग को फैलने से रोकना
- C. वायरिंग को यांत्रिक क्षति से बचाना
- D. तारों को व्यवस्थित करना और विद्युत रव को कम करना

Q4 Part B (Wireman)

Two coils, A and B, have self-inductances of 120 μ H and 300 μ H, respectively. When a current of 1 A flows through coil A, it induces a flux linkage of 100 μ Wb turns in coil B. What is the mutual inductance between the coils?

- A. 50 μ H
- B. 100 μ H ✓
- C. 120 μ H
- D. 300 μ H

Q5 Part B (Wireman)

Which of the following is INCORRECT about line standard?

- A. More accurate due to line thickness ✓
- B. Subject to parallax error
- C. Quick measurements over a wide range
- D. Used to measure the distance between two engraved lines

Q6 Part B (Wireman)

While performing short circuit test on a transformer to determine its parameter, instruments are placed on the:

- A. low voltage side, while the high voltage side is short circuit
- B. high voltage side, while the low voltage side is short circuit ✓
- C. high voltage side, while the low voltage side is open circuit
- D. low voltage side, while the high voltage side is open circuit

Q7 Part B (Wireman)

Match the following designations of sheets with their respective trimmed sizes in length and breadth.

Designation Trimmed Size

- A) A0 P) 297 × 420
B) A1 Q) 420 × 594
C) A2 R) 594 × 841
D) A3 S) 841 × 1189

- A. A-S ; B-R ; C-Q ; D-P ✓
- B. A-Q ; B-R ; C-S ; D-P
- C. A-S ; B-P ; C-Q ; D-R
- D. A-P ; B-R ; C-Q ; D-S

Q8 Part B (Wireman)

Which of the following types of resistors is preferred for high-current applications?

- A. Film resistor
- B. Wire-wound resistor ✓
- C. Variable resistor
- D. Carbon composition resistor



Q9 Part B (Wireman)

Which of the following care and maintenance of a marking table is INCORRECT?

- A. The marking table should be protected from damage.
- B. The marking table should be protected from rust.
- C. After use, the marking table should be cleaned with a soft cloth.
- D. The surface of the marking table should not be given a thin layer of oil. ✓

Q10 Part B (Wireman)

What is the primary goal of the 5S concept?

- A. To replace traditional safety measures
- B. To increase the number of safety regulations
- C. To improve workplace organisation and efficiency ✓
- D. To eliminate the need for maintenance

Q11 Part B (Wireman)

In the context of earthing system measurement, what does 'Earth resistance' refer to?

- A. The resistance between any two points of the ground with a distance of 1 metre
- B. The resistance between the live wire and the earth
- C. The ability of the ground to resist current flow ✓
- D. The voltage required to activate the earthing system

Q12 Part B (Wireman) HINDI

कंट्रोल पैनल वायरिंग में DIN रेल का उपयोग करने का प्राथमिक उद्देश्य क्या है?

- A. विद्युत धारा के लिए एक पथ प्रदान करना
- B. विद्युत घटकों को सुरक्षित रूप से व्यवस्थित और आरोपित करना ✓
- C. विद्युत घटकों की बिजली खपत को कम करना
- D. घटकों की वोल्टता रेटिंग को बढ़ाना

Q13 Part B (Wireman)

Which of the following is a key electrical safety tip in a workshop?

- A. Operate machines with wet hands
- B. Ignore frayed wires if the device is still working
- C. Use water to clean electrical panels
- D. Ensure electrical equipment is properly grounded ✓

Q14 Part B (Wireman) HINDI

संयोजक ब्लॉकों के निर्माण के लिए निम्नलिखित में से किस सामग्री का उपयोग किया जाता है?

- A. ऐलुमिनियम
- B. तांबा
- C. पीतल
- D. पॉलीकार्बोनेट ✓

Q15 Part B (Wireman) HINDI

नियंत्रण पैनल सर्किट में, रिले पर NO (Normally Open - सामान्य रूप से खुला) संपर्क क्या दर्शाता है?

- A. रिले के ऊर्जाविहीन होने पर संपर्क बंद हो जाते हैं। ✓
- B. रिले के ऊर्जाविहीन (de-energised) होने पर संपर्क बंद होते हैं।
- C. संपर्क ऊर्जावित्त (energised) और ऊर्जाविहीन दोनों अवस्थाओं में खुले होते हैं।
- D. रिले के ऊर्जाविहीन होने पर संपर्क खुले होते हैं।

Q16 Part B (Wireman) HINDI

नियंत्रण पैनल में PVC चैनल का क्या कार्य होता है?

- A. विद्युत परिपथों के लिए भू-संपर्कन चालक के रूप में कार्य करना
- B. सुरक्षा के लिए उच्च-वोल्टेज ट्रांसफॉर्मर को परिवर्द्ध करना
- C. वेंटिलेशन स्लॉट के साथ विद्युत वायरिंग के लिए मार्ग प्रदान करना ✓
- D. कठोर परिवेश में आउटडोर केबल संस्थापनों को सपोर्ट करना

Q17 Part B (Wireman)

Sine bars are used when a high degree of accuracy less than _____ is needed for measuring angles.

- A. 1 degree
- B. 30 degrees
- C. 1 minute ✓
- D. 30 minutes

Q18 Part B (Wireman)

What is the importance of following the manufacturer's guidelines for DC motor maintenance?

- A. Ensures safe and efficient operation ✓
- B. Modifies the motor's design
- C. Increases the motor's power output
- D. Saves time and resources



Q19 Part B (Wireman)

What is the objective of testing an earthing system?

- A. To test the current capacity of the earthing system
- B. To check the voltage levels
- C. To measure the insulation resistance of cables
- D. To ensure the system has a low resistance path to the earth ✓

Q20 Part B (Wireman)

What is the term used to describe programs that distinguish between uppercase and lowercase letters, treating "yes" and "YES" as different inputs?

- A. Case-insensitive
- B. Numerical
- C. Case-sensitive ✓
- D. Alphabetical

Q21 Part B (Wireman) HINDI

घरेलू अधिष्ठापन में, 1.5 का विविधता गुणक क्या दर्शाता है?

- A. अधिकतम मांग, कुल संयोजित भार से 1.5 गुना कम है। ✓
- B. अधिकतम मांग, संयोजित भार से 1.5 गुना है।
- C. भार सभी परिपथों में समान रूप से वितरित किया जाता है।
- D. युक्तियों का सदैव एक साथ उपयोग किया जाएगा।

Q22 Part B (Wireman)

According to Ohm's Law, how is current related to voltage and resistance?

- A. It is directly proportional to voltage and inversely proportional to resistance. ✓
- B. It has no relation with voltage or resistance.
- C. It is directly proportional to voltage and resistance.
- D. It is inversely proportional to voltage and resistance.

Q23 Part B (Wireman)

Connection of voltage transformer and current transformer across line are _____, respectively.

- A. series and parallel ✓
- B. series and series
- C. parallel and series
- D. parallel and parallel

Q24 Part B (Wireman)

What is the primary reason for conducting a vehicle road test?

- A. To test how fast the vehicle can go
- B. To avoid the need for inspections
- C. To increase fuel efficiency
- D. To ensure the vehicle is functioning safely and correctly ✓

Q25 Part B (Wireman)

A statement and conclusion for pictorial drawing are given below. Determine the logical relationship between them.

Statement: Pictorial drawings are three-dimensional and provide a visual representation of an object.

Conclusion: Therefore, pictorial drawings are useful for describing the shape of a piece part or component.

- A. The conclusion does not logically follow from the statement.
- B. The conclusion is partially supported by the statement.
- C. The conclusion is unrelated to the statement.
- D. The conclusion logically follows from the statement. ✓

Q26 Part B (Wireman)

In a logic circuit, three SPST (Single Pole Single Throw) switches are used to implement a logic gate. The switches are connected in series. What is the output of the circuit if all switches are closed?

- A. Undefined
- B. 1 ✓
- C. The output will depend on the type of gate used
- D. 0

Q27 Part B (Wireman)

Which of the following statements is/are true about Non-Functional Dimensions (NF) in engineering drawing?

Statement 1: Non-functional Dimensions are shown without limits, as they do not affect the functionality of the component or space.

Statement 2: Non-Functional Dimensions are typically used for reference purposes only, and do not impact the assembly or performance of the component or space.

- A. Only statement 2 is true ✓
- B. Only statement 1 is true
- C. Both statements are true
- D. Neither statement is true



Q28 Part B (Wireman)

In a transformer, insulation resistance test is carried out to measure:

- A. frequency
- B. magnetic flux
- C. the resistance of the insulation between windings and core ✓
- D. the inductance between different parts of the transformer

Q29 Part B (Wireman)

Why do cars have treaded tyres?

- A. To increase friction and grip on the road ✓
- B. To reduce weight
- C. To decrease friction
- D. To increase speed

Q30 Part B (Wireman) HINDI

उच्चतर विविधता गुणक का घरेलू तार-स्थापन प्रणाली पर क्या प्रभाव पड़ता है?

- A. यह सुनिश्चित करता है कि उपकरणों का उपयोग एक साथ किया जाए।
- B. यह प्रणाली के कुल लोड में वृद्धि करता है।
- C. यह तार-स्थापन के आवश्यक आकार और परिपथ सुरक्षा को कम करता है। ✓
- D. यह समग्र विद्युत खपत को कम करने में सहायता करता है।

Q31 Part B (Wireman)

An angle greater than 180 degrees is referred to as _____.

- A. a right angle
- B. an acute angle
- C. an obtuse angle
- D. a reflex angle ✓

Q32 Part B (Wireman)

_____ recommend(s) 20 mm wide margins for sheet sizes AO and A1 in engineering drawings.

- A. Borders and frames: SP: 46 (2003) ✓
- B. Geographic coordinate systems
- C. Custom grids
- D. Grid reference system

Q33 Part B (Wireman) HINDI

दो स्थानों से लाइट को नियंत्रित करने के लिए निम्नलिखित में से कौन-सी स्विचिंग व्यवस्था अनुशंसित की जाती है?

- A. सिंगल-पोल स्विच (Single-pole switch)
- B. पुश-बटन स्विच (Push-button switch)
- C. डिमर स्विच (Dimmer switch)
- D. द्वि-पथी स्विच (Two-way switch) ✓

Q34 Part B (Wireman)

Which device is used to protect against electric shocks and fires caused by earth leakage currents?

- A. ELCB ✓
- B. MCCB
- C. MCB
- D. ECB

Q35 Part B (Wireman) HINDI

घरेलू संस्थापनों में शाखा परिपथों के लिए लोड आवश्यकताओं के प्राक्कलन में, जब वास्तविक लोड मान ज्ञात नहीं होते हैं, तो विशिष्ट रूप से किस पर विचार किया जाता है?

- A. प्रकाश व्यवस्था और उपकरणों के लिए मानक लोड अभिधारणाओं ✓
- B. केवल हैवी-ड्यूटी उपकरणों की वाट क्षमता
- C. मुख्य परिपथ वियोजक की अधिकतम क्षमता
- D. विविधता के बिना सभी उपकरणों की कुल धारा

Q36 Part B (Wireman)

A 100-mm centre-punch could have a 10-mm diameter body and a 6-mm diameter point ground to an angle of _____.

- A. 120°
- B. 90° ✓
- C. 60°
- D. 30°

Q37 Part B (Wireman)

Which type of electrolytic capacitor is generally more stable and has better performance in small sizes?

- A. Tantalum capacitor
- B. Mica capacitor
- C. Aluminium capacitor ✓
- D. Ceramic capacitor



Q38 Part B (Wireman)

Transformer oil should have _____ dielectric strength and _____ viscosity.

- A. high; high
- B. low; high
- C. high; low
- D. low; low

Q39 Part B (Wireman) **HINDI**

रिले और संपर्कित (contactor) के बीच निर्माण संबंधी प्राथमिक अंतर क्या होता है?

- A. संपर्कित आमतौर पर प्लास्टिक से बने होते हैं, जबकि रिले धातु से बने होते हैं।
- B. रिले सदैव परिबद्ध रहते हैं, जबकि संपर्कित परिबद्ध नहीं रहते।
- C. रिले में संपर्कित की तुलना में छोटे संपर्क (contacts) होते हैं।
- D. इनके निर्माण में कोई अंतर नहीं होता है।

Q40 Part B (Wireman)

The Insulation Resistance value for a transformer is measured in:

- A. megaohms
- B. ohms
- C. KVA
- D. kilohms

Q41 Part B (Wireman)

Why is a DC compound generator preferred for industrial loads?

- A. It has no losses.
- B. It is easier to manufacture.
- C. It provides better efficiency.
- D. It has constant voltage characteristics.

Q42 Part B (Wireman)

What is the purpose of measuring the electrode resistance during the installation of an earthing system?

- A. To measure the insulation resistance of the system
- B. To determine the electrical load capacity of the system
- C. To ensure the earthing system has low impedance for fault current dissipation
- D. To ensure proper grounding of electrical equipment

Q43 Part B (Wireman)

What is the primary purpose of preventive maintenance?

- A. To increase the workload of employees
- B. To reduce unexpected equipment failures
- C. To delay repairs until breakdowns occur
- D. To eliminate the need for regular inspections

Q44 Part B (Wireman)

What should be the position of the 'OFF' marking on a fireman's switch?

- A. At the top
- B. In the centre
- C. At the bottom
- D. On the side

Q45 Part B (Wireman) **HINDI**

उच्च लोड आकलन, वायरिंग घटकों के चयन को कैसे प्रभावित करता है?

- A. परिपथ-वियोजक की आवश्यकता को कम करता है
- B. वितरण-बोर्ड की आवश्यकता को समाप्त करता है
- C. उच्च रेटिंग वाले मुख्य स्विच और सुरक्षात्मक उपकरणों की आवश्यकता होती है
- D. पतली केबल के उपयोग की अनुमति देता है

Q46 Part B (Wireman)

In pipe earthing, what is used to connect the earthing conductor to the pipe?

- A.
- B.
- C.
- D.

Q47 Part B (Wireman)

Which of the following conversions are correct?

- A. 1 L = 1000 dm³ and 1 mL = 1000 cm³
- B. 1000 L = 1 dm³ and 1000 mL = 1 cm³
- C. 1 L = 1 dm³ and 1 mL = 1 cm³
- D. 1000 L = 1 dm³ and 1 mL = 1000 cm³



Q48 Part B (Wireman)

Which option shows the correct answer when 27°C is converted to the kelvin scale?

- A. - 300 K
- B. 246 K
- C. 300 K
- D. - 246 K

Q49 Part B (Wireman) HINDI

औद्योगिक परिवेश में नियंत्रण वायरिंग (control wiring) के लिए निम्नलिखित में से किस प्रकार के केबल को इसकी नम्यता और परिस्थिति गुणकों के प्रति प्रतिरोध के कारण प्राथमिकता दी जाती है?

- A. PVC रोधित केबल (PVC insulated cables)
- B. कवचित केबल (Armoured cables)
- C. हाई-टेंशन केबल (High-tension cables)
- D. निम्न-वोल्टता केबल (Low-voltage cables)

Q50 Part B (Wireman)

Which of the following screwdrivers has cross-shaped tips that are unlikely to slip from the cruciform slots in Philips recessed head screws?

- A. Stumpy screwdriver
- B. Offset screwdriver
- C. Cross-recess screwdriver
- D. Ratchet screwdriver

Q51 Part B (Wireman) HINDI

NBC के अनुसार आवासीय कमरों में सामान्य प्रकाश व्यवस्था के लिए अनुशंसित प्रदीप्ति स्तर कितना है?

- A. 200 लक्स
- B. 500 लक्स
- C. 50 लक्स
- D. 100 लक्स

Q52 Part B (Wireman)

A rectangular floor measuring 10 m × 8 m is to be tiled. If each tile covers 0.25 m², how many tiles are needed?

- A. 200
- B. 300
- C. 320
- D. 250

Q53 Part B (Wireman)

For which of the following calipers, a screw and nut are provided for opening and closing the caliper legs?

- A. Spring joint calipers
- B. Firm joint calipers
- C. Simple calipers
- D. Leg and point calipers

Q54 Part B (Wireman)

What is the primary cause of sudden insulation resistance failure in a DC generator?

- A. Moisture ingress or contamination
- B. High ambient temperature
- C. Increase in rotational speed
- D. Excessive armature current

Q55 Part B (Wireman)

In a circuit with a NTC type thermistor and a fixed resistor connected in series connected to a DC power supply, what will happen to the output voltage if there is a rise in temperature?

- A. The output voltage will increase.
- B. The output voltage will remain constant.
- C. The output voltage will fluctuate depending on the resistor value.
- D. The output voltage will decrease.

Q56 Part B (Wireman)

What is the primary purpose of shielding in electrical cables?

- A. To increase the voltage capacity of the cable
- B. To increase the current-carrying capacity of the cable
- C. To protect the cable from external electromagnetic interference
- D. To prevent heat loss from the cable

Q57 Part B (Wireman)

Which DC motor type provides the best speed regulation under varying loads?

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



Q58 Part B (Wireman)

Which component in an MCB is responsible for detecting a short circuit?

- A. Bimetallic strip
- B. Solenoid ✓
- C. Arc chute
- D. Handle

Q59 Part B (Wireman) HINDI

घटकों के बीच विद्युत कनेक्शन प्रदान करने के लिए DIN रेल के साथ सामान्यतः किस प्रकार के कनेक्टर का उपयोग किया जाता है?

- A. सोल्डर कनेक्टर (Solder connectors)
- B. वायर नट (Wire nuts)
- C. टर्मिनल ब्लॉक (Terminal blocks) ✓
- D. प्लग-इन कनेक्टर (Plug-in connectors)

Q60 Part B (Wireman)

Which of the following types of DC motor is commonly used in electric traction applications such as trains and trams?

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

Q61 Part B (Wireman)

What is the unit of measurement for earth fault loop impedance?

- A. Amperes (A)
- B. Ohms (Ω) ✓
- C. Volts (V)
- D. Farads (F)

Q62 Part B (Wireman)

Which electrical component is used to perform a polarity test to check whether or not the switches are connected in phase/live cable?

- A. Megger
- B. Ammeter
- C. Multimeter
- D. Test lamp ✓

Q63 Part B (Wireman)

Which of the following is a major risk associated with fuel spillage?

- A. Fire hazards and environmental contamination ✓
- B. Better lubrication for workshop floors
- C. Increased productivity
- D. Reduced need for ventilation

Q64 Part B (Wireman)

In crane and hoist applications, why is a DC series motor preferred over a DC shunt motor?

- A. It requires minimal maintenance compared to other motors.
- B. It maintains constant speed regardless of load variations.
- C. It provides a high starting torque, which is required for lifting loads. ✓
- D. It consumes less power at no load.

Q65 Part B (Wireman)

What are the two types of mica capacitors?

- A. Ceramic and film capacitors
- B. Electrolytic and paper capacitors
- C. Variable and fixed capacitors
- D. Stacked foil and silvered mica capacitors ✓

Q66 Part B (Wireman)

Natural rubber is soft at high temperatures and brittle at low temperatures; hence raw rubber is heated with sulphur and other additives at a temperature range between 373 – 415 K to make it strong. This process is called ____ of rubber.

- A. vulcanisation ✓
- B. molding
- C. latex
- D. extrusion

Q67 Part B (Wireman)

What is the maximum total current allowed in a ring circuit as per IEE regulations?

- A.
- B.
- C. ✓
- D.



Q68 Part B (Wireman)

Read the Assertion (A) and Reason (R) carefully, and select the correct option.

Assertion (A): The earth resistance must be kept as low as possible to ensure that the earthing system is effective during fault conditions.

Reason (R): A low resistance allows fault current to flow easily into the ground, ensuring safety by preventing electrical hazards.

- A. Both Assertion (A) and Reason (R) are correct, and the reason correctly explains the assertion. ✓
- B. Assertion (A) is incorrect, but Reason (R) is correct.
- C. Both Assertion (A) and Reason (R) are correct, but the reason does not correctly explain the assertion.
- D. Assertion (A) is correct, but Reason (R) is incorrect.

Q69 Part B (Wireman)

Which of the following actions is a part of the emergency response team's responsibilities during an active emergency?

- A. Preparing reports on emergency incidents
- B. Rescuing persons in immediate danger ✓
- C. Conducting routine safety checks
- D. Scheduling regular evacuation drills

Q70 Part B (Wireman)

The accuracy of measurement by a try square is about:

- A. 0.02 mm per 10 mm length
- B. 0.001 mm per 10 mm length
- C. 0.004 mm per 10 mm length
- D. 0.002 mm per 10 mm length ✓

Q74 Part B (Wireman)

The voltage regulation in percentage for transformer is given by:

- A. $\text{Voltage regulation} = \frac{V_{\text{no load}} - V_{\text{load}}}{V_{\text{no load}}} \times 100$
- B. $\text{Voltage regulation} = \frac{V_{\text{no load}} - V_{\text{load}}}{V_{\text{load}}} \times 100$ ✓
- C. $\text{Voltage regulation} = \frac{V_{\text{no load}} - V_{\text{no load}}}{V_{\text{load}}} \times 100$
- D. $\text{Voltage regulation} = \frac{V_{\text{load}} - V_{\text{no load}}}{V_{\text{load}}} \times 100$

Q71 Part B (Wireman) HINDI

टेपित वायरिंग प्रणाली (taped wiring system) का निम्नलिखित में से कौन-सा एक विशिष्ट लक्षण है?

- A. यह भौतिक क्षति के विरुद्ध यांत्रिक सुरक्षा प्रदान करता है।
- B. इसका उपयोग सामान्यतः सीलिंग (ceilings) जैसे खुले क्षेत्रों में किया जाता है।
- C. इसका उपयोग उच्च-वोल्टता उपकरणों में किया जाता है।
- D. यह नम्य होता है और इसे रुद्ध स्थानों (tight spaces) पर संस्थापित किया जा सकता है। ✓

Q72 Part B (Wireman)

How should the electrode resistance be measured if multiple earthing electrodes are used in parallel?

- A. Measure electrode resistance individually and then add it
- B. Use a clamp meter to measure the resistance of parallel electrodes
- C. Measure electrode resistance individually and then average the values
- D. Measure the total resistance of the combined electrodes in parallel ✓

Q73 Part B (Wireman)

What is the primary reason for the heating effect in a conductor when an electric current passes through it?

- A. The electric field in the conductor causes heat generation.
- B. The movement of electrons causes heat generation. ✓
- C. The conductor absorbs heat from the surrounding environment.
- D. The movement of protons causes heat generation.



Q75 Part B (Wireman)

The energy stored (W) in an inductor is given by the formula _____, where C = Capacitance, V= Voltage, I = Current, and L= inductance.

A. $W = \frac{1}{2}VI$

B. $W = \frac{1}{2}LI^2$



C. $W = LI$

D. $W = \frac{1}{2}CV^2$

