

## Basic Electrical MCQs 61 to 65

61 As the temperature increases, the resistivity of metal

- ( a )Increases
- ( b )Decreases
- ( c )Does not affect
- ( d )Any of the above

Correct Answer ( a ): Increases

62 The best material for heating element is

- ( a )Copper
- ( b )Aluminium
- ( c )Manganin
- ( d )Nichrome

Correct Answer ( d ): Nichrome

63 The Eureka is alloy of

- ( a )Copper, aluminium
- ( b )Copper, nickel
- ( c )Aluminium, nickel
- ( d )Copper, silver

Correct Answer ( b ): Copper, nickel

64 If the diameter of wire is reduced one half, the resistance of the wire becomes

- ( a )Double
- ( b )One - half
- ( c )Four times
- ( d )One fourth

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Correct Answer ( c ): Four times

$$A = (\pi/4) d^2$$

Diameter reduces to one half

$$A = (\pi/4) (d/2)^2$$

$$A = (\pi/4) (d)^2 / 4$$

$$R = \rho L/A$$

If the diameter becomes one half, area is reduced to  $\frac{1}{4}$  times. This will result in resistance reduces to  $\frac{1}{4}$  times.

65 Which of the following material is mechanically strong?

- ( a )Hard copper
- ( b )Pure aluminium

( c )Pure copper

( d )Nickel

Correct Answer ( a ): Hard copper

As the hard copper is pulled through dies, its crystalline structure is break down therefore the hard drawn copper is mechanically stronger than annealed copper.

Basic Electrical MCQs 66 to 70

66 Which of the following has negative temperature coefficient of resistance?

( a )Silicon

( b )Copper

( c )Aluminium

( d )Silver

Correct Answer ( a ): Silicon

The semiconductor material has negative temperature co-efficient because as the temperature increases, the resistance of semiconductor material decreases.

67 The specific gravity of copper is approximately \_\_\_\_\_ times that of aluminium.

( a ) 1 / 4

( b ) 1 / 2

( c ) 2

( d ) 3

Correct Answer ( d ): 3

The specific gravity of copper is 8.9 whereas aluminium is 2.7 therefore specific gravity of copper is 3 times that of aluminium.

68 The resistance of the black, brown, green colour resistor is

( a )  $1 \times 10^5 \pm 20\%$

( b )  $10 \times 10^6 \pm 20\%$

( c )  $1 \times 10^4 \pm 20\%$

( d )  $2 \times 10^6 \pm 20\%$

Correct Answer ( a ):  $1 \times 10^5 \pm 20\%$

Colour code digits

Black = 0

Brown = 1

Green colour = 5 (  $10^5$  )

No colour =  $\pm 20$

Total resistance =  $1 \times 10^5 \pm 20\%$

69 The resistance of red, orange, white and gold colour resistor is

( a )  $32 \times 10^8 \pm 10\%$

( b )  $42 \times 10^8 \pm 5\%$

( c )  $23 \times 10^9 \pm 5\%$

( d )  $24 \times 10^8 \pm 10\%$

Correct Answer ( c ):  $23 \times 10^9 \pm 5\%$

Colour code digits

Red = 2

Orange = 3

White = 9 (  $10^9$  )

Gold =  $\pm 5\%$

Resistance =  $23 \times 10^9 \pm 5\%$

70 The tolerance of the resistor has three colours of black, brown and red is

( a )  $\pm 5\%$

( b )  $\pm 10\%$

( c )  $\pm 20\%$

( d ) 0.2

Correct Answer ( c ):  $\pm 20\%$

Tolerance for colour code

Gold =  $\pm 5\%$

Silver =  $\pm 10\%$

No colour =  $\pm 20\%$

Basic Electrical MCQs 71 to 75

71 The ideal voltage source has internal resistance.

( a ) Infinite

( b )  $100\text{ k}\Omega$

( c )  $20\ \Omega$

( d ) Zero ohm

Correct Answer ( d ): Zero ohm

72 The internal resistance of practical voltage source is

( a ) Infinite

( b ) Very small

( c )Zero

( d )None of the above

Correct Answer ( b ): Very small

The ideal voltage source has zero internal resistance so total input voltage is available for load but practical it is not possible so every voltage source has small internal resistance is in series.

73 The internal resistance of the ideal current source is

( a )Zero ohm

( b )2.0 ohm

( c )100 ohm

( d )Infinite

Correct Answer ( d ): Infinite

Ideal current source has infinite resistance is in parallel therefore most of current available for load whereas practical current source has high resistance is in parallel.

74 Which of the following should be power rating of carbon composition resistors?

( a )1 kilowatt

( b )100 watt

( c )10 watt

( d )2 watt

Correct Answer ( d ): 2 watt

The power rating of carbon composition is available up to 5 watt.

75 Which of the following resistor has lowest current noise level?

( a )Carbon composition

( b )Deposited carbon

( c )Wire wound

( d )None of the above

Correct Answer ( c ): Wire wound

The wire wound resistor has lowest noise level.

For detail about [Noise level in resistors](#)

Basic Electrical MCQs 76 to 80

76 Which of the following resistor has highest power rating?

( a )Carbon composition

( b )Wire wound

( c )Metal film



( d ) Deposited carbon

Correct Answer ( b ): Wire wound

77 Which of the following resistor has non - linear characteristics?

( a ) Diodes

( b ) Thermistors

( c ) Incandescent lamp

( d ) All of the above

Correct Answer ( d ): All of the above

The V-I characteristics of diode, thermistor and incandescent lamp is non – linear.

78 Three resistances of  $3\Omega$  are connected in parallel the equivalent resistance is \_\_\_\_\_

( a )  $9\Omega$

( b )  $(1/3)\Omega$

( c )  $3\Omega$

( d )  $1\Omega$

Correct Answer ( d ):  $1\Omega$

If three equal resistances of 3 ohm are connected in parallel, its equivalent resistance becomes  $\frac{1}{3}$  of 3 ohm resistor. Similarly, if 5 equal resistances of 10 ohm are connected in parallel, its equivalent resistance becomes  $\frac{1}{5}$  of 10 ohm resistor.

79 Which of the following relation is true for parallel circuit?

( a )  $G = G_1 + G_2 + \dots$

( b )  $R = R_1 + R_2 + \dots$

( c )  $I_1 = I_2 = \dots$

( d )  $V = V_1 + V_2 + \dots$

Correct Answer ( a ):  $G = G_1 + G_2 + \dots$

$G = \text{Conductor}$

In parallel circuit  $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$

$$\text{So } G = G_1 + G_2 + \dots$$

80 The voltage across short circuit terminal in any terminal is equal to

( a ) Supply voltage

( b ) Maximum voltage

( c ) RMS voltage

( d )Zero voltage

Correct Answer ( d ): Zero voltage

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