

Multiple Choice Questions

Q1. Each question is followed by four options encircle the correct option.

1) The unit of current is known as:

- a. volt
- b. ohm
- c. ampere
- d. electron

2) As the temperature of a conductor rises, its resistance:

- a. increases
- b. decreases
- c. does not change
- d. none (a) (b) and (c)

3) When resistances are connected in series, the current passing through them is:

- a. different
- b. zero
- c. the same
- d. not the same

4) The equivalent resistance of a parallel combination is:

- a. equal to the sum of all the resistance
- b. is greater than the largest resistance of the combination
- c. is smaller than the smallest resistance of the combination
- d. none of the above

5) In electrolytes, the flow of current is due to:

- a. only positive charge
- b. only negative charge
- c. both positive and negative charge
- d. none of the above

6) Current flows through the filament of bulb due to:

- a. free electrons
- b. protons only
- c. neutrons
- d. x-rays

7) The first battery made in 1800 consisted of:

- a. copper plates only
- b. zinc plates only
- c. copper and zinc plates
- d. copper and zinc plates soaked in saltwater

8) Which statement is not true? In the equation $V = IR$:

- a. R is a proportionality constant
- b. the value of R is different for different conductors
- c. The value of R is the same for every conductor
- d. R is called the resistance of conductor

9) Which is not true?

- a. The property which opposes the flow of current through a conductor is called its resistance.

- c. $1\text{mA} = 1 \times 10^3 \text{ohm}$
- d. the value of R (resistance) is different for each conductor

10) Which of the following has the lowest specific resistance?

- a. copper
- b. silver
- c. aluminium
- d. platinum

11) The resistance of a wire is _____ to its cross-section area:

- a. equal
- b. inversely proportional
- c. directly proportional
- d. not equal

12) Platinum resistance thermometer is used to measure:

- a. the current passing through a conductor
- b. the temperature of a conductor
- c. the potential difference of a conductor
- d. the resistance of a conductor

13) Which is not true for series combination of resistances?

- a. $V = V_1 + V_2 + V_3$
- b. $V = I'R_1 + I'R_2 + I'R_3$
- c. $V = I(R_1 + R_2 + R_3)$
- d. $V = \frac{1}{V_1} + \frac{1}{V_2} + \frac{1}{V_3} \dots\dots\dots$

14) Which is not true for parallel combination of resistance?

- a. $I = I_1 + I_2 + I_3 \dots\dots\dots$
- b. $I = \frac{V}{R_1} + \frac{V}{R_2} + \frac{V}{R_3}$
- c. $\frac{1}{R_e} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$
- d. $\frac{1}{R_e} = \frac{1}{R_2 + R_3}$

15) Which is not true?

- a. Galvanometer is used to detect presence of current in a circuit
- b. The deflection of needle in galvanometer show presence of current
- c. It is connected in series in circuit to detect current
- d. Galvanometer is used to detect potential difference

16) The amount of heat generated in a resistance due to flow of electric current is equal to the product of square of current, resistance and time duration. This is called:

- a. Joule's Law
- b. Ohm's Law
- c. Graham bell's Law
- d. Berziulios law

17) The amount of energy supplied by current in unit time is called:

- a. ampere
- b. volt
- c. electric power
- d. ohm

18) Which equation is correct for flow of energy:

- a. $w = Q \times R$
- b. $w = I \times R$
- c. $W = QV$
- d. $w = I \times R \times T$

19) To electric appliances in house, we should use:

- a. circuit breaker
- b. a wire of very low resistance
- c. many electrical appliance at one switch
- d. a transformer

20) The wire used in resistance thermometer is usually made of:

- a. chromium
- b. aluminum
- c. iron
- d. platinum

21) The amount of energy supplied by the current in unit time is known as:

- a. potential difference
- b. emf
- c. electrical power
- d. heat energy

22) For calculating the cost of electricity one unit is equal to:

- a. 1 KW
- b. 100 KW
- c. 100 kwh
- d. 1 kwh

23) Current in electrolyte is due to flow of:

- a. positive charge
- b. negative charge
- c. both positive and negative charges
- d. none of these

24) The unit of electrical charge is:

- a. coulomb
- b. ampere
- c. ohm
- d. volt

25) The resistance of a conductor depends upon:

- a. length
- b. area
- c. temperature
- d. all of the above

26) The first battery was made in:

- a. 1800
- b. 1900
- c. 1700
- d. 1857

27) The device which converts other forms of energies in electrical energy is called:

- a. capacitor
- b. voltmeter
- c. source of emf
- d. galvanometer

28) Potential difference across a conductor and current passing through it are directly proportional if, which remains constant:

c. both (a) and (b)

d. none of these

29) The amount of energy supplied by the battery in pushing one coulomb charge from its negative terminal to its positive terminal through the battery is known as:

a. potential difference

b. emf

c. potential energy

d. current

30) Which metal has least resistance?

a. aluminium

b. copper

c. tungsten

d. silver

31) Which metal has maximum resistance?

a. platinum

b. copper

c. tungsten

d. silver

32) The resistance of one meter cube of a substance is called:

a. resistance

b. inductance

c. specific resistance

d. conductance

33) When a potential difference is applied across a conductor then the velocity of free electrons is said to be:

a. uniform velocity

b. drift velocity

c. average velocity

d. variable velocity

34) The unit of temperature coefficient of resistance is:

a. ohm $^{\circ}\text{C}^{-1}$

b. $(^{\circ}\text{C})^{\circ}$

c. $(\text{K})^{-1}$

d. both (b) and (c)

35) The range of platinum resistance thermometer is:

a. 40°C to 150°C

b. -110°C to 76°C

c. -260°C to 630°C

d. -180°C to 1100°C

36) The equivalent resistance in series combination which is equal

a. $R_1 + R_2$

b. $\frac{1}{R_1} + \frac{1}{R_2}$

c. $\frac{R_1 + R_2}{R_1 R_2}$

d. $\frac{R_1 R_2}{R_1 + R_2}$

37) Which of the following remains constant in parallel combination of resistances?

a. I

b. V

c. R

d. none of these

38) Which of the following remains constant in series combination of resistances?

39) The equivalent resistance f... combination

- a. $R_1 + R_2$ b. $\frac{1}{R_1} + \frac{1}{R_2}$ c. $\frac{R_1 + R_2}{R_1 R_2}$ d. both (b) and (c)

40) Three resistances of 100, 200 and 300 are joined in series, their equivalent resistance in ohms is:

- a. 0.2 b. 30.15
c. 60 d. 10

41) If the P.D across 10Ω , 20Ω and 30Ω resistors which are in series, is 12 volts, then current passing through each resistor is:

- a. 5 A b. 0.2 A
c. 12 A d. 10 A

42) Galvanometer is used to detect the presence of:

- a. resistance b. voltage
c. current d. power

43) If both the terminals of galvanometer are at same potential, then the deflection in the galvanometer is:

- a. maximum b. minimum
c. zero d. between zero and maximum

44) When a small resistance joined in parallel with galvanometer it becomes:

- a. ammeter b. voltmeter
c. ohmmeter d. avometer

45) In circuits, ammeters are always joined with resistance in:

- a. parallel b. across battery
c. series d. all of these

46) Electrical power is given by:

- a. VI b. $I^2 R$
c. V^2 / R d. all of these

47) The SI unit of electrical power is:

- a. Joule x s b. watt
c. Joule d. Kilowatt hour

48) One kilowatt hour is equal to:

- a. 1000 J b. 3600 joule

49) The frequency of alternating current is:

- a. 50 Hz
- b. 2 Hz
- c. 5Hz
- d. 500 Hz

50) Graphically, direct current is represented by:

- a. curve
- b. sine wave
- c. cosine wave
- d. straight line

51) An electric wire covered with insulation is called:

- a. wire
- b. cable
- c. rope
- d. string in parallel

52) The household appliances are connected in parallel with live and neutral wires through a:

- a. fuse
- b. circuit breaker
- c. switch
- d. earth wire

53) Current is flowing in:

- a. earth wire
- b. live wire
- c. neutral wire
- d. shunt wire

54) Fuse is always connected in series in:

- a. live wire
- b. neutral wire
- c. earth wire
- d. shunt wire

55) If the power of a heater is 3000W and voltage is 240V, then the value of fuse used in circuit is

- a. 3A
- b. 5A
- c. 20A
- d. 13A

56) The wire connected by the body of an electrical appliance and earth is called:

- a. live wire
- b. earth wire
- c. neutral wire
- d. none of these

57) If 10 ohm, 20 ohm and 30 ohm resistors are joined in parallel to a cell of emf 12 volt, the potential difference of each resistor is:

- a. 2 volt
- b. 4 volt
- c. 6 volt
- d. 12 volt

58) If 10 ohm, 20 ohm resistors are join in parallel, equivalent resistance will be:

- a. 30 ohm
- b. 0.15 'ohm

59) The device which join in parallel in the circuit is:

- a. voltmeter
b. ammeter
c. galvanometer
d. ohm meter

60) When a high resistance join in series with galvanometer it becomes a:

- a. ohm meter
b. voltmeter
c. ammeter
d. s...nometer

ANSWERS

No.	ANS	No.	ANS	No.	ANS	No.	ANS
1	c	2	a	3	c	4	c
5	c	6	a	7	d	8	c
9	c	10	a	11	b	12	b
13	d	14	d	15	d	16	a
17	c	18	c	19	a	20	d
21	c	22	d	23	c	24	a
25	d	26	a	27	c	28	c
29	b	30	d	31	a	32	c
33	b	34	d	35	c	36	a
37	b	38	a	39	d	40	c
41	b	42	c	43	c	44	a
45	c	46	d	47	b	48	c
49	a	50	d	51	b	52	c
53	b	54	a	55	d	56	b
57	d	58	c	59	a	60	b

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