

## Physics FSC Part 2 Chapter 13 Online MCQ's Test

Sr	Questions	Answers Choice
1	In gas the charge carriers are:	A. Electrons B. Ions C. Both a & b D. None of above
2	The value of maximum output power is?	A. $E/4R$ B. $E^2/4R$ C. $E/4R$ D. Non of above
3	Thermocouple is an arrangement of two different metals:	A. To convert heat energy into electrical energy B. To produce more heat C. To convert heat energy into chemical energy D. To convert electrical energy into heat energy
4	A rheostat can be used as variable resistor as well as a-----	A. Potential divider B. Current divider C. Wheat stone bridge D. Power divider
5	Resistivity at a given temperature depends upon.	A. Area of cross section B. Length C. Nature of material of conductor D. Both length and area
6	The resistivity of -----decrease with the increase in temp	A. Gold B. Silver C. Copper D. Silicon
7	The conventional current is due to the flow of	A. Atoms and molecules B. Positive charge C. Negative charge D. Both (b) and (c)
8	The condition for the wheatstone bridge to be balanced is given by	D. None of above
9	The heat produced by the passage of current through a resistor is.	A. $H = I^2 R t$ B. $H = I R^2 t$ C. $H = 1/R t$ D. $H = I^2 R t$
10	By increasing the temperature of conductor, the flow rate of charges.	A. Increase B. Remains constant C. Decreases D. Changes exponentially
11	The powers of two electric bulbs are 100w and 200w. Which are connected to power supply of 220 V. The ratio of resistance of their filament will be:	A. 1 B. 2 C. 1 D. 4
12	Heat generated by a 40 W bulb in one hour is.	A. 140 J B. 1440 J C. 14400 J D. 144000 J
13	For ohmic device the graph between V and I is.	A. A straight line B. Curve C. Hyperbola D. Parabola

A. In direction of -E

14	The free electrons experience force.	B. In direction of E C. Both A and B D. All of the above
15	A certain wire has a resistance R, the resistivity of an other wire of an identical material with the first, except for twice its diameter is.	A. $\frac{1}{4} R$ B. $4R$ C. $2R$ D. Same as R
16	What is the resistance of carbon resistor which has band brown black brown.	A. 100 Ohm B. 1000 Ohm C. 10 Ohm D. 1.0 Ohm
17	When a pot difference of 4 volt is applied across resistance, 10 J of energy is converted Find charge flows	A. 0.20 C B. 2.5 C C. 5.0 C D. 10.0 C
18	The product of resistance and conductance is	A. 1 B. Resistivity C. Conductance D. Zero
19	Magnetic effect of current is used	A. To detect a current B. To measure a current C. In electric motor D. All of above
20	During electrolysis process, density of $\text{CuSO}_4$ solution	A. Remains constant B. Decreased C. Increased D. None of these
21	A wire uniform cross-section. A length L and resistance R is cut into two equal parts. The resistivity of each part will be:	A. Doubled B. Halved C. Remain the same D. One fourth
22	Tolerance of "Gold" band.	A. $\pm 10\%$ B. $\pm 5\%$ C. $\pm 15\%$ D. $\pm 20\%$
23	Kirchhoff's first rule is the manifestation of the law of conservation of.	A. Mass B. Charge C. Energy D. Momentum
24	The unit of temperature co efficient of resistivity is.	A. Ohm -m B. $\text{K}^{-1}$ C. K D. Ohm
25	When a wire is stretched and its radius becomes $r/2$ , then its resistance will be	A. $16 R$ B. $4 R$ C. $2R$ D. 0
26	Seven resistances are connected as shown in the figures . The equivalent resistance between A and B is:	A. $3\Omega$ B. $4\Omega$ C. $4.5\Omega$ D. $5\Omega$
27	An ideal current source shall have resistance	A. Zero B. Finite but not zero C. Infinite D. Depend upon requirement
28	One ohm is equal to	A. $\text{VC}^{-1}$ B. $\text{CV}^{-1}$ C. $\text{AC}^{-1}$ D. $\text{VA}^{\sup>-1\sup>}$
29	Unit (S.I) of temperature coefficient of resistivity of a material is	A. K B. $\text{K}^{\sup>-1\sup>}$ C. $\text{C}^{\sup>0\sup>}$ D. $\text{K}^{\sup>-2\sup>}$
30	Resistance tolerance of silver band is.	A. 10% B. 6% C. 7% D. 5%
31	Specific resistance of a material depends upon.	A. Length B. Area C. Temperature D. Both A and B

32	Calculate current in 2 $2R/4\Omega$ resistor.	A. 1 A B. $2R/4\Omega$ C. $R/3\Omega$ D. $2R/3\Omega$
33	The current through a resistance of 100 Ohm when connecting across a source of 220 V is.	A. 22000 A B. 22 A C. 2.2 A D. 0.45 A
34	The thermistors convert changes of temperature into.	A. Light energy B. Electric voltage C. Heat D. Sound
35	The potential difference between the head and tail of an electrical to	A. 600 Volt B. 700 Volt C. 800 Volt D. 900 Volt
36	The Kirchhoff 1 <sup>st</sup> rule is manifestation of:	A. Law of conservation of mass B. Law of Conservation of charge C. Law of conservation of energy D. None of above
37	Colour codes are used to calculate the.	A. Nature of resistor B. Numerical value of resistance C. Potential difference D. Current
38	The drift velocity is of order:	A. $10^{-13}$ m/s B. $10^{-3}$ m/s C. $10^{-3}$ m/s D. $10^{-4}$ m/s
39	Resistance tolerance for gold colour is.	A. 50% B. 30% C. 20% D. 5%
40	The current flowing through each resistor of equal resistance in parallel combination is.	A. Same B. Different C. Zero D. Infinite
41	Heat sensitive resistors are called.	A. resistors B. Capacitor C. Thermistors D. Inductors
42	5 A of current flows through a conductor in 2 minutes, charge in the wire is.	A. 500 C B. 600 C C. 400 C D. 10 C
43	The unit of resistance is:	A. $\Omega$ B. $\Omega m$ C. $\Omega \times 10^{-1} m \times 10^{-1}$ D. $\Omega m \times 10^{-1}$
44	Heat energy is converted into electrical energy.	A. Solar cells B. thermocouples C. Electric generators D. None of above
45	Three resistors of resistance R each are combined in various ways, Which of the following cannot be obtained?	A. $3R\Omega$ B. $2R/4\Omega$ C. $R/3\Omega$ D. $2R/3\Omega$
46	The resistivity of two wires is $\rho_1$ and $\rho_2$ which are connected in series. If there dimensions are same then the equivalent resistivity of the combination will be:	A. $(\rho_1 + \rho_2)$ B. $\frac{\rho_1 + \rho_2}{2}$ C. $\frac{\rho_1 + \rho_2}{4}$ D. $\frac{\rho_1 + \rho_2}{8}$

		font-size: 16px; color: rgb(34, 34, 34);">p<sub style="">2</sub></span>/2 D. <span style="font-family: arial, sans-serif; font-size: 16px; color: rgb(34, 34, 34);">p<sub>1</sub></span><span style="font-family: arial, sans-serif; font-size: 16px; color: rgb(34, 34, 34);">p<sub>2</sub></span></span>
47	Ampere second stands for the unit of.	A. Charge B. emf C. energy D. Power
48	Kirchhoff's voltage rule is a way of stating conservation of.	A. Mass B. Charge C. Energy D. Momentum
49	If $1 \times 10^7$ electrons passes through a conductor in 1.0 micro second , then the current is.	A. 2 A B. 1.6 A C. $2.6 \times 10^{-6}$ A D. $1.6 \times 10^{-6}$ A
50	Thermistor with high - ve temperature coefficient are very accurate for measuring low temperature especially near is.	A. 10 kelvin B. 70 kelvin C. 200 kelvin D. 35 kelvin
51	The SI unit of resistivity is.	A. Ohm m-2 B. Ohm m-1 C. Ohm m D. Ohm
52	The fraction change in resistance per Kelvin is known as:	A. Temperature coefficient of Resistance B. Coefficient of voltage of change C. Thermal expansion D. All of the above
53	The reciprocal of resistance is called.	A. Capacitance B. Resistance C. Conductance D. Inductance
54	e.m.f is the conversion of ----- energy into electrical energy	A. Chemical B. Solar C. Light D. None of these
55	A battery move a charge of 40 C around a circuit at constant rate in 20 Sec. The current will be.	A. 2 A B. 0.5 A C. 80 A D. 800 A
56	Semiconductor diodes are called:	A. Ohmic B. non ohmic C. Both a & b D. none of above
57	Magnetic effect of current is used in.	A. Toaster B. Electric iron C. Electric motor D. D.C. Battery
58	If there is no fourth band, tolerance is shows as	D. 10%
59	Two resistance of 2 Ohm each are connected in parallel combination equivalent resistance will be.	A. 4 Ohm B. 2 Ohm C. 1 Ohm D. 8 Ohm
60	If the resistance of 500 Ohm have fourth band of silver colour then its upper maximum resistance will be.	A. 600 Ohm B. 550 Ohm C. 450 Ohm D. 400 Ohm
61	Terminal potential difference is greater than emf of the cell when	A. Circuit is open B. Circuit is closed C. small battery is charged by bigger battery D. None of these
62	The algebraic sum of potential change in a closed circuit is zero.	A. Kirchhoff's 1st rule B. Kirchhoff 2 <sup>nd</sup> rule C. Krichhoff's 3 <sup>rd</sup> rule D. Kirchhoff 4 <sup>th</sup> rule

		A. 100 W B. 10 W C. 1 W D. 0.1 W
63	Potentiometer is used to.	A. Compare emf of two cells B. Detect internal resistance of cell C. Measure P.D. D. All of these
64	When a wire of length 'l' and resistance R is cut into two equal parts then resistivity of each part.	A. is doubled B. Remains the same C. Is halved D. Is one fourth
65	For non-ohmic devices, the graph between V and I is	A. Not a straight line B. A straight line C. A curve D. All of above
66	In carbon resistors, then value of Blue colour is.	A. 6 B. 7 C. 8 D. 9
67	A charged conductor has charge on its.	A. Inner surface B. Outer surface C. Middle surface D. Surrounding space
68	The color code of "Green"	A. 8 B. 3 C. 5 D. 7
69	the current which flows from a point at higher. potential to point at lower potential is called.	A. Electric current B. Conventional current C. Either of these D. None of above
70	A rheostat can operate as.	A. Amplifier B. Potential divider C. Oscillator D. Transformer
71	106 electrons are moving through a wire per second the current developed is:	A. $1.6 \times 10^{-19}$ A B. 1 A C. $1.6 \times 10^{-13}$ A D. 106 A
72	Drift velocity of electrons is.	A. $10^{-1}$ m/s B. $10^{-2}$ m/s C. $10^{-3}$ m/s D. $10^3$ m/s
73	The heat produced by passage of current.	A. $H = I^2 R t$ B. $H = IR^2 T$ C. $H = I/R t$ D. $H = I^2 R / t$
74	The vessel containing the tow electrodes and liquid to known as.	A. Chemical cell B. Volt cell C. Volta cell D. Volta meter
75	mho -m-1 is the unit of.	A. Resistance B. Resistivity C. Conductance D. Conductivity
76	A substance having the negative temperature co efficient of resistivity out of the following is.	A. Carbon B. Iron C. Tungsten D. Gold
77	The unit of conductivity is:	A. $\text{Ohm}^{-3} \text{m}^{-1}$ B. $\text{Ohm m}^{-1}$ C. Both a and b D. $\text{Ohm m}^{-1}$
78	Electric power:	A. $V \times I$ B. $V^2 \times I$ C. $V/I$ D. $V/I^2$
79	If a charge Q flows through any cross section of the conductor in time t, the current I is	A. $I = Qt$ B. $I = Q/t$ C. $I = Q \cdot t$ D. $I = Q - t$

Which one of the following bulbs has the least resistance.

- A. 100 W
  - B. 200 W
  - C. 500 W
  - D. 1000 W
-