

**\* Multiple Choice Question \***

- 1 The P - type semiconductor impurities are also called as  
a. Acceptor impurities      b. Donor impurities      c. Either (a) or (b)      d. None of these
- 2 The resistance of a conductor of diameter  $d$  and length  $l$  is  $R \Omega$ . If the diameter of the conductor is halved and its length is doubled, the resistance will be  
a.  $R \Omega$       b.  $2R \Omega$       c.  $4R \Omega$       d.  $8R \Omega$
- 3 The unit of resistivity is  
a.  $\Omega$       b.  $\Omega \cdot \text{meter}$       c.  $\Omega/\text{meter}$       d.  $\Omega/\text{m}^2$
- 4 Magnetic flux has the unit of  
a. Newton      b. Ampere turn      c. Weber      d. Tesla
- 5 Which of the followings is/are active element?  
a. Voltage source      b. Current source      c. Both      d. None of these.
- 6 The SI unit of Power is  
a. Henry      b. Coulomb      c. Watt      d. Watt-hour
- 7 An Ideal current source have \_\_\_\_\_ internal resistance.  
a. 0      b.  $\infty$       c. Finite      d. None of these
- 8 KCL works on the principle of which of the following  
a. Law of conservation of charge      b. Law of conservation of energy      c. Both      d. None of the above
- 9 Which quantity should be measured by the voltmeter ?  
a. Current      b. Voltage      c. Power      d. Speed
- 10 An ideal voltage source have \_\_\_\_\_ internal resistance.  
a. 0      b.  $\infty$       c. Finite      d. None of these
- 11 KCL works on the principle of which of the following  
a. Law of conservation of charge      b. Law of conservation of energy      c. both      d. None of these
- 12 The right hand rule for determining the direction of the induced EMF was introduced by  
a. Faraday      b. Lenz      c. Fleming      d. Maxwell

- 13 Which of the following represents ohms law  
a.  $V = RI$                       b.  $J = \sigma E$                       c.  $I = GV$                       d. All of the above
- 14 Biot-Savarts law states the relation between magnetic intensity and.  
a. filament current only                      b. surface current only                      c. volume current only                      d. (A), (B), and (C) are all correct
- 15 The mass of the atom is determined by  
a. proton                      b. electrons                      c. neutron and proton                      d. electron and proton
- 16 What is the unit of potential difference ?  
a. Ohm                      b. Volt                      c. Watt                      d. ampere
- 17 What is mean by the rate of flow of an electric charge ?  
a. current                      b. potential                      c. resistance                      d. None of the above
- 18 The Biot-savarts law is a general modification of  
a. Kirchhoff's law                      b. Lenzs law                      c. Amperes law                      d. Faradays law
- 19 The drawback of Daltons atomic structure is that, it says  
a. the atoms can neither be created nor be destroyed                      b. unique nature of atom.                      c. most of the volume of an atom is empty space                      d. none of these
- 20 What is the relation between time period T and frequency?  
a.  $T = 1 / \text{frequency}$                       b.  $T = 0.5 / \text{frequency}$                       c.  $T = 0.8 / \text{frequency}$                       d.  $T = \text{frequency}$
- 21 Atoms with fewer than 4 valence electrons are  
a. insulator                      b. semi-conductor                      c. conductor.                      d. none of these
- 22 The absolute charge of an electron is  
a.  $-1.6 \times 10^{-19} \text{ C}$                       b.  $+1.6 \times 10^{-19} \text{ C}$                       c.  $1.6 \times 10^{-19} \text{ C}$                       d. None of above
- 23 Ampere second is the unit of  
a. conductance                      b. power                      c. energy                      d. charge
- 24 The basic circuit elements are  
a. R, L and C                      b. Vs, Is                      c. both A and B                      d. none of the above
- 25 Which of the following has no units?  
a. Permeability                      b. Moment of a magnet                      c. Magnetic susceptibility                      d. Permittivity

- 26 The resistivity of the conductor depends on  
a. area of the conductor      b. length of the conductor      c. type of material      d. none of them.
- 27 Which material has extremely large resistance ?  
a. Semiconductor      b. Conductor      c. Insulator      d. None of the above
- 28 The value of  $E$  within the field due to a point charge can be found with help of  
a. Faraday's law      b. Kirchhoff's law      c. Lenz's law      d. Coulomb's law
- 29 Conductance of any conductor is expressed as  
a. ampere / watt      b. mho      c. volt<sup>2</sup> / watt      d. watt / ampere<sup>2</sup>
- 30 The unit of capacitance is  
a. Farad      b. Coulomb      c. Henry      d. Weber
- 31 A voltage will influence current only if the circuit is:  
a. insulated      b. closed      c. high resistance      d. open
- 32 Connecting a lead from positive to negative of a battery will produce:  
a. a high current      b. a short circuit      c. a low current path      d. An open circuit
- 33 Which resistive component is designed to be temperature sensitive?  
a. Rheostat      b. Thermistor      c. Potentiometer      d. Photoconductive cell
- 34 The negative and positive charge symbols are assigned (in that order) to the:  
a. Proton & Electron      b. Electron & Element      c. atom & nucleus      d. Electron & Proton
- 35 Which part of an atom has no electrical charge?  
a. All      b. Neutron      c. Electron      d. Proton
- 36 Current equals  
a. Colombs\* time      b. Voltage\*time      c. Colombs/time      d. Voltage/time
- 37 If the current in a circuit equals 0 A, it is likely that the  
a. circuit is open      b. circuit is closed      c. resistance is too low      d. voltage is too high
- 38 An example of potential energy is:  
a. a moving vehicle      b. tea kettle steam      c. the sun      d. a battery

- 39 Batteries differ from fuel cells in that  
a. a battery is closed system      b. a battery uses hydrogen & oxygen to create electricity      c. none of these      d. a battery uses polymer electrolyte membrane
- 40 What are the unit and symbol for current?  
a. Ampere, Q      b. Ampere, c      c. Ampere, I      d. Ampere, A
- 41 Material that consists of a mixture of elements is considered to be:  
a. an ion      b. a molecule      c. an element      d. a compound
- 42 A galvanometer in series with a high resistance is called  
a. An ammeter      b. A voltmeter      c. A wattmeter      d. None of these
- 43 A voltmeter should have ..... resistance  
a. Zero      b. Very High      c. Very Low      d. None of these
- 44 An ammeter should have ..... resistance  
a. Zero      b. Very High      c. Very Low      d. None of these
- 45 The sensitivity of a multimeter is given in .....  
a.  $\Omega$       b. Amperes      c.  $k\Omega/V$       d. none of the above
- 46 If the negative potential on the control grid of CRT is increased, the intensity of spot .....  
a. Is increased      b. Is decreased      c. Remains the same      d. None of the above
- 47 For display of signal pattern ..... voltage is applied to the horizontal plates of a CRO  
a. Sinusoidal      b. Rectangular      c. Sawtooth      d. None of the above
- 48 When an ammeter is inserted in the circuit, the circuit current will .....  
a. Increase      b. Decrease      c. Remain the same      d. None of the above
- 49 A CRO is used to measure .....  
a. Voltage      b. Frequency      c. Phase      d. All of above
- 50 The material used to coat inside the face of CRT is .....  
a. Carbon      b. Sulphur      c. Silicon      d. Phosphorous

**Answers:**

1 (a)	2 (d)	3 (b)	4(c)	5(c)	6(c)	7(b)	8(a)	9(b)	10(a)
11(b)	12(c)	13(d)	14(c)	15(c)	16(b)	17(a)	18(c)	19(a)	20(a)
21(c)	22(a)	23(d)	24(a)	25(c)	26(c)	27(c)	28(d)	29(b)	30(a)
31 (b)	32 (b)	33( b)	34(b)	35(b)	36(c)	37(a)	38(d)	39(a)	40(c)
41(d)	42(b)	43(b)	44(c)	45(c)	46(b)	47(c)	48(b)	49(d)	50(d)