**Aarambh classes**

**Class X(CBSE )**

**Physics test**

**Electricity and electromagnetism**

**Time : 1 hour M.Marks:30**

1. Calculate the number of electrons constituting one coulomb of charge.
2. How much energy is given to each coulomb of charge passing through a 6 V battery ?
3. An electric iron draws a current of 3.4 A from the 220 V supply line .What current will this electric iron draw when connected to 110V supply line ?
4. A copper wire has a diameter of 0.5 mm and resistivity of 1.6 x10-8  m.

(a)What will be the length of this wire to make its resistance 10 ?

(b) How much does the resistance change if the diameter is doubled ?

5. A resistance of 6 is connected in series with another resistance of 4 .A potential difference of 20 volts is applied across the combination.Calculate the current through the circuit and potential difference across the 6 resistance . 8 R2

6. In the circuit diagram given alongside ,find : R3

(i)total resistance of the circuit . R1 7.2 12

(ii)total current flowing in the circuit,and + -

(iii)the potential difference across R1 . 6 V

1. An electric bulb is rated 220V and 100 W.When it is operated on 110V, Find the power consumed .
2. A bulb is rated at 200V-100W .What is its resistance ?Five such bulbs burn for 4 hours .What is the electrical energy consumed ?Calculate the cost if the rate is Rs 4.60 per unit.
3. A stream of positively charged particles (alpha particles )moving towards west is deflected towards north by a magnetic field .Find the direction of the magnetic field .
4. Think you are sitting in a chamber with your back to one wall .An electron beam moving horizontally from back wall towards the front wall is deflected by a strong magnetic field to your right side .What is the direction of the magnetic field ?
5. A coil of insulated copper wire is connected to a galvanometer .What will happen if a bar magnet is :

(i)pushed into the coil ?

(ii)held stationary inside the coil ?

(iii)withdrawn from inside the coil ?

1. A circuit has a fuse of 5 A .What is the maximum number of 100W (220 V )bulbs that can be safely used in the circuit ?