Physics - ICS Part 2 Physics Chapter 13 Short Questions Preparation

Q1. What is meant by tolerance of resistors?

Ans 1: Tolerance is the measure of possible variation from the marked value,A gold band has +-5% tolerance ,silver has +-10% and no band at all wounf mean a +-20 tolerance.

Q2. Why does the resistance of a conductor rise with a temperature?

Ans 1: As the temperature of the conductor rises,the amplitude of vibration of atoms increase and hence the probability of their collision with free electrons also increases which results in increase of resistance of conductor.

Q3. What is wheat stone bridge?

Ans 1: It is an electrical circuit which can be used to find the unknown resistance of a wire.It consists of four resistance connected in the form of mesh.galvanometer,battery and switch.

Q4. Name some effects of current.

Ans 1: Some effects are :

1. Heating effects
2. Magnetic effect
3. Chemical effect

Q5. State Ohm's law and basic principle of electroplating.

Ans 1: Current passing through a wire is directly proportional to the potential difference applied across its ends provided that the physical state conductors remains same.
Basic principle of electroplating is a process of coating a thin layer of sum expensive metal of (gold,silver etc) on a article of some cheap metal.

Q6. Why potential meter is accurate measuring meter?

Ans 1: The voltage measured using potentiometer is the voltage across the terminal of the cell when current is not following through it.This voltage is exactly the emf of the cell.Further the accuracy of a potentiometer can be increased to a great extent by increasing the length of the "potentiometer wire".

Q7. What is the negative coefficient of temperature?

Ans 1: If the resistance of a substance decrease with an increase in temperature ,then it is termed as negative coefficient of

temperature,For example ,silicon and germanium have negative coefficient of temperature.

Q8. Define Electromotive force and Terminal potential difference.

Ans 1: Electromotive force:The energy supplied to a unit charge in moving it from negative to positive electrode inside the source is called electromotive force.

Ans 2: Terminal potential difference:The potential difference across the terminal of a cell or battery when current is being drawn from it is called terminal potential difference.The potential difference across the conductor is zero when no current flows through it.

Q9. Do two long and parallel current carrying wires attract each other?

Ans 1: Yes ,If the direction of current is same in two long parallel current carrying wires.Because the opposite pole of electromagnet comes in front of each other and attracts.

Q10. Briefly describe the current through a metallic conductor and drift velocity.

Ans 1: In a metallic conductor,free electron are in random motion with the speed of several hundred km/s at the room temperature.If the ends of the wire are connected to the battery the free electrons are experience a force and directed to move in the electric field direction.The accelerating electrons keep on colliding with atoms of the conductors and transfer their energy to the lattice with the result that the electrons acquire an average velocity called drift velocity.The drift velocity is of the order of 10^{-3}.A steady current is establish in the wire.
