Physics - 12th Class Physics Chapter 5 Short Questions Preparation

Q1. What is choke?Why it is used in AC circuit?

Ans 1: A choke is a coil made of thick insulated copper wire wound closely in a large numbers of turns over a soft iron laminated core,It is used to control alternating current through a circuit without much loss of energy.

Q2. Define impedance and resonant frequency.

Ans 1: A measure of the opposition to the flow of charged is an AC circuit is called impedance.It is the combined effects of resistance and inductive and capacitive reactance is.Its unit is in ohm"s.
The frequency at which inductive and capacitive reactance become equal is called resonant frequency.

Q3. How many times per second will an incandescent lamp reach maximum brilliance when connected to a 50 Hz source?Explain.

Ans 1: An incandescent lamp will reach maximum brilliance two time in cycle.One time for positive half cycle and one negative half cycle.

Q4. What do you know mean by phase lag and phase lead?

Ans 1: The angleθ which specifiesthe instantaneous value of the alternative voltage current,gives the phase lag or phase lead of one quantity over the other.The phase differencebetween two alternative quantity is observed at different points.The quantity which has greater phase at all points is said to be leading and the other is said to be laggingbehind.

Q5. Define impedance and write its SI unit.

Ans 1: The combined effect of resistance and reactance is an AC circuit is known as impedance.It is donated by Z and its SI unit is ohm.

Q6. Define reactance,Describe the condition which will make the reactance small.

Ans 1: The opposition offered by capacitor or inductor to the flow of alternating current is called reactance.For a capacitor reactance will be small when frequency is large and for an inductor reactance will be small when frequency is small.

Q7. What is difference between A.C circuit and D.C circuit?

Ans 1: In A.C circuit.in addition to resistor A,inductor and capacitor are used to control the current and voltage.

Ans 2: In D.C circuit,resistor R is used to control the current and voltage.

Q8. What is the main reason for the world wide use of A.C/

Ans 1: Because it can transmit to long distance easily and at a very low cost,Its power losses are very small and it may step up or step down by means of a transformer.

Q9. What is the root mean square value of current?Explain.

Ans 1: The square root of mean square values of current is called root mean square value of current.The average value of current over a cycle is zero but the power delivered during a cycle is not zero because power is I^2R and the value are positive even for negative values of I.

Q10. Why a transformer can not work on DC input supply? Explain

Ans 1: Since a transformer work on the principle of mutual induction and direct current can not induce emf as in mutual induction,So a transformer can not work on DC supply input supply.