Physics - 12th Class Physics Chapter 5 Short Questions Preparation

Q1. 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.

Q2. 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 **difference**between 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 **lagging**behind.

Q3. Define peak to peak value of A.C voltage.

Ans 1: It is the sum of the positive and negative peak values,If $V_o$is the peak value of the voltage waveform then p-p value is $2V_o$.

Q4. 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.

Q5. Define A.C current.

Ans 1: A.C is that which is produced by a voltage source whose polarity keeps in reserving with time.

Q6. What is meant by inductive and capacitive reactance?

Ans 1: The measurement of opposition offered the inductor to the flow of alternating current is called inductive reactance. And the measurement of opposition offered by the capacitor to the flow of alternating current is called capacitive reactance.

Q7. What is choke?

Ans 1: It is a coil of thick copper wire wound closely over soft iron laminated cores,It is used in AC circuits to limited current with extremely small wastage of energy as compare to a resistance .

Q8. Explain the principle of metal detector.

Ans 1: Difference of frequencies of two LC oscillator circuit caused by placing the metallic object near one of them result to produce the beats.

Q9. Define phase of alternating voltage.

Ans 1: The angleθ=wt which specifies the instantaneous value of the alternating voltage or current is known as its phase.

Q10. 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.
