Physics - ICS Part 2 Physics Chapter 16 Short Questions Preparation

Q1. 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.

Q2. 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.

Q3. 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.

Q4. 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.

Q5. What is responsible factor for production of magnetic field in an atom?

Ans 1: As Ampere suggested,a magnetic field is produced whenever an electrical charge in motion.The spinning and orbiting of the electrons of an atom produce a magnetic field as does electrical current flowing through a wire.

Q6. Write the conditions under which electromagnetic waves are produced from a source?

Ans 1: Electromagnetic waves are produced according to the follow.
"A changing magnetic flux creates an electrical field and a changing electric flux creates magnetic field".

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. Define alternating current.

Ans 1: Alternating current is that which is produced by a voltage source whose polarity keeps on reserving with time.
$I=I_o Sin2\pi ft$.

Q9. Write advantage and disadvantage of FM and AM.

Ans 1: Advantage:

1. FM transmission frequencies are much higher and range between 88 MHz to 108 MHz.AM transmission frequencies range from 540 KHz to 1600 KHz.
2. FM radio waves are affected less by electrical interference than AM radio waves.

Disadvantage:

1. FM have a short range than AM.
2. FM are less able to travel around obstacles such as hills and large buildings.

Ans 2:

Q10. Define phase of alternating voltage.

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