

## 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 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 values are positive even for negative values of  $I$ .

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

**Ans 1:** It is the sum of the positive and negative peak values, if  $V_0$  is the peak value of the voltage waveform then p-p value is  $2V_0$ .

Q4. What is modulation? Name its types,

**Ans 1:** The process of combining the low frequency signal with a high frequency is called modulation. It is of two types.

1. Amplitude modulation
2. Frequency modulation.

Q5. 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 times in a cycle. One time for positive half cycle and one negative half cycle.

Q6. Define impedance and resonant frequency.

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

Q7. Why a transformer can not work on DC input supply? Explain

**Ans 1:** Since a transformer works 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.

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Q8. Write down two advantage of use of three phase AC supply.

**Ans 1:**

1. The main advantage of having three phase supply is that the total load of the house or a factory is divided in the three parts,so that none of the line is overloaded.
2. Three phase supply also provide 400 V Which can be used to operate some special appliances which require 400 V for their operation.

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Q9. 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.

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Q10. 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 .

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