

Alternating Current Fill Blanks



Here are 30 fill-in-the-blanks questions on Alternating Current (AC) based on the NCERT Class 12 Physics curriculum:

1. The peak value of an alternating current is _____.
2. The root mean square (RMS) value of AC is _____ of the peak value.
3. The unit of frequency is _____.
4. The angular frequency of an alternating current is represented as _____.
5. The phase difference between current and voltage in a purely resistive circuit is _____.
6. The voltage across a capacitor leads the current by _____ degrees.
7. The impedance of an AC circuit is given by the formula _____.
8. In a series LCR circuit, resonance occurs when the reactance of the inductor is equal to the reactance of the _____.
9. At resonance, the impedance of a series LCR circuit is equal to _____.
10. The power factor of an AC circuit is defined as the ratio of _____ to the apparent power.
11. The average power consumed in an AC circuit is given by _____.
12. The power factor of a purely resistive circuit is _____.
13. The power factor of a purely inductive or capacitive circuit is _____.
14. In a transformer, the primary and secondary coils are connected in _____.
15. The efficiency of a transformer is given by the ratio of _____ to the input power.
16. The voltage across the secondary coil of a transformer is proportional to the _____.
17. In an ideal transformer, the power output is _____ the power input.
18. The energy losses in a transformer are mainly due to _____ and _____.
19. The RMS value of voltage is related to the peak voltage by _____.
20. The resonant frequency of a series LCR circuit is given by _____.
21. The instantaneous value of an alternating current is given by the equation _____.
22. The phase difference between voltage and current in a purely inductive circuit is _____.
23. The phase difference between voltage and current in a purely capacitive circuit is _____.
24. The average value of a sinusoidal alternating current over one complete cycle is _____.
25. In a parallel LCR circuit, the admittance is the reciprocal of _____.
26. The quality factor of a series resonant circuit is given by the ratio of _____ to resistance.
27. The current in a purely inductive circuit is given by _____.
28. In a step-up transformer, the output voltage is _____ than the input voltage.
29. The efficiency of an ideal transformer is _____.
30. The symbol for a capacitor in an AC circuit diagram is _____.

For further details and to verify the solutions to these questions, you can refer to the NCERT Physics textbook for Class 12, Chapter on Alternating Current.