

Electrical Quiz 5

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91. What is the peak voltage of AC 230 V and peak to peak voltage?

$V_{\text{peak}} = 1.414 \times 230 = 325\text{V}$

$V_{\text{peak to peak}} = 650\text{ V.}$

92. What is the average voltage of 220 V AC during positive half cycle?

198 V. The average or mean value of a sine wave (symmetrical alternating quantity) is the average value measured over only one half of a cycle, since, the average value over one complete cycle is zero regardless of the peak amplitude.

93. How much power a choke coil consume?

Almost zero.

94. What is a capacitor for a DC current?

A perfect insulator.

95. Magnetism of a substance depends on which factor?

Spinning of electrons.

96. What is the formula for the voltage induced in a generator?

$\text{Emf} = (2)(K)(F)(\text{Flux})(N)(10^{\text{power minus } 8}) \text{ Volts.}$

where $K = 1.05.$

$= (105)(10^{\text{power minus } 8})(N)(\text{Flux}).$

$= (N)(\text{Flux})(10^{\text{power minus } 6}) \text{ Volts.}$

97. What is THURY system?

DC system.

98. What are the advantages of DC system?

(i) Unity PF.

- (ii) No skin effect.
- (iii) Higher effective pressure for the same insulation. That is, for 200 V AC insulation, about 400 V DC could be applied.
- (iv) No dielectric loss.
- (v) No inductive or capacitive troubles such as surge and abnormal voltage rise.
- (vi) No charging current.

99. What are the advantages of AC system?

- (i) Higher copper efficiency.
- (ii) Easy transformation and transmission of required voltage.
- (iii) Natural Generation is only AC.
- (iv) Greater flexibility and advantageous of synchronous and induction machines.

100. What is fringe effect in transformers?

Flux leakage in mutual induction of transformer winding is the fringe effect pertinent to magnetic cores with an air gap. Fringing effect lowers the reluctance of the magnetic path and thus increases inductance of the winding made on such a gapped magnetic core.