

QUIZ – ANSWER KEY

QUIZ NO: 152

TOPIC: ELECTRICAL ENGINEERING

DATE: 19/01/2023

1. What is the function of a transformer?

- [A] Transformer is used to step down or up the AC voltages and currents
- [B] Transformer is used to step down or up the DC voltages and currents
- [C] Transformer converts DC to AC voltages
- [D] Transformer converts AC to DC voltages

Answer: A

Explanation: A Transformer does not work on DC and operates only on AC, therefore it Step up or Step down the level of AC Voltage or Current, by keeping frequency of the supply unaltered on the secondary side.

2. What is the working principle of a Transformer?

- [A] Transformer works on the principle of self induction
- [B] Transformer works on the principle of mutual induction
- [C] Transformer works on the principle of ampere law
- [D] Transformer works on the principle of coulomb law

Answer: B

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Explanation:

A transformer is an electrical device used to vary the input voltage. Transformer works on the principle of mutual induction.

3. Transformer ratings are given in _____ ?

- [A] kVA
- [B] HP
- [C] kVAR
- [D] kW

Answer: A

Explanation: There are two types of losses in a transformer, Copper Losses and Iron Losses or Core Losses or Insulation Losses. Copper losses (I^2R) depends on current passing through transformer winding while Iron losses or Core Losses or Insulation Losses depends on Voltage. That's why the rating of Transformer is in kVA.

4. What is current transformer?

- [A] transformer used with an A.C. voltmeter
- [B] transformer used with an A.C. ammeter
- [C] transformer used with an D.C. voltmeter
- [D] transformer used with an D.C. ammeter

Answer: B

Explanation: A transformer used to extend the range of an A.C. ammeter is known as a current transformer. A current transformer is also abbreviated as C.T.

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5. Current transformers are _____ ?

- [A] parallel connected type of instrument transformers
- [B] series connected type of instrument transformers
- [C] parallel connected normal transformers
- [D] series-parallel connected type of instrument transformers

Answer: B

Explanation: Current transformer (CT) is a series connected type of instrument transformer. They are designed to present negligible load to the supply which is being measured and also have an accurate current ratio and phase relationship to enable accurate secondary connected metering.

6. Which of the following is not a part of transformer installation?

- [A] Breather
- [B] Conservator
- [C] Exciter
- [D] Buchholz relay

Answer: C

Explanation: Conservator, breather, Buchholz relay are the parts which are much important in transformer construction in order to maintain temperature of the transformer and to work transformer with good efficiency.

7. Transformer core is generally made of ____ ?

- [A] Cannot be determined
- [B] Can be made with any of the above method
- [C] By stacking large number of sheets together
- [D] Single block of core material

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Answer: C

Explanation: Transformer core experiences eddy current losses when transformer is in the operations. In order to reduce eddy current losses, it is advisable to use large number of sheets laminated from each other are stick together than using one single block.

8. The purpose of the transformer core is to provide ____ ?
- [A] Low reluctance path
 - [B] High inductive path
 - [C] High capacitive path
 - [D] High reluctance path

Answer: A

Explanation:

The purpose of a transformer core is to provide a low-reluctance path for the magnetic flux linking primary and secondary windings. In doing so, the core experiences iron losses due to hysteresis and eddy currents flowing within it which, in turn, show themselves as heating of the core material.

9. Transformers are generally designed for _____ ?
- [A] one-time use
 - [B] off-site problem solving
 - [C] short-time use
 - [D] on-site problem solving

Answer: D

Explanation: Every transformer is designed for use it for multiple years, thus transformers are designed to handle the problems on site itself because it not only saves time but also makes repairing work easy.

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10. Which type of flux does transformer action need?

- [A] Alternating electric flux
- [B] Alternating magnetic flux
- [C] Increasing magnetic flux
- [D] Constant magnetic flux

Answer: B

Explanation: The energy transfer in a transformer, is from one winding to another, entirely through magnetic medium it is known as transformer action. Therefore, transformer action requires an alternating or time varying magnetic flux in order to transfer power from primary side to secondary side. Since induced emf in the winding is due to flux linkage.

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