QUIZ – ANSWER KEY

QUIZ NO: 59

TOPIC: ELECTRICAL ENGINEERING

DATE: 17/03/2022

1. When a transformer winding suffers a short-circuit, the adjoining turns of the same winding experience

    [A] an attractive force

    [B] a repulsive force

    [C] no force

    [D] none of the above

    Answer: A

2. If rated voltage from the power lines is applied to the primary of a single-phase transformer which is operated on load, then

    [A] both input voltage and current are sinusoidal

    [B] both input voltage and current are non-sinusoidal

    [C] input voltage is non-sinusoidal and input current is sinusoidal

    [D] input voltage is sinusoidal and input current is non-sinusoidal

    Answer: D

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3. "In all cases of electromagnetic induction, an induced voltage will cause a current to flow in a closed circuit in such a direction that the magnetic field which is caused by that current will oppose the change that produces the current" is the original statement of

        [A] Lenz's law

        [B] Faraday's law of magnetic induction

        [C] Fleming's law of induction

        [D] Ampere's law

        Answer: A

4. For successful parallel operation of two single phase transformers, the most essential condition is that their

        [A] percentage impedances are equal

        [B] polarities are properly connected

        [C] turns ratios are exactly equal

        [D] kVA ratings are equal

        Answer: B

5. The presence of an uncharged conductor near a charged one increases the

        [A] charge of the charged conductor

        [B] capacity of the charged conductor

        [C] potential of the charged conductor

        [D] all of the above

        Answer: B

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6. Which of the following statements is correct ?

    [A] Mica capacitors are available in capacitance values of 5 to 20 µF

    [B] Air capacitors have a black band to indicate the outside foil

    [C] Electrolytic capacitors must be connected in correct polarity

    [D] Ceramic capacitors must be connected in correct polarity

    Answer: C

7. Two coils having equal resistance but different inductances are connected in series. The time constant of the series combination is the
    [A] the sum of the time constants of the individual coils
    [B] average of the time constants of individual coils
    [C] the geometric mean of the time constants of individual coils
    [D] product of the time constants of individual coils

    Answer: B

8. A network contains linear resistors and ideal voltage sources. If the values of all the resistors are doubled, then the voltage across each resistor is
    [A] halved
    [B] doubled
    [C] increased by 4 times
    [D] not changed

    Answer: D

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9. Two incandescent light bulbs of 40W and 60W rating are connected in series across the mains. Then

  [A] the bulbs together consume 100W

  [B] the bulbs together consume 50W

  [C] the 60W bulb glows brighter

  [D] the 40W bulb glows brighter

  Answer: D

10. Double integration of a unit-step function would lead to?

  [A] an impulse

  [B] a parabola

  [C] a ramp

  [D] a doublet

  Answer: B

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