

QUIZ – ANSWER KEY

QUIZ NO: 121

TOPIC: ELECTRICAL ENGINEERING

DATE: 11/11/2022

1. A capacitor, used for power factor correction in a single phase circuit decreases which of the following ?

- [A] Power factor
- [B] Line current
- [C] Both Line current and Power factor
- [D] Neither Line current nor Power factor

Answer: B

2. A two branch circuit has a coil of resistance R_1 , inductance L_1 in one branch and capacitance C_2 in the second branch. If R is increased, the dynamic resistance is going to _____?

- [A] Increase
- [B] Decrease
- [C] Remains constant
- [D] May increase or decrease

Answer: B

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3. For making a capacitor, the dielectric should have ____ ?

- [A] High relative permittivity
- [B] Low relative permittivity
- [C] Relative permittivity = 1
- [D] Relative permittivity neither too high nor too low

Answer: A

4. The resistance of a thermistor decreases with increases in ____ ?

- [A] temperature
- [B] circuit
- [C] light control
- [D] sensors

Answer: B

5. Two capacitors of $0.5 \mu\text{F}$ and $1.5 \mu\text{F}$ capacitance are connected in parallel across a 110 V dc battery. The charges across the two capacitors after getting charged is ____ ?

- [A] $55 \mu\text{C}$ each
- [B] $275 \mu\text{C}$ each
- [C] $55 \mu\text{C}$ and $275 \mu\text{C}$ respectively
- [D] $275 \mu\text{C}$ and $55 \mu\text{C}$ respectively

Answer: C

6. Consider a circuit having resistances 2Ω and 2Ω in series with an inductor of

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inductance 2 H. The circuit is excited by a voltage of 12 V. A switch S is placed across the first resistance. Battery has remained switched on for a long time. The current $i(t)$ after switch is closed at $t=0$ is _____?

- [A] 6
- [B] $6 - 3e^{-t}$
- [C] $6 + 3e^{-t}$
- [D] $3 - 6e^{-t}$

Answer: B

7. When a lead acid battery is being charged, the specific gravity of the electrolyte will _____?

- [A] Decrease
- [B] Increase
- [C] Either Increase or Decrease
- [D] Neither Increase nor Decrease

Answer: B

8. A series RLC circuit has a resonant frequency of 550 Hz. The maximum voltage across C is likely to occur at a frequency of _____?

- [A] 1000 Hz
- [B] 2000 Hz
- [C] 1025 Hz
- [D] 500 Hz

Answer: D

9. The current wave shape is in the form of a square terminating at $t = 4$ sec. The voltage across the element increases linearly till $t = 4$ sec and then becomes constant. The

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element is _____ ?

- [A] Resistance
- [B] Inductance
- [C] Capacitance
- [D] Semi-conductor

Answer: C

10. Consider a circuit having 3 identical Ammeters A1, A2, A3 parallel to one another. The 1st Ammeter is in series with a resistance, the 2nd Ammeter is in series with a capacitor and the circuit is excited by a voltage V . If A1 and A3 read 5 and 13 A respectively, reading of A2 will be ?

- [A] 8 A
- [B] 13 A
- [C] 18 A
- [D] 12 A

Answer: D

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