

QUIZ – ANSWER KEY

QUIZ NO: 97

TOPIC: ELECTRICAL ENGINEERING

DATE: 09/08/2022

1. If the RC firing circuit used for firing an SCR is to be used to fire a TRIAC then ?

- [A] The capacitor should be removed
- [B] The diode should be replaced by a diac
- [C] The diode should be replaced by a bjt
- [D] The diode should be shorted using a resistor

Answer: B

Explanation:-

The TRIAC is a bidirectional SCR, hence it will need gating in both the directions. This can be achieved by replacing the diode by a DIAC (bidirectional diode).

2. In the thyristor gating circuit, the supply to the pulse amplifier is provided by the ?

- [A] zcd
- [B] isolation transformer
- [C] synchronizing transformer
- [D] control signal generator

Answer: B

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Explanation:-

- Isolation transformer provides the supply to the amplifier and also provides the necessary isolation for the load and triggering circuit.



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3. In the thyristor gating circuit, the ZCD is used to _____

- [A] amplify the voltage
- [B] produce a train of pulses
- [C] convert AC input to ramp voltage
- [D] used to step-down the voltage

Answer: C

Explanation:-

It is used to convert the AC synchronizing input voltage into ramp voltage & synchronizes it with the zero crossing of the AC supply.

4. The firing-angle delay is ?

- [A] Inversely proportional to the synchronizing transformer voltage
- [B] Inversely proportional to the control signal voltage
- [C] Directly proportional to the synchronizing transformer voltage
- [D] Directly proportional to the control signal voltage

Answer: D

Explanation:-

- If E_c is lowered the firing angle decreases & vice-verse.

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5. The pulse gating is not suitable of ?

- [A] R loads
- [B] RC loads
- [C] RL loads
- [D] It is suitable of every type of load

Answer: C

Explanation:-

It is not suitable of RL load because initiation of SCR conduction is not well defined in these types of loads.

6. In case of a cosine firing scheme, _____ is used to get a cosine wave ?

- [A] IC 555
- [B] A comparator
- [C] An integrator circuit
- [D] A differentiator circuit

Answer: C

Explanation:-

The Sync. Transformer is connected to a integrator to obtain a cosine-wave.

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7. If the gating circuits generator negative pulses, then those can be removed by using _____?

- [A] Schmit triggers
- [B] Clippers
- [C] Clampers
- [D] Zener diodes

Answer: B

Explanation:-

The clippers can be used to clip the negative part.

8. The improved version of the UJT oscillator triggering circuit is the ?

- [A] ramp & pedal triggering
- [B] rc triggering
- [C] cosine-pulse triggering
- [D] ramp triggering

Answer: A

Explanation:-

The ramp & pedal triggering is the improved version of the UJT oscillator triggering circuit.

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9. $R_{B1} = 3 \text{ k}\Omega$ & $R_{B2} = 6 \text{ k}\Omega$. Find the intrinsic stand-off ratio (η) of the UJT ?

- [A] 9
- [B] 1/3
- [C] 2/3
- [D] 3

Answer: B

Explanation:-

$$\eta = R_{B1} / (R_{B1} + R_{B2})$$

10. The decaying factor in the wave shape of the output pulses from the pulse transformer is its ?

- [A] Transformer ratio
- [B] Inductance
- [C] Capacitance
- [D] Resistance

Answer: B

Explanation:-

L is the decaying factor in the waveform which emerges from the PT.

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