

## QUIZ – ANSWER KEY

QUIZ NO: 123

TOPIC: ELECTRICAL ENGINEERING

DATE: 16/11/2022

1. AC voltage controllers convert ?

- [A] duty cycle
- [B] variable ac to variable dc
- [C] fixed ac to variable ac
- [D] variable ac to fixed ac

**Answer: C**

2. In AC voltage controllers the \_\_\_\_\_ ?

- [A] variable ac with fixed frequency is obtained
- [B] variable ac with variable frequency is obtained
- [C] variable dc with fixed frequency is obtained
- [D] variable dc with variable frequency is obtained

**Answer: A**

3. Earlier than the semiconductor technology, \_\_\_\_\_ devices were used for voltage control applications ?

Join our social media



## QUIZ – ANSWER KEY

- [A] cycloconverters
- [B] vacuum tubes
- [C] tap changing transformer
- [D] induction machine

**Answer: C**

4. The AC voltage controllers are used in \_\_\_\_\_ applications ?

- [A] power generation
- [B] electric heating
- [C] conveyor belt motion
- [D] power transmission

**Answer: B**

5. Pulse gating is suitable for \_\_\_\_\_ ?

- [A] R loads only
- [B] R and RL loads
- [C] RL loads only
- [D] all types of loads

**Answer: A**

6. In continuous gating \_\_\_\_\_ ?

- [A] overlap angle is very high
- [B] SCR is heated up
- [C] size of the pulse transformer is small

**Join our social media**



## QUIZ – ANSWER KEY

[D] commutation cannot be achieved effectively

**Answer: B**

7. High frequency gating uses a \_\_\_\_\_ ?

- [A] train of pulses
- [B] continuous gating block
- [C] carrier signal
- [D] none of the above

**Answer: A**

8. A single-phase voltage controller, using one SCR in anti parallel with a diode, feeds a load R and  $V_s = 230$  V. For a firing angle of  $90^\circ$  for the SCR, the PMMC voltage connected across R would read \_\_\_\_\_ ?

- [A] 0
- [B] 51.8 V
- [C] -51.8 V
- [D] -36.82 V

**Answer: C**

**Explanation:** As firing angle is  $90^\circ$ , there is ideally be no conduction in the positive half. Hence, the average value will be zero.

$$V_o = (\sqrt{2} V_s) / 2\pi \times (\cos 90^\circ - 1) = -51.8 \text{ V.}$$

9. A single phase voltage controller has input of 230 V and a load of  $15 \Omega$  resistive. For 6 cycles on and 4 cycles off, determine the average value of SCR current \_\_\_\_\_ ?

- [A] 21.68 A
- [B] 200 mA
- [C] 4.14 A
- [D] 2.07 A

Join our social media



## QUIZ – ANSWER KEY

**Answer: C**

**Explanation:** Peak current  $I_m = (230 \times \sqrt{2})/15 = 21.681 \text{ A}$

$k = (6/6+4) = 6/10 = 0.6$

Avg current =  $(k I_m)/\pi = 4.14 \text{ A}$ .

10. SMPS is used for ?

[A] obtaining controlled ac power supply

[B] obtaining controlled dc power supply

[C] storage of dc power

[D] switch from one source to another

**Answer: B**

Join our social media

