

## QUIZ – ANSWER KEY

QUIZ NO: 154

TOPIC: ELECTRICAL ENGINEERING

DATE: 21/01/2023

1. Servomotors are usually rated in ?

- [A] kW
- [B] torque/hour
- [C] kVA
- [D] kg/cm

**Answer: D**

**Explanation:** Servo motors are usually rated in kg/cm while other motors are usually rated in KVA. It means how much weight does a motor can lift if the load is suspended at a specific distance from the shaft of motor.

2. Which of the following is most accurate motor ?

- [A] Squirrel cage induction motor
- [B] Universal motor
- [C] Servomotor
- [D] Repulsion motor

**Answer: C**

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3. The DC servomotors can be controlled by ....?

- [A] a DC motor
- [B] Pulse width modulation
- [C] Pulse position modulation
- [D] System of pulses to each pulse

**Answer: B**

4. Most of the AC motors used in Servo applications are ?

- [A] Three phase induction motors
- [B] Two phase induction motors
- [C] Single phase induction motors
- [D] Synchronous motors

**Answer: B**

5. In AC servomotor main winding and control winding are displaced by ?

- [A] 90 degree electrically
- [B] 90 degree mechanically
- [C] 180 degree electrically
- [D] 180 degree mechanically

**Answer: A**

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6. A servomechanism is a feedback control system used to control ?

- [A] Position
- [B] Velocity
- [C] Acceleration
- [D] All of the above

**Answer: D**

**Explanation:** Servomechanism controls position and derivatives of position such as velocity and acceleration.

7. One of the basic requirements of servomotors is that it must produce high torque at all ?

- [A] Voltages
- [B] Loads
- [C] Speeds
- [D] Frequencies

**Answer: C**

8. In a calculation, the actual voltage regulation is 33.1% while the calculated value of the voltage regulation is 56.8%. This infers that the chosen method has been \_\_\_\_\_?

- [A] emf
- [B] mmf
- [C] asa
- [D] zpf

**Answer: A**

**Explanation:** As the given value is more than actual, so it must be emf method.

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9. If the emf from the air gap line is the 3-phase alternator is 440V per phase and armature current is 110 A. The synchronous reactance is?
- [A] 4 ohms
  - [B] 2 ohms
  - [C] 6.92 ohms
  - [D] 2.32 ohms

**Answer: A**

**Explanation:**  $Z = V/I = 440/110 = 4$  ohms

10. Ideally the voltage regulation of an alternator should be \_\_\_\_\_?

- [A] zero
- [B] infinite
- [C] 50%
- [D] 100%

**Answer: A**

**Explanation:** Ideally the terminal voltage and the excitation voltage should be same.

So V.R. =  $E - V/V = 0\%$ .

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