

MCQs ON POWER ELECTRONICS

- Which of the following statements is correct?
 - Sensors and transducers are both examples of actuators
 - Actuators and transducers are both examples of sensors
 - Sensors and actuators are both examples of transducers.
 - None of the above
- What term describes the maximum expected error associated with a measurement or a sensor?
 - Range
 - Accuracy
 - Resolution
 - Precision
- Which of the following forms of temperature sensor produces a large change in its resistance with temperature, but is very non-linear?
 - A *pn* junction sensor
 - A thermistor
 - A platinum resistance thermometer
 - All the above
- One of the most widely used forms of light sensor is the
 - A photodiode is an example of a photovoltaic sensor
 - A photodiode can be used as either a photoconductive or a photovoltaic sensor
 - A photodiode is an example of a photoconductive sensor
 - None of the above
- Temperature sensing can be achieved by use of
 - thermocouples
 - RTDs
 - Thermistors
 - all of the above
- The output voltage of a typical thermocouple is
 - less than 100 millivolts
 - greater than 1 volt
 - thermocouples vary resistance, not voltage
 - none of the above
- RTDs are typically connected with other fixed resistors
 - in a pi configuration
 - in a bridge configuration
 - and variable resistors
 - and capacitors in a filter-type circuit
- What device is similar to an RTD but has a negative temperature coefficient?
 - strain gage
 - negative-type RTD
 - Thermistor
 - Thermocouple
- Motion-measuring circuits make use of
 - inductance
 - Capacitance
 - Light
 - all of the above
- Proximity detection can be performed by
 - inductive detectors
 - capacitive detectors
 - fiber-optic detectors
 - both b and c
- The silicon-controlled rectifier can be turned off
 - by a negative gate pulse
 - by forced commutation
 - with the off switch
 - when the breakover voltage is exceeded
- Holding current for an SCR is best described as
 - the minimum current required for turn-off
 - the current required before an SCR will turn-on

- C. the amount of current required to maintain conduction
 D. the gate current required to maintain conduction
13. A triac placed in reverse bias will conduct
 A. since it is a bidirectional device B. if the breakdown voltage is exceeded
 C. only if triggered by a pulse at the gate D. both a and c
14. Precise phase control for an ac load can be controlled by a(n)
 A. SCR B. Triac
 C. Transformer D. trigger pulse
15. What is the zero-voltage switch used for?
 A. to control low-voltage circuits
 B. to reduce radiation of high frequencies during turn-on of a high current to a load
 C. to provide power to a circuit when power is lost
 D. for extremely low-voltage applications
16. Which of the following is a desirable characteristic of an instrument ?
 A. High fidelity B. Poor reproducibility
 C. High drift D. High measuring lag
17. Which of the following is the dynamic characteristics of an instrument ?
 A. Dead zone B. Reproducibility C. Fidelity D. Sensitivity
18. Response of a system to a sinusoidal input is called _____ response
 A. frequency B. Impulse C. unit step D. none of these
19. Which of the following relates the emf. generated in a single homogeneous wire to the temperature difference ?
 A. Peltier effect B. Thomson effect
 C. Seebeck effect D. none of these
20. Thermistor, which has high temperature co-efficient of resistivity, is used as the sensing element in resistance thermometer. It is a/an
 A. conductor B. liquid semi-conductor C. solid semi-conductor D. Insulator
21. Which of the following is an undesirable dynamic characteristic of an instrument ?
 A. Static error B. Dead zone C. Time lag D. Reproducibility