Assignment 8

The due date for submitting this assignment has passed.

Due on 2021-03-17, 23:59 IST.

As per our records you have not submitted this assignment.

1) A sensor *1 point*

- Amplifies the input signal
- Attenuates the input signal
- Both amplifies and attenuates the input signal
- Converts energy from one form to another

No, the answer is incorrect.
Score: 0

Accepted Answers:
Converts energy from one form to another

2) In a closed loop control system, the function of the comparator block is to *1 point*

- Compare the reference input with the present output
- Reduced the error
- Provide gain to the feedback signal
- Amplifies the feedback signal

No, the answer is incorrect.
Score: 0

Accepted Answers:
Compare the reference input with the present output

3) An actuator *1 point*

- reduce the torque input
- reduce the energy input
- Stabilise the dynamic system
- Converts energy from one form to another

No, the answer is incorrect.
Score: 0

Accepted Answers:
Converts energy from one form to another

4) An internal sensor is required for *1 point*

- Sensing the disturbance from the environment
- For stabilising the system
- Basic working of the system in close loop control.
- Reducing error in real time

No, the answer is incorrect.
Score: 0

Accepted Answers:
Basic working of the system in close loop control.

5) In order to increase the resolution of position measurement, two encoders are mounted in parallel and their signals are *1 point*

- Passed through a XNOR gate
- Passed through a XOR gate
- Passed through an OR gate
- Further amplified

No, the answer is incorrect.
Score: 0

Accepted Answers:
Passed through a XOR gate

6) An ultrasonic sensor mounted in the front of mobile robot very often does not see an obstacle in front. The likely reason being *1 point*

- High frequencies sound waves does not propagate far
- The rays are reflected away due to circular shape of the obstacle (rays not normal to the surface)
- The reflected rays (waves) are not in the ultrasonic band anymore
- Due to noise from the environment

No, the answer is incorrect.
Score: 0

Accepted Answers:
The rays are reflected away due to circular shape of the obstacle (rays not normal to the surface)

7) In a force/torque sensor there is always some error associated with measurement because *1 point*

- The gain matrix is non-square and does not have an exact inverse
- Inefficiency of the controller used
- Inefficiency in energy conversion
- Unavailability of enough input data

No, the answer is incorrect.
Score: 0

Accepted Answers:
The gain matrix is non-square and does not have an exact inverse

8) In a brushless DC motor, the permanent magnets are *1 point*

- on the stator
- on the rotor
- No permanent magnets. Both stator and rotor are magnetised by current carrying coils.
- of relatively lower coercivity

No, the answer is incorrect.
Score: 0

Accepted Answers:
on the rotor

9) In an ultrasonic motor, the stator is made up of *1 point*

- Temporary magnet
- Electropermanent magnet
- permanent magnet having high coercivity
- peizo electric material

No, the answer is incorrect.
Score: 0

Accepted Answers:
peizo electric material

10) Pneumatic actuators are used in the gripper of robots because *1 point*

- of less error associated
- of faster response
- they are backdrivable and safe
- of lower power requirement

No, the answer is incorrect.
Score: 0

Accepted Answers:
they are backdrivable and safe