Total No. of Questions :4]

SEAT No. :

P8615

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Oct-22/TE/Insem - 623

T.E. (Robotics and Automation Engineering)

SENSORS TECHNOLOGY

(2019 Pattern) (Semester - I) (311504(A))

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4***
2) ***Figure to the right indicates full marks.***
3) ***Neat diagram must be drawn wherever necessary.***
4) ***Assume Suitable data if necessary.***
5) ***Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed***

Q1) a) Explain Precision Op-amp with their Characteristics. **[7]**

b) Explain in detail Performance Characteristics of Sensor. **[8]**

OR

Q2) a) What is DAS explain with suitable diagram **[7]**

b) Write a short note on

i) Conditioning bridge circuit

ii) Amplifying and Linearizing bridge outputs **[8]**

Q3) a) Explain in detail Accelerometer **[7]**

b) Explain the following terms **[8]**

i) Cell Based Biosensor

ii) MEMS Microphones

OR

Q4) a) Explain in detail different types of Transduction methods used in Sensor **[7]**

b) Write a short note on **[8]**

i) Mechanical Actuator

ii) Molecule based Biosensor