PC115

[6360]-121

T.E. (Robotics & Automation Engineering) (Insem)
SENSORS TECHNOLOGY
(2019 Pattern) (Semester - I) (311504A)

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

Instructions to the candidates:

　　1)　All questions are compulsory i.e. Solve Q.1 or Q.2, Q.3 or Q.4.

　　2)　Assume suitable data, if necessary.

　　3)　Use of electronic pocket calculator is allowed.

　　4)　Neat diagrams must be drawn wherever necessary.

Q1) a)　Explain use of half bridge circuit in signal conditioning unit with a suitable example. **[8]**

　　b)　Explain significance of "Conditioning Bridge Circuit" with example. **[7]**

OR

Q2) a)　What is Precision Op-amp? Explain with circuit diagram. **[8]**

　　b)　Write various Performance characteristics of Sensor. **[7]**

Q3) a)　Explain the following terms. **[8]**

　　　　i)　Chemical Sensor

　　　　ii)　Molecular-based Bio-Sensor

　　b)　Explain the basic principle of accelerometer with suitable example. Justify the significance of accelerometer in smartphones. **[7]**

OR

Q4) a)　Distinguished between "Half Bridge" and "Full Bridge method" used in strain gauge circuit. **[8]**

　　b)　Explain potentiometer pressure sensor with neat diagram. **[7]**

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