**Total No. of Questions : 8]**

**SEAT No. :** [ ]

**P-9667**

**[Total No. of Pages : 2**

# [6182]-931

# M.E. (E & TC) (IoT & Sensor System)

## SENSORS & MEASUREMENTS

## (2017 Pattern) (Semester - I) (504601)

***Time : 3 Hours]*** ***[Max. Marks : 50***

***Instructions to the candidates:***

1) ***Attempt any 5 questions out of 8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right of questions indicate full marks.***
4) ***Assume suitable data, if necessary.***

***Q1)*** a) Give the detailed classification of sensors based on performance and types. **[5]**

b) Explain the working principle of piezo-resistive and capacitive pressure sensor. **[5]**

***Q2)*** a) Write short note on : **[5]**

i) Avalanche Photo diodes

ii) Load Cells

b) Explain the working principle of LED and semiconductor Lasers. **[5]**

***Q3)*** a) Explain Micro bending process and highlight its applications. **[5]**

b) Justify the working principle of piezoelectric accelerometer and thermal accelerometer. **[5]**

***Q4)*** a) Explain the detailed working of monolithic and optical gyroscopes. **[5]**

b) What is Accelerometer? How it works? List its characteristics. **[5]**

***P.T.O.***

***Q5)*** a) Explain the working principle of LVDT and highlight its applications. **[5]**

b) Explain Fabry Perot sensor in Detail & list its applications. **[5]**

***Q6)*** a) Write short notes on : **[5]**

i) Eddy current

ii) Hall Effect

b) Explain the working principle of RVDT and highlight its applications. **[5]**

***Q7)*** a) Explain the working principle of flow sensors and give its classifications and applications. **[5]**

b) Write short note on temperature sensors. **[5]**

***Q8)*** a) What is Solid state electronics based microphone and how it works? **[5]**

b) Explain the working principle of Acoustic sensors and give its classifications and applications. **[5]**

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