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Question Paper Code: 59476

B.E./B.Tech. DEGREE EXAMINATION, NOV 2019

Open elective

Civil Engineering

15UEC976 SENSORS AND ACTUATORS

(Common to CSE, EEE, EIE, Mechanical, IT, Chemical, Agri)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

1. Application of displacement sensor? CO1- R
(a) Travel Range (b) Flix Density
(c) Rheostat (d) SONAR
2. A nested capsule pressure gauge _____ CO2- U
(a) two convex diaphragms (b) two convex diaphragms
(c) a concave and concave diaphragm (d) none of these
3. orifice plate sensor works on _____ CO3- R
(a) Doppler effect (b) Gauss law
(c) Strain fluctuations (d) pressure flucations
4. _____ are used in street lights to control when the light should turn on and turn off CO4- R
(a) Thermistor (b) photoconductor (c) photodiode (d) photo resistor
5. _____ is the phenomenon is used to recover original size when it is heated CO5- R
(a) pseudo effect (b) inverse pizeo effect (b) magnetic (b) shape memory

PART – B (5 x 3= 15Marks)

6. Define hall effect CO1- U
7. Define pizeo electric sensor CO2- U

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| 8. | Mention the characteristic rotometer | CO3- U |
| 9. | Explain about thermocouple | CO4- U |
| 10. | Define inverse pizeo effect | CO5- U |

PART – C (5 x 16= 80Marks)

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| 11. | (a) Explain about photo electric sensor | CO1-U | (16) |
| | Or | | |
| | (b) Explain about position Sensor with neat diagram | CO1 -U | (16) |
| 12. | (a) Explain about Tactile Sensor with neat diagram | CO2 -U | (16) |
| | Or | | |
| | (b) Explain about tactile sensor | CO2 -U | (16) |
| 13. | (a) Describe with neat diagram and working of tachogenerator | CO3- U | (16) |
| | Or | | |
| | (b) Explain about flow nozzele ventritube | CO3- U | (16) |
| 14. | (a) Explain about accelerometer and vibrometer | CO4-U | (16) |
| | Or | | |
| | (b) Explain about photo resistor and its working with neat diagram | CO4 -U | (16) |
| 15. | (a) Explain about acceleration Sensor | CO5- U | (16) |
| | Or | | |
| | (b) Explain about microsensors and its types | CO5- U | (16) |