

Code No: 5455AQ

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M. Tech II Semester Examinations, July/August – 2021

SENSORS AND ACTUATORS

(Embedded Systems)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Explain the different principles of working of capacitive transducers.
- b) Explain in detail about characteristics of Transducer. [7+8]
- 2.a) Explain strain gauge? Mention the types of strain gauges and explain in detail.
- b) Explain in detail about Electro static transducer. [7+8]
- 3.a) Explain in detail about Resistance Change Type Thermometric Sensors.
- b) Explain in detail about heat flux sensors. [8+7]
- 4.a) Explain in detail about Semiconductor Magneto resistors.
- b) Explain in detail about SQID sensors. [7+8]
- 5.a) Explain in detail about X-ray and Nuclear Radiation Sensors.
- b) Explain about Electro ceramics in gas media. [8+7]
- 6.a) Explain in detail about Standard Hydrogen Electrode (SHE).
- b) Explain in detail about Data Communication in connection with smart sensor. [8+7]
- 7.a) Explain in detail about Aerospace Sensors.
- b) Explain about sensors for Environmental monitoring. [7+8]
- 8.a) Explain in detail about Rotary actuators.
- b) Explain in detail about Solid-state switches and Solenoids. [7+8]

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