Q.1

Q.2

Q.3

Q.3

Q.4

Q. 4

Q.5

Q.5

Enrolment No._

		-
GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-V (NEW) - EXAMINATION - SUMMER 2016Subject Code: 2152408Date: 09/05/2016Subject Name: Industrial InstrumentationTotal Marks: 70Time: 02:30 PM to 05:00 PMTotal Marks: 70Instructions:1. Attempt all questions.2. Make suitable assumptions wherever necessary.3. Figures to the right indicate full marks.		
(a)	Define following.	07
(b)	5. Threshold6. Reliability7. AccuracyExplain the basics of fibre optic sensors and the application of fibre optic sensors as displacement sensor.	07
(a)	Explain the construction and working of ultrasonic level detectors. List advantages	07
(b)	and disadvantages of it. Define smart sensors. Explain configuration of a smart sensor with the help of block diagram	07
(b)	OR List advantages of electrical transducers. Discuss the basic requirements of a transducer.	07
(a)	Explain the construction and working of in-line rotating torque sensor with neat	07
(b)	Explain the theory of platinum resistance thermometer. Also explain the construction of platinum resistance thermometer with neat diagram.	07
(a)	Draw the schematic and explain the working of optical pyrometer. List advantages and disadvantages of it.	07
(b)	Explain the thermocouple circuits in detail.	07
(a)	Explain the working principle and construction of electromagnetic flow meter with neat diagram.	07
(b)	Explain the Hall effect principle. Explain the construction and working of Hall effect angular displacement transducer.	07
(a)	OR Explain the construction and working of LVDT. List advantages and disadvantages	07
(b)	Explain the theory of operation of resistance strain gauge. Derive the equation of the gauge factor for the resistance strain gauge.	07
(a)	List the types of electrical strain gauges. Explain the wire gauges in detail with neat diagram	07
(b)	Explain the construction and working of pressductor load cell. List advantages and disadvantages of it.	07
(a) Explain the working principle construction and working of piezoelectric pressure 07		
(a)	transducers. List advantages and disadvantages of it.	07
(b)	Explain the construction and working of magnetic-drag tachometer.	07