

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018****Subject Code: 2183904****Date: 30/04/2018****Subject Name: Nanosensors and Transducers****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			<b>MARKS</b>
<b>Q.1</b>	<b>(a)</b>	Define Nano materials as sensor and give their examples.	<b>03</b>
	<b>(b)</b>	Write short note on Future scope of sensor.	<b>04</b>
	<b>(c)</b>	Explain nano sensor and their applications in industries.	<b>07</b>
<b>Q.2</b>	<b>(a)</b>	Describe metal oxides base sensor.	<b>03</b>
	<b>(b)</b>	What is sensitivity of sensor? Explain it with example.	<b>04</b>
	<b>(c)</b>	Define gas sensor and explain it.	<b>07</b>
		<b>OR</b>	
	<b>(c)</b>	Write a short note on semiconducting sensor.	<b>07</b>
<b>Q.3</b>	<b>(a)</b>	Describe nano electronic materials base sensor.	<b>03</b>
	<b>(b)</b>	Explain how sensor morphology affects on sensitivity of sensor.	<b>04</b>
	<b>(c)</b>	What is photonics? Explain Nano photonics and their sensitivity	<b>07</b>
		<b>OR</b>	
<b>Q.3</b>	<b>(a)</b>	Describe the applications of nano sensor in medical.	<b>03</b>
	<b>(b)</b>	How nano sensor useful in food industries? Explain it.	<b>04</b>
	<b>(c)</b>	Explain environment sensitive nano sensor and their impact on environment.	<b>07</b>
<b>Q.4</b>	<b>(a)</b>	Write importance of nano sensor in agriculture field.	<b>03</b>
	<b>(b)</b>	Describe impact of nano sensor in renewable energy source.	<b>04</b>
	<b>(c)</b>	Write a short note on use of nano sensor in transportation and in national security sector.	<b>07</b>
		<b>OR</b>	
<b>Q.4</b>	<b>(a)</b>	What is transducer and nano transducer? Give their examples.	<b>03</b>
	<b>(b)</b>	Explain one dimensional nano sensor.	<b>04</b>
	<b>(c)</b>	Describe liquid and nano gas sensors.	<b>07</b>
<b>Q.5</b>	<b>(a)</b>	What is carbon nano tubes and CNT base sensor? Give their examples.	<b>03</b>
	<b>(b)</b>	Explain nano ceramics as sensor.	<b>04</b>
	<b>(c)</b>	Explain electromagnetic and magnetic transduction	<b>07</b>
		<b>OR</b>	
<b>Q.5</b>	<b>(a)</b>	Explain fabrication of sensor.	<b>03</b>
	<b>(b)</b>	What is road map of fabrication? Explain it.	<b>04</b>
	<b>(c)</b>	Explain Mechanical and spectroscopy transduction.	<b>07</b>

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