Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2163905

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Date: 26/10/2016

T	ime	ect Name: Microelectronics and VLSI : 02:30 PM to 05:00 PM Total Marks: 7 ctions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	70
Q.1	(a) (b)	Explain PNP and NPN transistors. Write a short note on MOSFET.	0′; 0′;
Q.2	(a) (b)	Explain principle and working mechanism of LED. Write applications of LED.	07 07
	(b)	OR Explain PN junction diode.	07
Q.3	(a) (b)	Explain Moore's law. Explain principle and operation of photovoltaic cell.	07 07
Q.3	(a) (b)	OR Describe applications of photovoltaic cell. Describe applications of PN junction diode and MOSFET.	0′ 0′
Q.4	(a) (b)	Explain one micro fabrication technique. Describe the applications of MEMS.	07 07
Q.4	(a) (b)	OR Design the circuit diagram for binary number systems for 0-9. Write a short note on semiconductor random access memory (RAM).	07 07
Q.5	(a) (b)	Write applications of Microfulidic devices in nanotechnology. Explain the classification of Integrated Circuits.	07
Q.5	(a) (b)	OR Explain the construction of NMOS and PMOS with necessary diagram. Describe the principle and mechanism of CMOS transistor with figure.	0′ 0′
