Seat No.:	Enrolment No.

Subject Code: 151006

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION - WINTER 2015

Date:14/12/2015

Ti	me: structi 1 2	t Name: Applied Electronics 10:30am to 1:00pm Total Marks: 70 tons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Describe SMPS in detail with all necessary waveform & diagram. List the types of temperature transducer. Explain any two of them in detail.	07 07
Q.2	(a)	Explain Astable Multivibrator circuit using IC 555. Also design Astable	07
	(b)	Multivibrator for an output frequency 5Khz and duty cycle 40%. Explain LVDT principal and operation in detail. Also state the advantages and disadvantages of LVDT.	07
	(b)	OR Justify this sentence" operational amplifier cannot be used as an amplifier in the open loop mode". Draw equivalent circuit of operational amplifier. Explain the concept of virtual ground.	07
Q.3	(a)	State the principle and operation of Strain Gauge Transducer in detail. Explain all type of Strain Gauge in detail.	07
	(b)	What do you mean by LCD? State the types of LCD. Explain all of them in detail.	07
Q.3	(a)	OR Explain the principal and operation of Optocoupler / Isolator. State any one of the application in brief.	07
	(b)	Explain Photoconductive sensors in detail.	07
Q.4	(a) (b)	Explain operation and V-I characteristics of SCR. Define intrinsic standoff ratio of UJT and Explain its application as a Relaxation oscillator with necessary waveform.	07 07
Q.4	(a)	OR Explain Digital Storage Oscilloscope in detail.	07
	(b)	Explain Digital Multimeter in detail.	07
Q.5	(a) (b)	Explain the architecture of 8051. Define sequential & combinational circuit. Explain Successive Approximation Analog to digital conversion.	07 07
Q.5	(a)	OR Explain concept and operation of Washing Machines with necessary block diagram in detail.	07
	(b)	Write a short note on any two: (1) I-Pod (2) RFID (3) Bar Code Scanner and Decoder	07
