GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– V(OLD) EXAMINATION – SUMMER 2019

Subject Code:151006   **Date:10/06/2019**
Subject Name:Applied Electronics
Time:02:30 PM TO 05:00 PM   **Total Marks: 70**

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

Q.1	**(a)**	Draw and explain block diagram of IC 555.	07
	(b)	Explain principle of LVDT and its operation. Also enlist its advantages and disadvantages.	07
Q.2	**(a)**	What is regulated power supply? Draw and explain block diagram of SMPS. Also write advantage of SMPS.	07
	(b)	What is universal Gate? Explain NOR and NAND gate as a universal Gate.	07
		OR	
	(b)	Find out the Boolean expression of the Full Adder sum and carry. Using by same expression give realization of Full adder circuits.	07
Q.3	**(a)**	Draw the block diagram of an OP-AMP and explain the function of each block.	07
	(b)	With the help of the block diagram, explain the operation of a single trace Cathode Ray Oscilloscope.	07
		OR	
Q.3	**(a)**	Explain construction and principle of operation of photoconductive cell.	07
	(b)	Write a short note on strain gauge transducers.	07
Q.4	**(a)**	Draw the equivalent circuit of UJT and plot its characteristics.	07
	(b)	Discuss any one closed – Loop op-amp configurations in detail.	07
		OR	
Q.4	**(a)**	Explain construction and working of SCR using two transistor model.	07
	(b)	Explain the principal and working of Thermocouple. Compare it with RTD.	07
Q.5	**(a)**	What is Ideal Voltage source? Also explain factors affecting the voltage regulation with block diagram of Shunt voltage regulator.	07
	(b)	Explain Liquid Crystal Display with necessary figures.	07
		OR	
Q.5	**(a)**	Write a short note on Digital Multimeter.	07
	(b)	What is Washing Machine? Properly explain the concept of fuzzy logic used in washing machine.	07

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