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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–V (OLD) EXAMINATION – WINTER 2018

Subject Code:151006   **Date: 30/11/2018**

Subject Name: Applied Electronics

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.**

Q.1	**(a)**	What is regulated power supply? Draw and explain block diagram of SMPS. Also write advantage of SMPS.	**07**
	(b)	Draw the block diagram of an OP-AMP and explain the function of each block.	**07**
Q.2	**(a)**	Draw and explain block diagram of IC 555. Also explain the Pin connection of IC 555.	**07**
	(b)	Write short note on CRO.	**07**
		OR	
	(b)	Explain Ideal characteristics of operational amplifier.	**07**
Q.3	**(a)**	Explain half adder and full adder circuit using logic diagram.	**07**
	(b)	Explain Astable multivibrator.	**07**
		OR	
Q.3	**(a)**	What is LVDT? Explain principle and operation of LVDT. Also list the advantage and application of LVDT.	**07**
	(b)	Explain monostable multivibrator.	**07**
Q.4	**(a)**	What is SCR? With required figure explain the operation and I-V characteristics of SCR.	**07**
	(b)	What is an optocoupler/optoisolator? Explain any one application of the same.	**07**
		OR	
Q.4	**(a)**	Explain construction and working of UJT. Also explain UJT as relaxation oscillator.	**07**
	(b)	What is TRIAC? Draw and explain the construction of TRIAC? Also explain its operation.	**07**
Q.5	**(a)**	What is sequential circuit? Explain any one sequential circuit with necessary circuit diagram in detail.	**07**
	(b)	Explain architecture of 8051 with block diagram.	**07**
		OR	
Q.5	**(a)**	Write short note on Photocopier machine.	**07**
	(b)	What is Bar Code Scanner? Draw and explain the operation of Bar Code Scanner with required figure.	**07**

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