Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE (SPFU) - SEMESTER–I-II (SPFU) - EXAMINATION – SUMMER 2017

Subject Code: TEE011 **Date: 16/06/2017**

Subject Name: BASIC ELECTRONICS

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	State and explain Kirchhoff's laws.	**07**
	(b)	Write short note on lumped circuit elements.	**07**
Q.2	**(a)**	Explain analogy between electrical and other non-electrical physical systems.	**07**
	(b)	State and explain thevenin theorem with suitable example.	**07**
Q.3	**(a)**	State and explain Norton theorem with suitable example.	**07**
	(b)	Draw and explain block diagram of operational amplifiers.	**07**
Q.4	**(a)**	Define op-amp. List practical properties of operational amplifiers.	**07**
	(b)	Draw and explain block diagram of computer system.	**07**
Q.5	**(a)**	Write short note on computer networks.	**07**
	(b)	List applications of operational amplifiers. Explain any one with circuit diagram.	**07**
Q.6	**(a)**	Explain wye-delta transformation with suitable example.	**07**
	(b)	Explain NAND gate as a universal gate.	**07**
Q.7	**(a)**	Draw and explain full adder circuit diagram.	**07**
	(b)	I. Convert a) $(239)_{10}$ b) $(13)_{10}$ in to binary number system	**07**
		II. Convert a) 1100110 b) 1110001 into decimal number system	
		III. Convert a) 11011011 b) 11101010 into Hex code.	
		IV. Find 2's compliment a) 110101 b) 1111001	
		V. State de Morgan's theorem.	
		VI. Convert a) $(227)_8$ b) $(356)_8$ into binary number system.	
		VII. Convert a) 11001101 b) 111000100 into octal number system	

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