(b)

operation in detail.

Seat No.: _____ Enrolment No.____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(OLD) • EXAMINATION – WINTER 2016			
Subject Code:130902 Subject Name:Analog and Digital Electronics Time:10:30 AM to 01:00 PM Instructions: Date:02/0 Total Ma			7
			rks: 70
IIIs		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	List and Discuss all ideal characteristics of an Op Amp. Explain block diagram of OP-AMP. Explain function of each block.	07 07
Q.2	(a) (b)	What is CMRR? What is effect of frequency on CMRR? Enlist the applications of 555 timer in astable and monostable mode. OR	07 07
	(b)	Explain integrator with its frequency response.	07
Q.3	(a) (b)	Draw functional block diagram of IC 555 & discuss function of each pin. Realize EX-OR and NOR gate using NAND gate. OR	07 07
Q.3	(a) (b)	Explain principle of Basic Comparator. Describe operation of Schmitt Trigger with necessary diagram. Minimize the following Boolean expression using K-map and realize it using AOI gates. $Y = \Sigma m (0,1,5,9,13,14,15) + d(3,4,7,10,11)$	07 07
Q.4	(a) (b)	Explain edge triggered D Flip flop with its truth table. Also state its applications. Explain RTL and I ² R logic families. OR	07 07
Q.4	(a) (b)	Describe operation of D/A converter with binary-weighted resistors Define encoders, decoders, multiplexer and de-multiplexer. Give application of each.	07 07
Q.5	(a)	Design BCD to seven segment decoder for common anode display.	07

Q.5 (a) What is PLL? Discuss different applications of PLL in detail.
(b) Explain the use of op-amp as a zero crossing detector with neat sketch.
07
07

OR

Write down modes of operation of shift register. Explain any one mode of

07