Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (NEW) EXAMINATION – SUMMER 2019

Subject Code: 2130902 Date: 07/06/2019

Subject Name:Analog 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**

			MARKS
Q.1	**(a)**	Define: (i) Input offset voltage (ii) Input bias current (iii) Cross over distortion in amplifier	**03**
	(b)	Explain the use of external offset voltage compensation circuits in op-amps.	**04**
	(c)	Classify the types of negative feedback and explain each in brief.	**07**
Q.2	**(a)**	State the characteristics of the ideal Op-amp.	**03**
	(b)	Draw and explain Class B Push Pull Amplifier.	**04**
	(c)	Draw a practical inverting amplifier and derive expressions for closed loop voltage gain, input resistance, output resistance.	**07**
		OR	
	(c)	Describe the phenomenon of common mode rejection ration (CMRR).	**07**
Q.3	**(a)**	State characteristics of comparators.	**03**
	(b)	Explain Slew Rate.	**04**
	(c)	Describe with the help of neat diagram the operation of an instrumentation amplifier using three basic op-amps.	**07**
		OR	
Q.3	**(a)**	Explain in brief Window Detector.	**03**
	(b)	Describe differential input and differential output amplifier.	**04**
	(c)	Discuss differentiator circuit using Op-amp.	**07**
Q.4	**(a)**	Draw hybrid model for CE and CB configuration.	**03**
	(b)	Compare: Comparator and Schmitt trigger circuits.	**04**
	(c)	Explain Colpitt's oscillator.	**07**
		OR	
Q.4	**(a)**	List the two criteria for oscillations.	**03**
	(b)	Explain the block schematic diagram of 79XX series.	**04**
	(c)	Write a note on triangular wave generator.	**07**
Q.5	**(a)**	Draw and discuss block diagram of PLL.	**03**
	(b)	Briefly describe LM317IC.	**04**
	(c)	Describe working of 555 Timer in bistable mode.	**07**
		OR	
Q.5	**(a)**	Give applications of bistable multivibrator.	**03**
	(b)	Explain in brief the applications of IC555.	**04**
	(c)	Explain voltage to current converter with grounded load.	**07**

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