

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
