Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III (New) EXAMINATION – WINTER 2019

Subject Code: 2130902 Date: 30/11/2019

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)**	Explain the following terms. (1) PSRR (2) Input bias current (3) Input offset Voltage	**03**
	(b)	Draw the circuit diagram of class B push-pull amplifier & explain its working.	**04**
	(c)	List and discuss all ideal characteristics of an Op-Amp.	**07**
Q.2	**(a)**	What are the merits and demerits of hybrid parameters?	**03**
	(b)	Write a short note on cross over distortion.	**04**
	(c)	Explain the working of summing amplifier and averaging amplifier when connected in Inverting mode.	**07**
		OR	
	(c)	Draw the circuit Op-Amp as a Integrator and explain with necessary waveforms.	**07**
Q.3	**(a)**	How to rectify stability and high frequency noise problem in a basic differentiator?	**03**
	(b)	Explain the operation of Zero crossing detector.	**04**
	(c)	Draw and explain Wien Bridge Oscillator.	**07**
		OR	
Q.3	**(a)**	Compare the inverting and non-inverting comparators.	**03**
	(b)	With the help of circuit diagram explain the working of Schmitt Trigger.	**04**
	(c)	With the help of circuit diagram explain voltage to current convertor with it's application.	**07**
Q.4	**(a)**	Define : 1)Pass band 2)Cut of frequency 3)Attenuation	**03**
	(b)	Derive the out put voltage equation of basic differentiator.	**04**
	(c)	Explain with circuit diagram the operation of VCO.	**07**
		OR	
Q.4	**(a)**	Compare Active Filter and Passive Filter.	**03**
	(b)	Compare Astable , Monostable and Bistable Multivibrator	**04**
	(c)	Draw and explain basic block schematic of 79XX series tree terminal voltage regulator ICs.	**07**
Q.5	**(a)**	Explain Butterworth response	**03**
	(b)	List advantages and disadvantages of adjustable voltage regulators.	**04**
	(c)	Explain the working of IC 555 as a Astable Multivibrator.	**07**
		OR	
Q.5	**(a)**	What is the effect of negative feedback on gain & bandwidth?	**03**
	(b)	Describe the operation of a LM 317 voltage regulator.	**04**
	(c)	Explain the working of PLL using appropriate block diagram	**07**

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