

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 three 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
