

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2140305

Date:15/05/2019

Subject Name: Analog Circuits-II

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 Signal to Noise ratio, CMRR and Gain of the amplifier.	03
	(b) Explain the role of isolation amplifier in Bio-medical field.	04
	(c) Explain Differential Chopper Amplifier.	07
Q.2	(a) What are the advantages of Instrumentation amplifier over differential amplifier?	03
	(b) Derive gain equation for instrumentation amplifier.	04
	(c) Explain the construction and working of DSO in detail.	07
	OR	
	(c) Draw the block diagram of function generator and explain its function.	07
Q.3	(a) Explain Notch filter.	03
	(b) Draw and explain opto-isolator.	04
	(c) Design all pass filter having operating frequency 1KHz and phase angle 90 degree. Assume $C=0.01 \mu F$.	07
	OR	
Q.3	(a) Design a first order High pass filter at a high cutoff frequency of 1 KHz.	03
	(b) Write a short note on transformer coupled isolation amplifiers.	04
	(c) Write short notes on Tschebyscheff low pass filters and Bessel low pass filters.	07
Q.4	(a) Explain Thermal Noise and Burst Noise.	03
	(b) Define Inductive and Capacitive crosstalk.	04
	(c) Explain switch mode power supply with diagram.	07
	OR	
Q.4	(a) Compare RMS and P-P Noise.	03
	(b) Explain common Grounding rules for good design.	04
	(c) Explain different the Electrostatic discharge (ESD) protection techniques.	07
Q.5	(a) Explain Heat sink function.	03
	(b) Discuss technical aspects of AM Transmitter and receiver.	04
	(c) Explain basic concept of AM modulation.	07
	OR	
Q.5	(a) What is the need of pulse modulation?	03
	(b) Discuss the FM demodulation techniques.	04
	(c) Explain pulse code modulation in detail.	07
