

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2020****Subject Code:3130305****Date:04/03/2021****Subject Name:Advanced Electronics****Time:10:30 AM TO 12:30 PM****Total Marks:56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Define : Capacitor filter & RC filter.	03
	(b) Write a Short note on Electromagnetic Relay.	04
	(c) Explain Working Principles of relay & list Application of it.	07
Q.2	(a) State the advantages, disadvantages and applications of Operational Amplifier.	03
	(b) Explain & Draw Block Diagram of 741 Op-amp.	04
	(c) Explain Current to Voltage Converter	07
Q.3	(a) Define AC- coupled Inverting & Non-inverting amplifier.	03
	(b) Explain Integrator & Differentiator Op-amp.	04
	(c) Explain Instrumentation Amplifier	07
Q.4	(a) Define Square wave generator.	03
	(b) Discuss the Phase-Locked Loop.	04
	(c) Explain Phase shift oscillator.	07
Q.5	(a) Explain Inverting Amplifier.	03
	(b) State the advantages, disadvantages of Low Pass Filters.	04
	(c) Write a short note on Active Filter.	07
Q.6	(a) Explain Non-Inverting Amplifier.	03
	(b) State the advantages, disadvantages of High Pass Filters.	04
	(c) Explain Structure and operation of SCR.	07
Q.7	(a) Define Oscillator Principles.	03
	(b) Explain Triangular wave generator.	04
	(c) Draw & Explain the Application of Schmitt trigger 555 Timer.	07
Q.8	(a) State & List the Types of power amplifier.	03
	(b) Discuss operation and breakover characteristics of The Schockley Diode.	04
	(c) Explain Basic construction and operation of UJT Power Amplifier.	07
