

GUJARAT TECHNOLOGICAL UNIVERSITY**B.VOC- SEMESTER– I EXAMINATION – WINTER 2023****Subject Code:1110702****Date:28-12-2023****Subject Name:Fundamental of Analog Electronics****Time:10:30 AM TO 12:30 PM****Total Marks:50****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Explain Energy band diagram of Conductor, Insulator and Semiconductor.	05
(b) Explain Forward & Reverse Characteristics of PN junction diode.	05
Q.2 (a) Explain Seven Segment Display.	05
(b) Explain Half wave rectifier with waveforms.	05
OR	
(b) Explain Full wave rectifier with waveforms.	05
Q.3 (a) Explain Common Emitter NPN Transistor with its characteristics.	05
(b) Derive relationship between α & β .	05
OR	
Q.3 (a) Compare CE & CC configuration of Transistor.	05
(b) Explain Transistor as Amplifier with necessary Circuit and Waveforms.	05
Q.4 (a) Explain DC Load Line of Transistor.	05
(b) Explain N Channel JFET Characteristics with necessary Circuit & Waveforms.	05
OR	
Q.4 (a) Explain Transistor as a switch.	05
(b) Explain P Channel JFET Characteristics with necessary Circuit & Waveforms.	05
Q.5 (a) Write down difference between BJT & FET.	05
(b) Draw & Explain Block diagram of Regulated Power Supply.	05
OR	
Q.5 (a) Explain N Channel MOSFET with necessary Circuit & Waveforms.	05
(b) Explain Working of Voltage regulator IC 7805.	05
