

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.VOC - SEMESTER- I EXAMINATION – SUMMER 2024****Subject Code: 1110702****Date:27-05-2024****Subject Name: Fundamental of Analog Electronics****Time:02:30 PM TO 04:30 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.

	<b>Marks</b>
<b>Q.1</b> (a) Explain Energy band diagram of conductor, insulator and semiconductor.	<b>05</b>
(b) Explain N-type semiconductor.	<b>05</b>
<b>Q.2</b> (a) Explain Seven Segment LED display.	<b>05</b>
(b) Explain Half Wave rectifier.	<b>05</b>
<b>OR</b>	
(b) Explain Bridge rectifier.	<b>05</b>
<b>Q.3</b> (a) Find relationship between $\alpha$ & $\beta$ .	<b>05</b>
(b) Explain Common Base configuration.	<b>05</b>
<b>OR</b>	
<b>Q.3</b> (a) Explain Working of NPN transistor.	<b>05</b>
(b) Explain transistor as a switch.	<b>05</b>
<b>Q.4</b> (a) Compare CB, CE & CC configuration of transistor.	<b>05</b>
(b) Compare BJT & FET.	<b>05</b>
<b>OR</b>	
<b>Q.4</b> (a) Explain need of biasing for transistor.	<b>05</b>
(b) Explain P-Channel MOSFET with circuit diagram.	<b>05</b>
<b>Q.5</b> (a) Explain N-Channel JFET with circuit diagram.	<b>05</b>
(b) Explain UPS.	<b>05</b>
<b>OR</b>	
<b>Q.5</b> (a) Explain N-Channel MOSFET with circuit diagram.	<b>05</b>
(b) Explain Working of Voltage regulator IC-7805.	<b>05</b>

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