

Enroll No

Q.P.Code
UT 3013

**Unit Test -I (2025-26)**

S.Y. B.Tech.- Robotics & Automation Engineering

**Course Code: RA207**

**Course Name: Analog and Digital Electronics**

Day & Date: *Wednesday 13/08/2025*

Time: *11:45 To 12:45*

Max Marks- 25

Instructions: 1) All Questions are Compulsory

- 2) Figures to the right indicate maximum marks
- 3) Assume suitable data if not given
- 4) Use of non-programmable calculator is allowed

		Marks	COs	BT Level
Q.1	A Draw the V-I Characteristics of a PN junction diode (2 Marks) and explain the working in following condition. i. Forward bias (2 Marks). ii. Reverse bias (2 marks).	6	CO1	4
	B Elaborate following clipping circuits. i. Negative Diode Clipping Circuit (3 Marks). ii. Positive Bias Diode Clipping Circuits (3 Marks). iii. Both Negative and Positive Diode Clipping circuit with Different Bias levels (3 Marks).	9	CO1	5
<b>OR</b>				
	B Develop following rectifier circuit and plot output voltage waveforms. i. Half wave rectifier (3 Marks). ii. Half wave rectifier with capacitive filter (3 Marks). iii. Full wave bridge rectifier (3 Marks).	9	CO1	5
Q.2	A Elaborate N-Channel JFET with suitable diagram.	4	CO2	3
	B Explain Common Base (CB) configuration of a BJT (4 Marks) and plot input characteristics (2 Marks).	6	CO2	3

