

Enroll No

Q.P.Code
UT 2912

Unit Test -I (2025-26)

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

Course Code: RA301

Course Name: Electric Drives and Control

Day & Date: *Monday 11/08/2025*

Time: *10:30 To 11:30*

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 Explain electrical drives and its parts (4 Marks) with the help of a block diagram (3 Marks).	7	CO1	4
	B Elaborate the construction and working principle of DC motor (5 Marks) and justify the significants of back emf in making d.c. motor as a self-regulating machine (3 Marks).	8	CO1	5
	OR			
	B Elaborate following characteristics of a DC shunt motor: i. Torque and Armature Current Characteristics (3 Marks). ii. Speed and Armature Current Characteristics (3 Marks). iii. Speed and Torque Characteristics (2 Marks).	8	CO1	5
Q.2	A Explain the working of D-MOSFET (3 Marks) and plot the transfer characteristics of D MOSFET (1 Marks).	4	CO2	3
	B 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	CO2	3

