PRN:		Course Code :	ECE409.3

Final Year **B. Tech** End Semester Examination Winter 2023

Robotics

Day and Date: Thursday, 07/12/2023 Max Marks: **100**

Time : 2.00 to 5.00 pm Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Explain Automation and robotics.	08	L2	CO1
	b)	Discuss a Classification by co-ordinate system	08	L1	CO1
		OR			
	b)	What is Classification by control method Explain in detail	08	L1	CO1
Q.2		**Attempt the following**			
	a)	Short note on Gears used in robotics.	08	L3	CO2
	b)	Explain basic- control system model with Transfer function and Block Diagram	08	L2	CO2
		OR			
	b)	Response of System using Characteristic equation.	08	L2	CO2
Q.3		**Attempt any two from the following**			
	a)	Explain basic of Robotic sensors.	08	L4	CO3
	b)	Explain Optical position sensors.	08	L4	CO3
	c)	Discuss Proximity sensors and Touch and slip sensors	08	L4	CO3
Q.4		**Attempt any two from the following**			
	a)	Explain Mechanical Grippers in Detail.	08	L3	CO4
	b)	Explain Vacuum, Magnetic and Adhesive gripper in detail.	08	L2	CO4
	c)	Robot End effecter Interface.	08	L2	CO4
Q.5		**Attempt any Two of the following**			
	a)	Explain generations of robot programming language in detail.	09	L3	CO5
	b)	Explain significance of WAIT, SIGNAT- and DELAY commands using Suitable example.	09	L2	CO5
	c)	Explain Textual Robot language.	09	L2	CO5
Q.6		**Attempt any Two of the following**			
	a)	Write note Lead through Programming Method.	09	L1	CO6
	b)	Write Short note on Spot welding	09	L2	CO6
	c)	Consideration in Gripper Selection & design.	09	L2	CO6

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