CBCS SCHEME

USN | | | | | | | | | | |

22MAR14

First Semester M.Tech Degree Examination, Dec.2023/Jan.2024
Drives and Control System in Automation

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain working of synchronous stepper motors.	10	L2	CO1
	b.	Difference between induction and servo motors.	10	L1	CO1
		OR			
Q.2	a.	Explain torque v/s speed characteristics.	10	L1	CO1
	b.	Explain Asynchronous stepper motors.	10	L2	CO1
		Module – 2			
Q.3	a.	Write an short note on DC and AC motors.	10	L1	CO2
	b.	Briefly explain types of industrial drives.	10	L2	CO2
		OR			
Q.4	a.	Mention selection criteria for servo motor.	10	L2	CO2
	b.	Define : i) Amplifier ii) AC motors iii) DC motors iv) Servomotor v) Stepper motor.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain basic structure of PLC.	10	L2	CO2
	b.	Briefly the data storage methods in logic controllers.	10	L2	CO3
		OR			
Q.6	a.	Explain the methods of PLC programming.	10	L2	CO2
	b.	Differentiate between conventional ladder and PLC ladder.	10	L2	CO3
		Module – 4			
Q.7	a.	Mention the applications of PLC using timers.	10	L1	CO2
	b.	Explain on delay and off delay timer instructions.	10	L2	CO3
		OR			
Q.8	a.	Explain Data handling instructions.	10	L2	CO2
	b.	Define : i) Retentive time ii) Combining counters iii) Arithmetic instruction iv) Sequence instruction v) PLC.	10	L2	CO3
		Module – 5			
Q.9	a.	Explain DCS briefly.	10	L2	CO3
	b.	Briefly explain data acquisitions.	10	L2	CO3
		OR			
Q.10	a.	Explain BUS configurations.	10	L2	CO3
	b.	Write short notes on FIP.	10	L1	CO3

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