CBCS SCHEME - Make-Up Exam

USN

BMT503

Fifth Semester B.E/B.Tech. Degree Examination, June/July 2025
Control Theory and Virtual Instrumentation

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
1	a.	Write about closed loop control system with relevant example.	10	L1	CO1
	b.	Explain basic elements of rotational mechanical system in detail.	10	L2	CO1
		OR			
2	a.	Define control system and write the difference between open and closed loop control system.	10	L1	CO1
	b.	Explain analogous systems based on force current analogy.	10	L2	CO1
		Module – 2			
3	a.	Write about positive and negative feedback system with relevant diagram.	10	L1	CO1
	b.	With relevant diagram write the rules of block diagram reduction.	10	L3	CO1
		OR			
4	a.	Write about the terms related to signal flow graph i) Node ii) Branch iii) Path iv) No touching loops v) Forward path.	10	L1	CO1
	b.	With suitable diagram write the rules to solve signal flow graph.	10	L3	CO1
		Module – 3			
5	a.	With relevant details write about virtual instrumentation and advantages of VI	10	L3	CO2
	b.	With necessary details write the difference between graphical and conventional programming.	10	L3	CO2
		OR			
6	a.	With neat diagram write about architecture of VI in detail.	10	L3	CO2
	b.	With necessary details write about ADC and DAC in detail.	10	L3	CO2
		Module – 4			
7	a.	With necessary details write about LABVIEW and components of LABVIEW.	10	L3	CO2
	b.	With relevant details write about for loop and while loop in detail.	10	L3	CO2
		OR			
8	a.	With necessary details write about structures and also write about case formula node and sequence structures.	10	L3	CO2
	b.	With necessary details write about array and creating one dimensional and two dimensional array.	10	L3	CO2
		Module – 5			
9	a.	Explain interfacing of external instrument to PC using RS232.	10	L2	CO4
	b.	Explain CAN bus protocol in detail	10	L2	CO4
		OR			
10	a.	Explain ISO – OSI model for serial bus in detail.	10	L2	CO4
	b.	Explain with relevant details RS422 and RS485.	10	L2	CO4

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