CONTINUOUS INTERNAL EVALUATION– 3

Dept:EC	Sem / Div:3rd ,A&B	Sub:Power Electronics and Instrumentation	S Code:18EC36
Date:17-02-2021	Time: 2:30-4:00 PM	Max Marks:50	Elective:N
Note: Answer any 2 full questions, choosing one full question from each part.			

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QN		Questions	Marks	RBT	COs
		PART A			
1	a	Derive an expression for gauge factor for Bonded resistance wire Strain Guages.	10	L3	CO5
	b	With neat block diagram,explain the operating principle of a dual slope integrating type DVM.	8	L2	CO4
	c	Find the equivalent parallel resistance and capacitance that causes a Wien bridge to null with the following component values: R1=3.1kΩ,C1=5.2μF,R2=25kΩ,f=2.5kHz, R4=100kΩ	7	L3	CO4
		OR			
2	a	If the three arms of a wheatstone bridge have the resistances R1=2KΩ ,R2=10KΩ and R3=40KΩ.Find the unknown resistance.	6	L2	CO4
	b	Explain the operation of instrumentation amplifier using transducer bridge with the help of circuit diagram.	9	L2	CO5
	c	Explain an unbalanced wheatstone bridge circuit.Determine the amount of deflection due to unbalance of wheatstone bridge.	10	L3	CO4
		PART B			
3	a	Explain with neat diagram the PLC structure.	8	L2	CO5
	b	Explain the construction,principle and operation of LVDT.Show characteristics curve.	10	L2	CO5
	c	State and derive the expression for capacitance comparison bridge at balance equation.	7	L3	CO4
		OR			
4	a	Briefly write a note on : i)Resistive Position Transducer ii) Thermistor	8	L2	CO5
	b	Discuss the operation of Successive approximation type DVM with the help of block diagram.	10	L3	CO4
	c	Define transducers.What are advantages of electrical transducers.	7	L2	CO5