Code No: P18EET07

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
III B.TECH I SEMESTER END SUPPLEMENTARY EXAMINATIONS, MARCH/APRIL– 2023
ELECTRICAL MEASUREMENTS AND INSTRUMENTATION
(EEE Branch)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-A

Answer all the questions in Part-A (5X2=10M)

Q.No.		Questions	Marks	CO	KL
1.	a)	Define the terms Accuracy and Resolution.	[2M]	1	1
	b)	What are the possibilities of errors in PMMC ammeter?	[2M]	2	1
	c)	What are the applications and limitations of Wheatstone bridge	[2M]	3	1
	d)	What is a Transducer? Give the classification of transducers.	[2M]	4	1
	e)	Write the Advantages of Digital Instruments?	[2M]	3	1

PART-B

Answer One Question from each UNIT (5X10=50M)

Q. No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	Define measurement and what are basic requirements for the indicating instruments explain in detail?	[5M]	1	1
	b)	Derive the torque equation for electro dynamo meter type wattmeter.	[5M]	1	3
		OR			
3.	a)	Explain the construction and working of PMMC type instruments.	[5M]	1	2
	b)	What are the differences between LPF and UPF watt meters?	[5M]	1	1
		UNIT-II			
4.	a)	Write short notes on three phase energy meter.	[5M]	2	2
	b)	A 100A, 230 V meter on full load test makes 81 revolutions in 47 seconds. If the normal disc speed is 620 revolutions per Kwh, find the percentage error.	[5M]	2	3
		OR			
5.	a)	What is difference between direct loading and phantom loading?	[5M]	2	1
	b)	Explain the Construction and operation of Power factor meters?	[5M]	2	2
		UNIT-III			
6.	a)	The coil of a ballistic galvanometer has 115 turn of mean area the flux density is the air gap is 0.12 Wb/m2 and the moment of inertia is 0.5 Nm/rad. What current must be passes to give a deflection of 100º?	[5M]	3	3
	b)	Describe the method for determination of B.H curve of a magnetic material using: (i) Reversals (ii) Six point method.	[5M]	3	2
		OR			

7.	a)	Discuss the Hibbert's magnetic standard Calibration?	[5M]	3	6
	b)	Explain the construction and Principle of operation of Potential Transformer?	[5M]	3	2
		UNIT-IV			
8.	a)	With the help of a neat block diagram, explain about the Digital voltmeter.	[5M]	4	1
	b)	Explain the Principle of operation of Integrating type DVMs?	[5M]	4	2
		OR			
9.		Explain how Wien's bridge can be used for experimental determination of frequency. Derive the expression for frequency in terms of bridge parameters.	[10M]	4	2
		UNIT-V			
10.		Define and explain the classification of Transducers? Write the LVDT Applications.	[10M]	5	1
		OR			
11.	a)	Draw the construction diagram and explain the working of LVDT?	[5M]	5	2
	b)	What is thermocouple and Explain? Write about its advantages and disadvantages.	[5M]	5	1

******