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Reg. No.		8	2

Question Paper Code: 27217

B.E./B, Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fourth Semester

Electrical and Electronics Engineering

EE 6404 - MEASUREMENTS AND INSTRUMENTATION

(Regulations 2013)

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

PART A — $(10 \times 2 = 20 \text{ marks})$

- 1. Define resolution and precision.
- 2. What is meant by calibration of an instrument?
- 3. Define creeping in energy meter.
- 4. State any two applications of CT and of PT.
- 5. List the various detectors used for AC bridges.
- 6. What is called a volt-ratio box?
- 7. What is the principal of operation of an ink-jet printer?
- 8. What are the functions of data logger?
- 9. What is a transducer? Give an example.
- 10. What is meant by resolution for Analog Digital Convener?

PART B \leftarrow (5 × 16 = 80 marks)

- 11. (a) (i) Explain the functional elements of an instrument with a neat block diagram. (10)
 - (ii) In a test, temperature is measured 100 times with variations in apparatus and procedures. After applying the corrections, the results are:

Temp ^o C	397	398	399	400	401	402	403	404	405
Frequency of occurrence	1	3	12	23	37	16	4	2	2

9	Frequency of occurrence				3	12	23	37	16	4	2	2	Salati Salati	
			***		143	10	No.			89 99				
			Calculate.				327							
			(1) Arithme	etic n	neen	9						48		
	400		(2) Mean de	eviat	ion '									
			(3) Standar	rd de	viatio	۵.			120				(6)	
						Or								
	(b)	(i) Explain the static characteristics of an instrument.									(10 <u>)</u>			
		(ii)	Explain in de	tail s	ystem	atic e	rror.		10			3%	(6	
2.	(a)		n circuit and p	hasor	diag:	ram, e	xplair	n the	worki	ng of	singl	e pha	se ac	
	63 81		8			Or								
	(b)	Wri	ite a short note	s on										
		(i)	Current Tran	sfori	ner				(2)				(8)	
		(ii)	Weston frequ	ency	meter	F ⁽¹⁾		網				, S	(8)	
3,	(a)		w the diagram king principle.	of Co	-ordir	ate ty	ре А.	C. pot	entio	neter	and	expla	in its	
					1.0	Or								
	(b)	Explain about												
		(i)	Electrostatic	and (electro	magn	etic ir	nterfe	rence.					
	181	(ii)	Need for Gro	undir	ng for	теаві	iring :	instru	ment	в.				
4.	(a)		h neat diagran agnetic tape re			he ba	sic cor	mpone	nts s	nd w	orkin	g prin	nciple	

Or

- (b) With neat figure explain the working principle of a digital CRO. What are its advantages over analog CRO?
- 15. (a) Explain in detail about construction and working of LVDT.

Or

(b) Explain successive approximation type ADC with its characteristics.

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