Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth semester B.Tech examinations (S), September 2020

Course Code: EE208

Course Name: MEASUREMENTS AND INSTRUMENTATION (EE)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks Marks

1		List the different types of errors in measurements?	5
2		Write short notes on TOD meter?	5
3		Write short notes on Phasor Measurement Units?	5
4		Describe the method for the measurement of flux density of magnetic material using flux meter?	5
5		Draw and explain the different parts of cathode ray tube?	5
6		What is Schering bridge? Develop the equation of balance for the bridge?	5
7		List any three classifications of transducers?	5
8		Explain the working of a Load cell?	5

PART B

Answer any two questions, each carries 10 marks

9		Explain the construction and operating principle of permanent magnet moving coil instrument. Derive the expression for deflection of PMMC?	10
10	a)	How the range of DC ammeter and DC voltmeter can be extended. Derive the expression to find the shunt resistance and multiplier resistance?	5
	b)	Describe the measurement of earth resistance by using fall of potential method	5
11		Explain the construction and theory of a single-phase induction type energy meter. Show that number of revolutions in time t is proportional to energy supplied.	10

PART C

Answer any two questions, each carries 10 marks

12		Draw the equivalent circuit and phasor diagram of a current transformer. Derive the expression for ratio and phase angle errors?	10

13	a)	Discus the determination of hysteresis loop of a magnetic material by using step by step method?	6
	b)	Write short notes on proximity sensors?	4
14	a)	What is LIoyd Fisher square?	4
	b)	Explain the methods for the measurement of high AC voltage.	6

PART D

Answer any two questions, each carries 10 marks

15		Write short notes on Lissajous patterns. Explain how are they used for the measurement of frequency and phase angle?	10
16	a)	With a neat sketch explain the principle of operation of LVDT.	5
	b)	Compare RTD and Thermistor?	5
17	a)	Write short notes on Electromagnetic flow meter?	5
	b)	Explain any two applications of DC potentiometer?	5

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