DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2025

ELECTRICAL AND ELECTRONICS MEASURING INSTRUMENTS

[Maximum Marks: **75**]   [Time: **3** Hours]

PART-A
I. Answer *'all'* the following questions in one word or one sentence. Each question carries *'one'* mark.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1.	Give any one method for producing controlling torque.	M1.02	R
2.	Name the damping used in Moving Iron Instrument.	M1.03	R
3.	The working of Murray Loop test is based on the principle of----	M2.02	R
4.	Schering Bridge is used to find.	M2.03	R
5.	Copper shading bands are used in the construction of----------	M2.04	R
6.	Mention any one type of frequency meter.	M3.01	R
7.	List any two applications of CRO.	M3.04	R
8.	Seebeck effect is applied on the working of----------	M4.02	R
9.	LVDT is used for measuring -----------	M4.02	R

PART-B
II. Answer any *'eight'* questions from the following. Each question carries *'three'* marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1.	Mention any three difference between Moving Coil and Moving Iron instrument.	M1.03	A
2.	Specify the classification of resistance based on measurement.	M2.01	R
3.	Describe Voltmeter Ammeter method of resistance measurement.	M2.01	U
4.	Develop the circuit diagram to find the location of short circuit fault in a cable.	M2.02	R
5.	Draw the circuit diagram of Maxwell's Inductance Bridge.	M2.03	R
6.	Explain the working of dynamic type phase sequence indicator.	M3.01	U
7.	Draw the block diagram of DSO.	M3.04	R
8.	Distinguish between Transducer and Inverse Transducer.	M4.01	A
9.	List any three features of Thermistor.	M4.02	R
10.	Explain the working of DC Tacho Generator.	M4.03	U

PART-C
Answer *'all'* questions from the following. Each question carries *'seven'* marks.

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	Describe the working of a PMMC instrument with a neat diagram.	M1.03	U
	OR		
IV.	Discuss the working of an attraction type MI instrument with a neat sketch.	M1.03	U
V.	A moving coil instrument gives full scale deflection for a current of 10mA. If the instrument has a resistance of 10 ohm show how it can be used to work as an Ammeter of 0-20A.	M1.04	A
	OR		
VI.	A moving coil instrument having internal resistance of 50 ohm indicates full scale deflection with a current of 10mA. Show how it can be used to work as a Voltmeter to read from 0-100V.	M1.04	A
VII.	Explain the working of Wheatstone Bridge with a neat sketch.	M2.01	U
	OR		
VIII.	Explain the construction of a Single Phase Induction type Energy Meter with the help of a neat diagram.	M2.04	U
IX.	Define the working of single phase dynamometer type power factor meter with a neat sketch.	M3.01	U
	OR		
X.	Describe the construction of Earth Tester with the help of a neat diagram.	M3.02	U
XI.	Specify the working of Weston type Synchroscope with a neat diagram.	M3.01	U
	OR		
XII.	Show the working of a Ramp type digital voltmeter with block diagram.	M3.03	U
XIII.	Elaborate the working of LVDT with a neat sketch.	M4.02	U
	OR		
XIV.	Draw the block diagram and explain the parameters of Data Acquisition system.	M4.04	U

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