

**ANURAG Engineering College****(An Autonomous Institution)****III B.Tech I Semester Supple Examinations, June/July - 2024****ELECTRICAL MEASUREMENTS****(ELECTRICAL AND ELECTRONICS ENGINEERING)****Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	<b>Course Outcome</b>	<b>B.T Level</b>	<b>Marks</b>
1. List the disadvantages of PMMC instruments	CO1	L1	2M
2. Why is damping required for an electromechanical measuring instrument?	CO1	L1	3M
3. What are the errors occur in instrument transformers.	CO2	L1	2M
4. Suggest the different methods to reduce the ratio and phase angle error of current transformer.	CO2	L1	3M
5. Why is dynamometer type instrument chiefly used as a wattmeter?	CO3	L1	2M
6. What is the major cause of creeping error in an energymeter?	CO3	L1	3M
7. List the applications of potentiometer?	CO4	L1	2M
8. Explain the working principle of resonance type frequency meter.	CO4	L2	3M
9. What are the sources of errors in AC bridge measurement?	CO5	L1	2M
10. Draw the diagram of kelvin's double bridge?	CO5	L1	3M

**Section B (Essay Questions)****Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) What are the shunts and multiplier? Derive the expression for both, with reference to meters used in electrical circuits.	CO1	L3	10M
<b>OR</b>			
B) Sketch and explain the working of moving coil instrument.	CO1	L3	10M
12. A) Draw and explain single phase power factor meter with neat sketch along with operating principle..	CO2	L2	10M
<b>OR</b>			
B) Differentiate between a CT and PT. Explain the theory of a PT with phasor diagrams.	CO2	L3	10M
13. A) Explain the construction and principle of operation of dynamometer type wattmeter.	CO3	L2	10M
<b>OR</b>			
B) Discuss with block diagram, the principle of operation of single phase energymeter.	CO3	L3	10M
14. A) Describe how an AC potentiometer, can be used for the calibration of wattmeter.	CO4	L2	10M
<b>OR</b>			
B) Explain Weston type synchroscope with neat diagram.	CO4	L2	10M
15. A) Discuss about an AC bridge used for measurement of capacitance.	CO5	L3	10M
<b>OR</b>			
B) Derive formula for unknown inductance of Hay's Bridge and Anderson's Bridge.	CO5	L3	10M