

ANURAG Engineering College**(An Autonomous Institution)****III B.Tech I Semester Regular/Supplementary Examinations, Dec–2023/Jan-2024****ELECTRONIC MEASUREMENTS AND INSTRUMENTATION****(ELECTRONICS AND COMMUNICATION ENGINEERING)****Time: 3 Hours****Max.Marks:75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. Define precision and accuracy	CO1	L1	2M
2. What are the different types of errors possible in an instrument?	CO1	L2	3M
3. Define a Function Generator?	CO2	L1	2M
4. Differentiate between AF wave analyzer and RF wave analyzer.	CO2	L2	3M
5. Define dual trace oscilloscope?	CO3	L1	2M
6. What are the different types of CRO probes.	CO3	L2	3M
7. Define transducer?	CO4	L1	2M
8. List out the advantages and limitations of thermocouples.	CO4	L2	3M
9. State the limitations of a Wheatstone bridge. How is it overcome?	CO5	L1	2M
10. What is the significance of bridge circuit measurements over direct meter measurements?	CO5	L2	3M

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

11. A) Describe the basic performance characteristics of a system?	CO1	L2	10M
OR			
B) Discuss about D'Arsonval Movement with a neat diagram.	CO1	L3	10M
12. A) i) Explain the operation of a basic signal generator.	CO2	L2	3M
ii) Explain the operation of Function Generator.			7M
OR			
B) What is sweep generator? Explain in detail.	CO2	L2	10M
13. A) Explain how different Lissajous figures can be used to measure various parameters?	CO3	L3	10M
OR			
B) Construct and explain digital storage oscilloscope and list the advantages of it	CO3	L2	10M
14. A) Analyze the operation of Hot-wire anemometer?	CO4	L3	10M
OR			
B) Explain the Principle, working, Construction, characteristics and applications of thermistors.	CO4	L2	10M
15. A) A Maxwell bridge is used to measure inductive impedance. The bridge constants at balance are $C1=0.01\mu F$, $R1=520k\ \Omega$, $R2=6.2k\ \Omega$ and $R3=200k\ \Omega$. Find the series equivalent of the unknown impedance?	CO5	L3	10M
OR			
B) Identify the bridge used for measurement of inductance and explain the construction and operation of this bridge.	CO5	L2	10M