Question Paper Code: R18A41EE03

R18

ANURAG Engineering College

(An Autonomous Institution)

IV B.Tech I Semester Supplementary Examinations, April – 2024

INSTRUMENTATION

(ELECTRICAL AND ELECTRONICS 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.	How errors are classified? Enumerate the various sources of errors.	CO1	L1	3M
2.	What are the advantages of pulse code modulation?	CO1	L1	2M
3.	State the purpose of a lissajous pattern in CRO.	CO2	L1	2M
4.	Describe the standard specifications of a CRO.	CO2	L2	3M
5.	What are the applications of spectrum analyzer?	CO3	L1	3M
6.	What are the causes of distortion?	CO3	L1	2M
7.	Give the factors to be considered for selecting a transducer.	CO4	L1	3M
8.	What is piezoelectric effect?	CO4	L1	2M
9.	What are the functions of electrical tachometer?	CO5	L1	2M
10.	How a strain gauge is used for measuring torque?	CO5	L1	3M

Section B (Essay Questions)

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

11. A)	Explain gross errors in measurement system. How gross errors can be minimized?	CO1	L2	10M
	OR			
B)	Explain the mathematical representation of standard test signals.	CO1	L2	10M
12. A)	Draw the block diagram of vertical amplifier used in CRO and explain its operation.	CO2	L3	10M
	OR			
B)	Draw the block schematic of a sampling oscilloscope and explain its operation.	CO2	L3	10M
13. A)	With a neat block diagram explain the working of dual slope integration type digital voltmeter.	CO3	L3	10M
	OR			
B)	Draw and explain about the digital pulse angle meter.	CO3	L3	10M
14. A)	Describe the principle and operation of capacitive transducer for angular displacement measurement.	CO4	L3	10M
	OR			
B)	Describe the construction and working of LVDT with a neat schematic.	CO4	L3	10M
15. A)	Explain with neat diagram the method you would adopt to measure level of a liquid. What are the precautions you would take for accuracy?	CO5	L3	10M
	OR			
B)	Explain any one method of measurement of angular velocity with necessary expressions.	CO5	L3	10M