

**ANURAG Engineering College****(An Autonomous Institution)****II B.Tech II Semester Regular Examinations, June/July-2024****MEASUREMENTS AND INSTRUMENTATION  
(ELECTRICAL AND ELECTRONICS ENGINEERING)****Time: 3 Hours****Max.Marks:60****Section – A (Short Answer type questions)****(10 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1.	CO1	L1	1M
2.	CO1	L1	1M
3.	CO2	L1	1M
4.	CO2	L1	1M
5.	CO3	L1	1M
6.	CO3	L1	1M
7.	CO4	L1	1M
8.	CO4	L1	1M
9.	CO5	L1	1M
10.	CO5	L1	1M

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

- |           |   |     |    |     |
|-----------|---|-----|----|-----|
| 11. A)    | Explain the different types of errors in measurement.   | CO1 | L3 | 10M |
| <b>OR</b> |   |     |    |     |
| B)        | Explain in detail the construction and working of PMMC type of instrument.  | CO1 | L2 | 10M |
| 12. A)    | Explain the working principle and operation of DC Crompton's potentiometer in detail.   | CO2 | L3 | 10M |
| <b>OR</b> |   |     |    |     |
| B)        | Elaborate on working of potential transformer the types of errors in potential transformer and its causes?  | CO2 | L2 | 10M |
| 13. A)    | Explain the errors in energy meters and its compensation methods in detail and mentions the errors that occurs while using for measurement.                       | CO3 | L3 | 10M |
| <b>OR</b> |   |     |    |     |
| B)        | Elaborate the construction and working of Single-phase dynamometer wattmeter.   | CO3 | L2 | 10M |
| 14. A)    | Draw the circuit for the measurement of inductance using maxwells bridge. Derive the condition for balance?   | CO4 | L3 | 10M |
| <b>OR</b> |   |     |    |     |
| B)        | Mention the major problem in measurement of low resistance. Mention the kelvin's Double Bridge circuit for measuring resistance and mention its balance equation. | CO4 | L2 | 10M |

15. A) Mention the classification of transducers based on application, energy conversion, output signal and its operation. CO5 L2 10M
- OR**
- B) Describe the construction, principle and working of thermocouple mention its advantages and disadvantages. CO5 L3 10M