Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 30575

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2024.

Fourth Semester

Electrical and Electronics Engineering

EE 8403 — MEASUREMENTS AND INSTRUMENTATION

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Enlist the types of Analog and Digital Voltmeter.

2. How is mean calculated?

3. Differentiate single and three phase wattmeters.

4. Write the significance of magnetic measurements in view of its applications.

5. Define electrostatic interference.

6. List the grounding techniques.

7. What are the main parts in CRT?

8. What is LCD?

9. Tabulate the classification of transducers based on energy domain.

10. Compare and contrast Active and passive transducers.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the working principle of Dual slope Integrating type Digital Voltmeter.

Or

(b) Enlist and explain the different types of errors associated with measurements.

12. (a) Describe how the energy meter works with suitable illustrations.

Or

(b) Explain the Instruments used to measure frequency and phase with neat sketch.

13. (a) Discuss how to measure unknown capacitance using Schering Bridge with relevant circuit.

Or

(b) Describe the functioning of Anderson bridge and its extension.

14. (a) Sketch a block diagram showing the main components in a Data loggers and its types.

Or

(b) Describe the digital CRO with required diagram.

15. (a) Explain the working principle of Hall effect transducer with neat sketch.

Or

(b) Describe the elements of Thermal Imagers and its recording techniques with neat sketch.

PART C — (1 × 15 = 15 marks)

16. (a) Explain how transformer ratio bridge can be used for measurement of resistance, capacitance and phase angle.

Or

(b) Explain the dot matrix printer to print the alphabetic letter "A".

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