

B-034

31N0503 / 31N0603

Roll No. _____

Total No. of Pages.: 04

31N0503/31N0603

B.Tech III Sem Main/Back Exam 2025-26

Electrical and Electronics Engineering and Electrical Engineering

(3EX4-03/3EE4-03) – Electrical Measurement

Common to EE, EX

Time : 3 Hours

Maximum Marks: 70

Min. Passing Marks:

Instructions to Candidates:

Part-A: Short answer questions (up to 25 words) 10x2 marks = 20 marks. All ten questions are compulsory.

Part- B: Analytical/Problem Solving questions 5x4 marks = 20 marks. Candidates have to answer 5 questions out of 7.

Part – C: Descriptive/Analytical/Problem Solving questions 3x10 marks = 30 marks. Candidates have to answer 3 questions out of 5.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting materials is permitted during examination. (Mentioned in form No. 205)

1 _____

2 _____

P.T.O.

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Part-A

- Q.1. List out the different type of torques in instrument system.
- Q.2. What is Phantom loading in energy meter?
- Q.3. What are volt-ampere hour and watt-hour?
- Q.4. Give the advantages of moving iron meters.
- Q.5. Mention any four static characteristics of measuring instruments.
- Q.6. What is the sensitivity of Wheat stone bridge?
- Q.7. List the advantages of using standard capacitor in Maxwell bridge
- Q.8. What is capacitance interference?
- Q.9. Write the application of D.C. Potentiometers
- Q.10. Which torque is absent in energy meter? Why? Controlling

PART-B

- Q.1. Explain construction and working of moving coil instrument.
- Q.2. Explain construction and working electrodynamic type instrument.
- Q.3. Explain Blondel's theorem.
- Q.4. Explain operation and working of Current transformer.
- Q.5. What is Wagner earth device and its working?
- Q.6. Explain Method of measuring High resistance.
- Q.7. Explain Method of measuring earth resistance.

PART- C

- Q.1. Derive the torque equation of electro-dynamometer type instrument.
- Q.2. Explain measurement of power in 3Phase Balanced system.
- Q.3. Explain Kelvin's double bridge method for resistance measurement.
- Q.4. Explain construction, operation and standardization of Crompton potentiometer.

P.T.O.

Q.5. Explain Heaviside's bridge for mutual inductance measurement.
