

Roll No. ....

24007

B. Tech. 1st Semester (Common for All  
Branches) Examination – December, 2022

ELECTRICAL TECHNOLOGY

Paper : EE-101-F

Time : Three Hours ]

[ Maximum Marks : 100

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Write short notes on the following : 4 × 5 = 20

- (a) Ohm's law
- (b) RMS
- (c) Losses
- (d) EMF

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UNIT – I

- 2. (a) Define Thevenin's theorem in detail. 10
- (b) State and prove Norton's theorem. 10
- 3. (a) State and prove Kirchoff's law. 10
- (b) Describe star to delta and delta to star transformation. 10

UNIT – II

- 4. (a) Explain the concept of phase representation. 10
- (b) Describe behaviours of R, L, and C components in A.C. circuits. 10
- 5. (a) Describe series and parallel A. C. circuits. 10
- (b) Explain the concept of  $\theta$  factor. 10

UNIT – III

- 6. (a) Explain balanced star and circuits. 10
- (b) Describe measurement of power by two watt meter method. 10

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- 7. Describe the Construction and Losses in transformer in detail. 20

UNIT – IV

- 8. Explain construction, principle, working EMF equation and losses of DC machine. 20
- 9. (a) Describe the construction of moving Iron type Instruments. 10
- (b) Compare Ammeter and Watt meter. 10

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