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Question Paper Code : 70556

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023

Fourth Semester

Electrical and Electronics Engineering

EE 8402 – TRANSMISSION AND DISTRIBUTION

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is skin effect in transmission line?
2. What is meant by transposition of conductors?
3. What is Corona?
4. Define voltage regulation of a transmission line.
5. Mention some of the factors that affect sag in an overhead line.
6. State the advantages of suspension type insulators.
7. Specify the properties of insulating materials used for cables.
8. What are the different kinds of cables used by power transmission utilities?
9. What do you understand by the term distribution loss?
10. Mention the different ways of voltage control in transmission lines?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the structure of Power System with simple diagram.

Or

- (b) Write short notes on

- (i) Derive an expression for inductance of a single phase transmission system. (8)
- (ii) List the different types of overhead conductor. (5)

12. (a) Write short notes on
- (i) Performance of Transmission lines. (7)
 - (ii) Significance of Surge impedance loading (6)

Or

- (b) What is power circle diagram? Explain the method of drawing sending end and receiving end power circle diagram.
13. (a) What is sag template ? Explain how this is useful for location of towers and stringing of power conductors?

Or

- (b) Write short notes on
- (i) Improvement of String efficiency (6)
 - (ii) Testing methods for Insulators (7)
14. (a) Explain the construction of single core and three core cables with diagram.

Or

- (b) Explain the various methods of grading of underground cables with diagram.
- 15.(a) What are the elements of a Substation? Explain the different types of Substations.

Or

- (b) Explain the methods of neutral grounding.

PART C — (1 × 15 = 15 marks)

16. (a) Discuss the various transmission and distribution voltage levels adopted in Tamil Nadu.

Or

- (b) Compare the power transfer through Overhead lines with underground cables from Utility perspective and Public perspective.