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B.Tech. (EEE) 4th Semester F. Scheme Examination,

May–2015

TRANSMISSION AND DISTRIBUTION

Paper–EE-212-F

Time allowed : 3 hours] *[Maximum marks : 100*

Note : ***Question No. 1 is compulsory.*** *Attempt* ***five*** *questions in total selecting* ***one*** *question from each unit.*

1. (a) Explain outdoor substation. 20

(b) Explain Ferranti effect.

(c) Explain function of damper.

(d) Explain the advantages and limitations of DC links.

Section–A

2. (a) What are the auxiliary supply explain them ? 10

(b) Explain ring main distribution system. 10

3. Draw neat and clean layout of 11kV sub-station and explain the equipments in brief. 20

Section–B

4. What is method of images ? Derive an expression for the capacitance per unit length of a 3-phase line completely transposed. What is the effect of earth on the capacitance of the line ? 20

5. Determine the efficiency and regulation of a 3-phase, 100km, 50Hz transmission line delivering 20MW at a power factor of 0.8 lagging and 66 kV to a balanced load. The conductor are of copper, each having resistance 0.1 ohm per km, 1.5 cm outside dia, spaced equilaterally 2 meters between centres. Neglect leakage and use (i) nominal-T, and (ii) nominal-π method. 20

Section–C

6. Explain the potential distribution over a string of suspension insulators. 20

7. Explain the methods of equalising the potential. 20

Section–D

8. Derive the expression of critical visual dispersive voltage. 20

9. Explain the extra high voltage. 20

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