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10EE841

Eighth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Electrical Distribution System

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. What are different factors affecting the power system planning? And explain them. (08 Marks)
b. Explain present distribution planning techniques for a typical distribution system with block diagram. (06 Marks)
c. What are the different factors to be considered for distribution system planning in future? (06 Marks)
- 2 a. Define the following definitions relevant to load characteristics
i) Demand factor ii) Utilization factor iii) Load factor
iv) Annual plant factor v) Diversity factor. (05 Marks)
b. Assume that annual peak load of a primary feeder is 2000kw at which the power loss, is total copper loss = 80kw per 3-phase. Assuming an annual loss factor of 0.15, determine :
i) The average annual power loss
ii) The total annual energy loss due to copper losses of the feeders. (05 Marks)
c. Establish relation between load, load factor and loss factor. (10 Marks)
- 3 a. Explain, what are the steps involved in the planning process and planning action with figure. (10 Marks)
b. Distribution system plan, provide good economy and satisfy various criteria and standard. How? (05 Marks)
c. Which are the dispersed generation? And show how they are connected to micro-grid? (05 Marks)
- 4 a. What are different types of mapping systems and explain digital mapping network with block diagram. (10 Marks)
b. Discuss the economic analysis and financial analysis, which helps in distribution planning system. (10 Marks)

PART – B

- 5 a. Explain the flow diagram of design process. how the distribution system efficiency can improve at consumer site. (10 Marks)
b. What is meant by system voltage regulation? And what are different voltage control methods available in distribution system. (10 Marks)
- 6 a. What is harmonic effect on Networks? And explain different methods to reduce harmonics in distribution system. (12 Marks)
b. Explain energy management system scheme by using flow diagram. (08 Marks)
- 7 a. What are different communication methods available in distribution systems for data transfer between DCC and any point on distribution network? (10 Marks)
b. Explain typical SCADA structure system with neat block diagram. (10 Marks)
- 8 a. What is optimization? Explain how to achieve the optimization in case of costing of equipment. (10 Marks)
b. What are different approaches used for synthesis of line network design. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.