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Reg. No. :

**Question Paper Code : 82175**

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Elective

Power Systems Engineering

PS 9262/10233 PS 204 — POWER SYSTEM PLANNING AND RELIABILITY

(Common to M.E. Power Management)

(Regulation 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the objectives of load forecasting?
2. What is the advantage of using artificial intelligence in load forecasting?
3. What do you mean by LOLP?
4. What is probabilistic generation?
5. What are the reliability indices?
6. What is contingency?
7. What are the problems encountered in placing capacitor in the radial distribution system?
8. Mention any two difficulties encountered in the expansion of power system.
9. What is the function of secondary distribution system?
10. Name the protective devices used in the distribution system.

PART B — (5 × 16 = 80 marks)

11. (a) Describe the pattern of load growth and their necessity in planning.

Or

- (b) (i) Describe load forecasting based on discounted multiple regression technique.  
(ii) Write short notes on annual forecasting.

12. (a) Explain in detail the reliability analysis of interconnected generation system.

Or

- (b) Explain the reliability indices used in the generation system reliability analysis.

13. (a) Explain the probabilistic transmission system reliability analysis, in detail.

Or

- (b) Write short note on the following:  
(i) Deterministic Contingency Analysis  
(ii) Fuzzy load flow.

14. (a) Elaborately discuss about the various plans currently followed in India, for the expansion of power system.

Or

- (b) (i) Briefly discuss about the capacitor placer problem in transmission system.  
(ii) Write short notes on expansion planning.

15. (a) Explain the co-ordination of protective devices in distribution system.

Or

- (b) (i) What are sub-transmission lines? Explain.  
(ii) Describe the design of primary distribution system?