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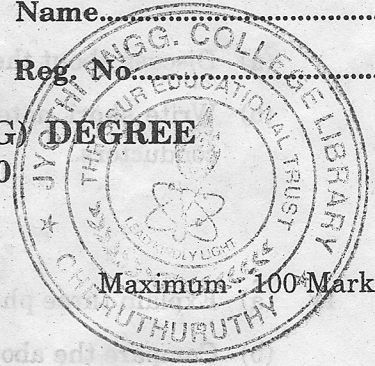
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Name.....

Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, DECEMBER 2010**

EE 04 504—POWER SYSTEMS—I



Maximum 100 Marks

Time : Three Hours

- I. (a) Explain the terms demand factor and diversity factor.
(b) Write short notes on economics of pf improvement.
(c) Discuss about the advantages and disadvantages of corona.
(d) Mention the classification of cables and define grading of cables.
(e) Define the terms sag and tension.
(f) Discuss the classification of distribution systems.
(g) Explain the terms GMD and GMR.
(h) Write short notes on transposition of transmission lines.

(8 × 5 = 40 marks)

Module 1

- II. (a) Compare conventional and non-conventional sources of energy. (7 marks)
(b) Discuss about the selection of nuclear hydro plants. (8 marks)

Or

- (a) What do you mean by tariff and discuss its types ? (8 marks)
(b) A generating station supplies the following loads 15,000 kW, 12,000 kW, 8,500 kW, 6000 kW and 450 kW. The annual load factor of the station is 48%. Calculate (a) the number of units supplied annually ; (b) diversity factor and (c) demand factor.

(7 marks)

Module 2

- III. (a) Mention the types of line Insulators and briefly discuss about any one insulator. (8 marks)
(b) With a neat diagram explain different types of cables. (7 marks)

Or

Turn over

- (a) Discuss about the theory of corona formation and its effects. (8 marks)
- (b) Write short notes on the location of transmission line supports and the arrangement of conductors. (7 marks)

Module 3

- IV. (a) Explain three phase 3 wire system with neat diagram and necessary equations. (10 marks)
- (b) Compare the above system with 4 wire systems. (5 marks)

Or

- (a) Explain the voltage drop calculators in radial main distribution system.
- (b) Compare the above system with ring main distribution system.

Module 4

- V. (a) Explain the effect of capacitance in long transmission lines by T-method. (8 marks)
- (b) Explain the above effect using T_i -method. (7 marks)

Or

- (a) Give the representation of short transmission lines. Also explain the ABCD parameters. (10 marks)
- (b) Compare medium transmission lines with long transmission lines. (5 marks)

[4 × 15 = 60 marks]