

C 5125

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Name.....

Reg. No.....

**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2010**

**EE 2K 805 A/PTEE 2K 803 (A)—ELECTRICAL SYSTEM DESIGN AND
ESTIMATION**

Time : Three Hours

Maximum : 100 Marks

*Answer five full questions.
Assume any missing data suitably.*

Part A

- I. (a) Explain the role of earth bus.
- (b) Mention the various criterion for selecting HT and LT under ground cables.
- (c) Mention the design considerations of good lighting scheme.
- (d) Explain about lightning arresters. Where they are used ?
- (e) List the factors influencing earth resistance.
- (f) Explain the protection approaches for standby generators.
- (g) What is switchgear ? Explain its role in detail.
- (h) Write a note on earth mat design.

Part B

(8 × 5 = 40 marks)

- II. (a) Discuss one protective device each against overload and short circuit faults. (9 marks)
- (b) Explain the various types of service mains. (6 marks)

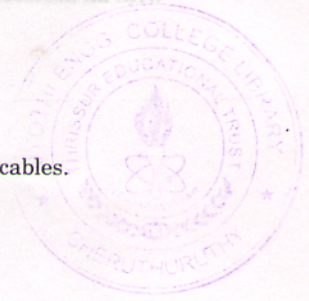
Or

- III. (a) Discuss and compare the main types of light sources. (8 marks)
- (b) Discuss the safety aspects of hospital electrification. (7 marks)
- IV. (a) Explain any *one* photometer in detail. (8 marks)
- (b) Discuss the steps involved in flood and street lighting. (7 marks)

Or

- V. (a) Write the electrical aspects of lift and escalator installation. (8 marks)
- (b) Write a note on lighting calculations—the methods and its relevance. (7 marks)
- VI. (a) Write a note in rising mains. (7 marks)
- (b) Write a steps to compute estimation and costing of commercial building. (8marks)

Or



- VII. (a) Discuss any *two* methods for house wiring.
- (b) Write a note on the relevance and methods used for lightning protection.
- VIII. (a) Write a note on various earthing systems. (8 marks)
- (b) Draw neat sketches of transmission line towers for 66 kV and 110 kV. Give the main dimensions (7 marks)

Or

- IX. Prepare a detailed material and cost estimate for a 11 kV / 400 V, 3 ϕ , 50 Hz distribution transformer with all accessories in the HT and LT sides. (15 marks)
- (4 \times 15 = 60 marks)