C 5125 (Pages : 2) 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) Wrire a note on the relevance and methods used for lightning protection.

VIII. (a) Write a note on various earthling 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 × 15 = 60 marks)