

27115

Name :

Reg. No:

EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, MAY 2012

EE04 801 - ELECTRICAL SYSTEM DESIGN AND ESTIMATION

Time : Three Hours

Maximum : 100 Marks

Answer all questions

- I (a) Explain the design considerations of electrical installations.
(b) Explain the role of service mains.
(c) Mention the electrical aspects for standby generators.
(d) Explain the safety aspects of electrical installations for hospitals.
(e) Mention the estimation of main supply board for high rise buildings.
(f) Explain the electrical system design of costing for commercial buildings.
(g) Estimate the costing of a 16 MVA — 11 kV/415 V outdoor substation having one incoming and one outgoing.
(h) Write short note on pipe earthing.
- (8 × 5 = 40)
- II (a) With a neat sketch, explain electric mains in reception and distribution of main supply.
(b) Mention the various guideline for installation of fittings.
- OR**
- III (a) Discuss the various criteria for selection of HT and LT underground cables.
(b) Explain briefly the need for earth bus.
- IV (a) Explain the different types of lighting arrangement.
(b) Explain briefly about the energy efficiency in lamps and illumination.
- OR**
- V (a) Explain the electrical considerations for escalator services.
(b) Explain briefly about the design considerations of good lighting schemes.
- VI Prepare in detail, the estimation and costing of main supply boards and distribution boards for high rise buildings including air conditioners and lifts with provision for standby generators.
- OR**
- VII (a) Brief about the lightning protection.
(b) Explain the need for estimating and costing of electrical installations for small industries.
- VIII (a) Write short notes on design of earthing system
(b) Write short notes on design of Earthmat
- OR**
- IX With the help of a schematic diagram, bring out the estimation and costing of a busbar trunking above 630 kVA.
- (4 × 15 = 60)
