

**EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION,
JUNE 2011**

EE 04 801 – ELECTRICAL SYSTEM DESIGN AND ESTIMATION

Time: 3 Hours

Maximum: 100 Marks

Answer all questions

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| I | (a) Explain the protection of electric installation against overload. | |
| | (b) Explain the role of neutral and earth wire. | |
| | (c) Mention the electrical aspects for standby generators. | |
| | (d) Explain the electrical considerations for escalator services. | |
| | (e) Explain the various protection schemes for standby generators. | |
| | (f) Brief the design considerations of electrical installations in industries. | |
| | (g) Estimate the costing of a 16 MVA – 11 kV/415 V outdoor substation having one incoming and one outgoing. | |
| | (h) Explain the shielding of electrical system. | |
| II | (a) Explain the location of distribution and panel boards for any one application. | 8 |
| | (b) Explain briefly the need for earth bus. | 7 |
| | OR | |
| III | (a) Mention the various guideline for installation of fittings. | 8 |
| | (b) Discuss the various criteria for selection of HT and LT underground cables. | 7 |
| IV | (a) Explain the electrical considerations for escalator services. | 8 |
| | (b) Brief the design considerations of good lighting schemes. | 7 |
| | OR | |
| V | (a) Explain briefly about the design considerations of good lighting schemes. | 7 |
| | (b) Brief the safety aspects of electrical installations for hospitals. | 8 |
| VI | (a) Discuss the estimation and testing of rising mains. | 7 |
| | (b) With a neat sketch, explain the distribution board for high rise building including air conditioners. | 8 |
| | OR | |
| VII | (a) Brief about the lightning protection. | 7 |
| | (b) Explain the need for estimating and costing of electrical installations for small industries. | 8 |
| | | 7 |
| VIII | (a) Explain the selection of EHV and HV power transformers | |
| | (b) Write short note on the design of plate and pipe earthing. | 8 |
| | OR | |
| IX | With the help of a schematic diagram, bring out the estimation and costing of a busbar trunking above 630 kVA. | |