

Roll No. ....

**23261**

**M.Tech. Ist Sem. (Electrical Engg.)**

**Specialization : Electrical Power Systems**

**Examination – December, 2013**

**ELECTRICAL DISTRIBUTION SYSTEMS (ELECTIVE-I)**

**Paper : MTEPS - 105**

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** (i) *Section A is compulsory.*

(ii) Attempt any *four* questions from **Section B, C, D and E** by selecting at least *one* question from each section.

(iii) Students have to attempt *five* questions in total. Use of nonprogramming calculator is allowed.

**SECTION – A**

1. (a) What do you mean by utilization factor and load factor. 5

- (b) What do you mean by rating of a distribution system ? On what factors rating of a distribution system is decided ? 5
- (c) Explain the general coordination procedure of protective devices. 5
- (d) Explain some of the equipments which are used for voltage control in distribution system. 5

### SECTION – B

- 2. Draw and explain the single line diagram of Distribution system. Explain the functions of different parts of Distribution System. 20
- 3. Explain the design considerations of Ring or loop distribution system. 20

### SECTION – C

- 4. Explain the factors on which location of substation depends. What are the advantages of optimal location of substations ? 20
- 5. Derive and Explain the equation for voltage drop in the radial networks. 20

### SECTION – D

- 6. Discuss the main objectives of protection used for distribution system. 20
- 7. Explain the principle of operation of different type of circuit breakers and fuses used in power system. 20

### SECTION - E

8. Explain the function of different types of power capacitors used in distribution system. 20
  9. What do you mean by line drop compensation in distribution system. 20
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