Roll No. .....

23261

M. Tech. 1st Semester (Electrical Engg.) Specialization : Electrical Power Systems) Examination – December, 2014

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 : Attempt any ***five*** questions out of given ***eight.***

1. (a) What is the role of computers in distribution systems ? 6

(b) Define : 9

(i) Demand factor,

(ii) Load factor,

(iii) diversity factor.

(c) How agricultural and industrial loads are different ? 5

2. Take a case of a distribution feeder. Right from the land acquisition to start of distribution explain the steps involved. Also enlist the components required to finalize the design of a distribution feeder with the help of layout. 20

3. (a) What are the benefits of a optimal location of substations ? 10

(b) What are the ratings of a substation ? 5

(c) Why do we require a secondary distribution system ? 5

4. (a) A single phase line possesses an inductive reactance X of 10 Ω and is connected to a fixed sender voltage of 1000 V. If it is fully compensated calculate the following. 10

(i) Maximum active power that the line can deliver to a resistive load.

(ii) The capacitive reactance that must be installed on the receiver side in (i).

7. (a) What is compensation ? How capacitors are helpful in compensation for power factor control ? Derive an expression for the same. 10

(b) How can we find out the best location to place a capacitor ? 5

(c) What is the difference between fixed and switched shunt capacitors ? 5

8. Write short notes on : 20

(i) Line drop compensation,

(ii) Distortion power factor.

(iii) Effect of AVB/AVR.
