23261

M.Tech. 1st Semester

Examination, December–2018

ELECTRICAL POWER SYSTEMS

Paper– MTEPS–105

Electrical Distribution System (Elective-I)

Time allowed : 3 hours] *[Maximum marks : 100*

***Note:** Attempt any five questions.*

1. Explain briefly classification of loads. How is the load modelling done in distribution network? 20

2. (a) Derive the equation for load power factor for which voltage drop is minimum in terms of line parameters (resistance and reactance). 10

(b) Describe the voltage drop in term of active and reactive power on feeder lines. 10

3. (a) Explain the benefit derived through optimal location of substation. 10

(b) Draw a line diagram of secondary distribution system. Mention the factors that influence the selection of secondary distribution. 10

4. Why is voltage drop consideration important in distribution system? How is it computed when line parameters and load density of an area are given? 20

5. What are the different types of faults that can occur on distribution network? Explain them with line diagram.20

6. (a) How are feeders line and transformers protected against over voltage or surges? 10

(b) Explain the principle of sectionaliser. How is it coordinated with a fuse. 10

7. (a) What are different location for power factor improvement capacitor? Discuss their relative advantages and disadvantages. 10

(b) Describe the procedure to determine the best capacitor location. 10

8. Write a short note on 20

(a) Effect of AVB / AVR on voltage control.

(b) Line drop compensation.