PVP 19

Code: 19EE4501A

III B.Tech - I Semester – Regular Examinations – JANUARY 2022

ELECTRICAL DISTRIBUTION SYSTEMS
(ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place

PART – A

1. a) Write the various types of loads in distribution systems.
b) Classify different types of primary feeders and give their merits.
c) Why is voltage drop consideration important in distribution systems?
d) Write the list of protective devices that are used in the distribution system.
e) Define AVB and AVR.

PART – B
UNIT – I

2. a) Explain the factors affecting the distribution system planning. 6 M
b) What is loss factor? How is it related to load factor? Discuss its significance. 6 M

OR

3. Explain the characteristics of residential, agricultural, industrial and commercial loads with diagram. 12 M

UNIT – II

4. a) Outline about distribution substation. 6 M
   b) Calculate the rating of distribution substation with four feeders. 6 M

OR

5. a) Discuss about location of substations. 6 M
   b) Summarize the four and six feeder patterns in substation location. 6 M

UNIT-III

6. a) Give the factors which will affect the selection of conductor size of feeders. 4 M
   b) Discuss about different types of feeders. 8 M

OR

7. Discuss about radial feeder with non uniformly distributed load. 12 M

UNIT – IV

8. a) Discuss automatic circuit breaker and automatic circuit recloser. 6 M
   b) Summarise the recloser - fuse coordination and fuse-circuit breaker coordination. 6 M

OR

9. a) What are the objectives of distribution system protection? 6 M
   b) Explain Fuse-Fuse coordination procedure. 6 M

UNIT – V

10. a) Discuss the need of power factor improvement in distribution system and explain effect of series capacitor. 6 M

    b) Discuss in detail the procedure for best location of capacitor placement in a Distribution system. 6 M

OR

11. Briefly write the various methods adapted for voltage control and give the merits and demerits of it. 12 M