Code No. 5118 / M

FACULTY OF ENGINEERING

B.E. 4/4 (EE & E) II – Semester (Main) Examination, May / June 2012

Subject : **Electrical Power Distribution Engineering (Elective – II)**

Time : 3 hours Max. Marks : 75

Note: Answer all questions from Part–A and answer any **FIVE** questions from Part–B.

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PART – A (25 Marks)

1. Define load factor and write significance of load factor. 2
2. What is consumer electricity billing, comment on the same? 2
3. What is Sub station, comment on the same? 2
4. What is feeder and distributor? 2
5. What are the different voltage levels in electrical distribution system? 2
6. List the different type of loads available in electrical distribution system based on voltage levels. 3
7. List out the different types of feeder in the electrical distribution system. 3
8. Power losses at peak load is 80 kW and loss factor is 0.2, find the average power losses. 3
9. What is primary distribution and secondary distribution system? 3
10. List the different types of sub stations. 3

PART – B (5 x 10 = 50 Marks)

11.a) Discuss the various types of loads and their characteristics. 5

b) Explain the tariff structure of domestic. Commercial and industrial consumers. 5

12. Derive voltage and power loss expression in a single phase line. 10
13. A 3 phase star connected system supplying loads and the load impedances are $Z_A = 5 + j2$, $Z_B = 3 - j1$ and $Z_C = 4 + k3$ ohms respectively, RMS line-line voltage is 600 V find the load currents. 10
14. Define and explain shunt compensation with phasor analysis in the radial distribution system. 10

15.a) What are the various factors to be considered while selecting sub station site? 5

b) How do you analyze a substation service area with 'n' primary feeders? 5

16. Show that if the voltage drops are limited to six feeders can carry only 1.25 as much load as four feeders. 10

17.a) Define : 5