Code No. : 42221

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (EEE) IV Year II-Semester Examinations, May-2019
Electrical Power Distribution Engineering

Time: **3 hours**   Max. Marks: **70**

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Q.No.	Stem of the question	M	L	CO	PO
	Part-A (10 × 2 = 20 Marks)				
1.	The average load factor of a substation is 0.64. Evaluate the average loss factor at urban area and rural area.	2	1	1	1,2
2.	Write short notes on the contribution factor.	2	1	1	1,2
3.	What are the interrelated factors affecting the selection of primary feeder rating?	2	2	2	1,2
4.	Explain briefly about the role of distribution transformer	2	2	2	1,2
5.	Compare 2 wire and 3 wire DC distribution networks.	2	5	3	1,2
6.	Write down the importance of voltage control and explain how this effects on power loss of distribution networks.	2	2	3	1,2
7.	What are the objectives of distribution system protection?	2	1	4	1,2
8.	What is meant by coordination of protective devices used in protection of distribution system?	2	1	4	1,2
9.	What is the function of a transducer in distribution automation?	2	1	5	1,2
10.	What is meant by Substation automation and its significance (SA)?	2	1	5	1,2
	Part-B (5 × 10 = 50 Marks)				
11. a)	Explain load modeling done in distribution networks?	4	2	1	1,2
b)	Assume that a load of 100 kW is connected at the Riverside substation of the NL&NP Company. The 15-min weekly maximum demand is given as 75 kW, and the weekly energy consumption is 4200 kWh. Assuming a week is 7 days, Estimate the Demand Factor and the 15-min weekly load factor of the substation.	6	6	1	1,2,3
12. a)	Explain detail about the design considerations of network type distribution feeder with an example	5	2	2	1,2
b)	Assume a radial express feeder used on a rural distribution system and is connected to a lumped load at the receiving end. Assume that the feeder impedance is 0.1+j0.1 pu, the sending end voltage is 1.0 pu, P_r is 1.0 pu constant power load, and the power factor at receiving end is 0.8 lagging. Estimate receiving end voltage and angle by using exact equations and find also the sending and receiving end currents.	5	3,4	2	1,2,3

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	69.47%
2	Knowledge on application and analysis (Level-3 & 4)	22.11%
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable, subject to a maximum of 10%)	8.42%

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