Q.P. Code: 19EE0223 **R19**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year I Semester Regular Examinations November/December-2022

ELECTRICAL DISTRIBUTION SYSTEMS

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Discuss the relationship between load factor and loss factor.	L4	12M
		OR		
2	a	Define and explain the terms feeder, distributor &service mains with diagram.	L1	6M
	b	Explain the AC secondary distribution system with diagram.	L1	6M

UNIT-II

3		A single phase distributor one km long has resistance and reactance per conductor of 0·1 Ω and 0·15 Ω respectively. At the far end, the voltage VB = 200 V and the current is 100 A at a p.f. of 0·8 lagging. At the mid-point M of the distributor, a current of 100 A is tapped at a p.fof 0·6 lagging with reference to the voltage VM at the mid-point. Calculate : (i) voltage at mid-point (ii) sending end voltage VA (iii) phase angle between VA and VB.	L3	12M
		OR		
4	a	Discuss importance of voltage drop and power loss calculations in distribution.	L1	6M
	b	Explain with neat sketches radial type and loop type primary feeders.	L2	6M

UNIT-III

5		Explain in detail about the classification of Substations.	L3	12M
		OR		
6	a	Explain how do you analyze a substation service area with 'n' primary feeders.	L1	6M
	b	What is resistance grounding? What are its advantages and disadvantages?	L1	6M

UNIT-IV

7		A single phase A.C. Generator supplies the following loads : (i) Lighting load of 20 kW at unity power factor. (ii) Induction motor load of 100 kW at P.F. 0·707 lagging. (iii) Synchronous motor load of 50 kW at P.F 0·9 leading. Calculate the total KW and KVA delivered by the generator and the power factor at which it works	L4	12M
		OR		
8	a	Explain the effect of shunt compensation on distribution system.	L1	6M
	b	Why is unity power factor not the most economical P.F?	L1	6M

UNIT-V

9		Explain distribution automation? Give the various functions of distribution automation.	L1	12M
		OR		
10	a	Explain about Information technology and LAN.	L1	6M
	b	What is communication? Give Methods of Communication?	L1	6M

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