SR 22

St. Peter's Engineering College (Autonomous) Dullapally (P), Medchal, Hyderabad – 500100. I - Mid Term Examination – November 2023						Dept.	:	ECE/CSE/ CSD/CSC
						Academic Year 2023-24		
Subject Code	:	AS22-02ES01	Subject	:	Basic Electrical Engineering			
Class/Section	:	B. Tech.	Year	:	I	Semester	:	I
Duration	:	120 Min	Max. Marks	:	30	Date:	:	

BLOOMS LEVEL					
Remember	L1	Understand	L2	Apply	L3
Analyze	L4	Evaluate	L5	Create	L6

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PART – A (10x1M = 10M)

Note: Answer all Questions. Each Question carries equal marks.

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
1	a) State Ohms law? write down its limitations.	1M	L1	C114.1
	b) Classify various network elements?	1M	L1	C114.1
	c) State Maximum Power Transfer theorem	1M	L2	C114.1
	d) Define current and voltage.	1M	L2	C114.1
	UNIT – II			
	e) Define inductive reactance and write down the formula for it.	1M	L1	C114.2
	f) Define power factor of an ac circuit.	1M	L1	C114.2
	g) What is power triangle?	1M	L1	C114.2
	h) Define resonant frequency?	1M	L1	C114.2
	UNIT – III			
	i) Explain the working principle of a dc generator?	1M	L2	C114.3
	j) What is the function of Commutator in a dc generator?	1M	L2	C114.3

PART – B (20M)

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
2	a) Obtain the volt-ampere relationship for R, L and C.	4M	L2	C114.1
	b) Derive equivalent capacitance when two capacitances are connected in both series and parallel.	4M	L3	C114.1
	OR			

3	State and explain Super position theorem by considering suitable example.	**8M**	**L2**	**C114.1**
	UNIT – II			
4	a) Derive the Average value, Root mean square value, Form factor and Peak factor for half rectified Sine waveform.	**4M**	**L2**	**C114.2**
	b) Derive the relationship among phase and line values for a Star connected network	**4M**	**L3**	**C114.2**
	OR			
5	a) Derive the formula for impedance of series RLC circuit.	**4M**	**L2**	**C114.2**
	b) A Series RLC circuit has R=10 Ω, L=25 mH and C=60 μF with frequency of 50 Hz. Determine the impedance and power factor of the circuit.	**4M**	**L3**	**C114.2**
	UNIT – III			
6	Classify various DC Generators with neat diagrams and necessary equations	**4M**	**L2**	**C114.3**
	OR			
7	Write down the applications of dc generators	**4M**	**L2**	**C114.3**

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