BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-II Computer Science & Engineering : SUMMER : 2025
SUBJECT: ELECTRICAL TECHNOLOGY

Day : Wednesday
Date : 28/05/2025

S-27695-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.
4) Draw neat labeled diagrams **WHEREVER** necessary.

Q.1	**a)**	Explain the concept of EMF and potential difference.	**(05)**
	b)	Differentiate between active and passive elements.	**(05)**
		OR	
Q.1	**a)**	Explain Kirchhoff's laws to solve electric network.	**(05)**
	b)	Differentiate between dependent and 'independent' sources.	**(05)**
Q.2	**a)**	Write down the formula for 3 resistances connected in i) Series ii) Parallel	**(05)**
	b)	Derive the equation to convert star in to delta.	**(05)**
		OR	
Q.2	**a)**	Explain superposition theorem with neat diagram.	**(05)**
	b)	Derive the equation to convert delta to star.	**(05)**
Q.3	**a)**	Define following terms: i) Form Factor ii) Peak Factor	**(05)**
	b)	Draw admittance triangle and explain in brief.	**(05)**
		OR	
Q.3	**a)**	Explain following terms: i) Active power ii) Reactive power iii) Apparent power	**(05)**
	b)	Explain power factor in electric circuit.	**(05)**
Q.4	**a)**	List advantages of 3-phase AC system.	**(05)**
	b)	Explain meaning of phase sequence with waveform.	**(05)**
		OR	
Q.4	**a)**	Discuss measurement of 3-phase power.	**(05)**
	b)	Explain line and phase values for star connection.	**(05)**
Q.5	**a)**	Differentiate between electric and magnetic circuits.	**(05)**
	b)	Explain B-H curve with neat diagram.	**(05)**
		OR	
Q.5	**a)**	Explain principle of operation of single phase transformer.	**(05)**
	b)	Define efficiency and regulation of single phase transforms.	**(05)**
Q.6	**a)**	Draw and explain basic layout of distribution system.	**(05)**
	b)	List different types of wiring system. Explain any one.	**(05)**
		OR	
Q.6	**a)**	List different type of lamps. Explain any one.	**(05)**
	b)	Explain different types of tariff.	**(05)**

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