



13	A voltage wave represented by $V=200\sin 314t$ find i) Maximum value ii) Average value iii) RMS value iv) Frequency v) Time period	[10]	CO1	L3
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	OR		
14	Derive the expression for impedance (Z), phase angle ( $\Theta$ ) and power factor ( $\cos\phi$ ) for RLC series circuit with relevant phasors. [10]	CO1	L3
15	a) Derive the Emf equation of transformer. [5] b) A 50KVA, 1100/400 V, 50Hz single phase transformer has 80 turns on the primary. Calculate: [5] [5] i) the number of turns on the secondary ii) the full load primary and secondary currents and iii) the maximum value of the flux	CO2	L3
	OR		
16	Explain in detail different types of losses in transformer. [10]	CO2	L2
17	a) Explain the constructional features of DC machine with neat diagram. [5] b) Derive the EMF equation of the DC generator? [5].	CO3	L2
	OR		
18	Explain the construction and working principle of 3-phase synchronous generator. [10]	CO3	L2
19	a) Explain briefly the concept of wiring system and earthing. [5] b) Explain the types of wires and cables. [5]	CO4	L2
	OR		
20	Explain in detail the types of earthing with neat diagrams. [10]	CO4	L2