BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-I Computer Science & Engineering AI & ML : WINTER : 2024
SUBJECT: ELECTRICAL TECHNOLOGY

Day : Friday
Date : 06/12/2024

W-27616-2024

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

N.B.

1) Figures to the right indicate full marks.
2) Use of non-programmable calculator is allowed.
3) Assume suitable data if necessary.

Q. 1	Explain the B-H curve for magnetic and non-magnetic materials. Explain Kirchhoff's laws for magnetic circuits.	(10)
	OR	
Q. 1	Write the properties of magnetic lines of force. Explain Cross convention and Dot convention in detail.	(10)
Q. 2	Explain R-L-C series A.C. circuit with the help of diagram and write all the formulas.	(10)
	OR	
Q. 2	A coil having a resistance of 7 Ω and an inductance of 31.8 mH is connected to 230 V, 50 Hz supply. Calculate i) the circuit current ii) phase angle iii) power factor iv) power consumed and v) voltage drop across resistor and inductor.	(10)
Q. 3	Derive an EMF equation of transformer with suitable notation.	(10)
	OR	
Q. 3	List different types of losses in transformer and explain each one in brief.	(10)
Q. 4	What are the advantages of three phase system over a single- phase system? Distinguish between primary transmission and secondary transmission.	(10)
	OR	
Q. 4	Explain in detail the following terms: a) Electrical Grid b) Phase sequence	(10)
Q. 5	What is back EMF concerning DC motors derive EMF equation of DC motor.	(10)
	OR	
Q. 5	Explain the working of DC generator with the help of its construction.	(10)
Q. 6	Explain in details Nickel Cadmium battery. Write its applications.	(10)
	OR	
Q. 6	Differentiate between series and parallel connection of batteries. Write their advantages and disadvantages.	(10)

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