Regulation R18 *Subject code: 2E1AD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech I Semester Supplementary Examinations, September 2023

BASIC ELECTRICAL ENGINEERING
(Common to CE,EEE,ME & IT)

Maximum Marks: 70 Date:04.10.2023 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 State Ohm's law with explanation.
2 Define Node with example.
3 Explain Rectangular form
4 Explain pure inductor(L) with ac excitation
5 Explain difference between core and shell type transformers?
6 Define Norton's theorem and draw the Norton's equivalent circuit.
7 State Superposition theorem.
8 Explain the significance of Back EMF.
9 Compare ideal transformer and practical transformer.
10 Mention the importance of Earthing.

Part-B

Answer All the following questions. (5X10M =50Marks)

11 Explain Nodal Analysis with an example. 10M

OR

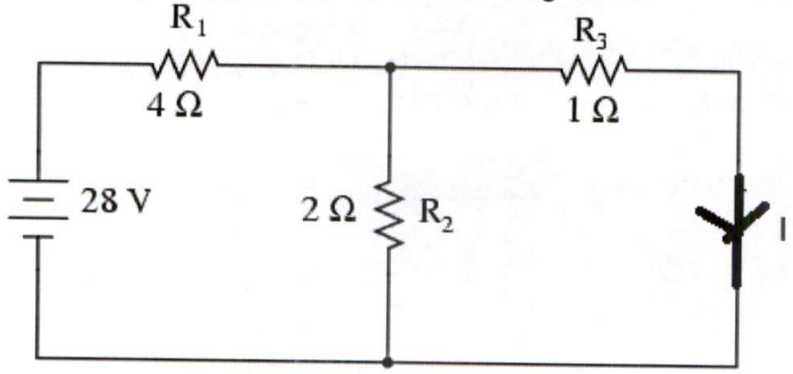
12 Build the expression for self-inductance, mutual inductance and Draw the B-H Curve. 10M

13 Explain average value, RMS value in Graphical Method & Analytical method. 10M

OR

14 Assess relation between voltage, current & power for parallel RLC circuit. 10M

15 a).Prove Reciprocity theorem for the following circuit



OR

16 Explain Maximum power transfer theorem with suitable example (DC) and derive the expression for maximum power delivered to the load. 10M

17 Explain constructional details of a DC Machine with neat diagram. 10M

OR

18 Build the EMF equation for a single-phase transformer. 10M

19 Explain Different Types of Batteries. 10M

OR

20 Explain plate Earthing and pipe Earthing in detail. 10M