



B.Tech I Semester Supplementary Examinations, September 2023

BASIC ELECTRICAL ENGINEERING

(Common to CSE(DS) & IT)

Maximum Marks: 60

Date: 05.10.2023 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 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

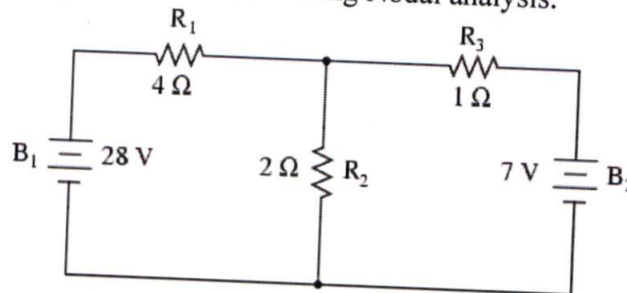
- 1.a Define Kirchoff's current law.
- b Draw the Thevenin's equivalent circuit.
- c Define current.
- d Define form factor.
- e What is the other name for open circuit test of transformer?
- f Define a transformer.
- g Define motor.
- h Define slip.
- i Write the full Form of MCB?
- j Classify the different types of Batteries.

(10x1M=10 Marks)

Part-B

Answer All the following questions.

- 2 Briefly explain Kirchoff's current law and Kirchoff's voltage law with examples. (5X10M=50Marks) 10M
- 3 Measure current through the 2Ω resistor using Nodal analysis. 10M



- 4 Derive the expression for average value, RMS value of sinusoidal waveform OR 10M
- 5 Estimate the Voltage, current equations of RL series dc circuit. 10M
- 6 Construct and explain the working principle operation of single phase transformer 10M

OR

- 7 Write a short note on open circuit test of single-phase transformer? 10M
- 8 Explain the Principle operation of single phase induction motor 10M
- OR
- 9 An 8-pole d.c. generator has 500 armature conductors, and a useful flux of 0.05 Wb per pole. What will be the e.m.f. generated if it is Wave-connected and runs at 1200 rpm? 10M
- 10 Explain the Construction and operation of MCB. 10M
- OR
- 11 Explain the following 5M
- i) Switch fuse unit
 - ii) Earth leakage circuit breaker (ELCB) 5M