



GLOBAL INSTITUTE OF TECHNOLOGY

Roll No. 22hitC-12

B. Tech. I-Semester I Midterm Exam 2022

Branch : Common for All Branch

1FY3-08: Basic Electrical Engineering (Common for C, D & E Section)

27.12.2022 (Tuesday)

Time: 3 Hours

Maximum Marks: 70

Attempt all questions

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. No supplementary sheet shall be issued in any case.

Part A (Answer should be given up to 25 words only)

All questions are compulsory

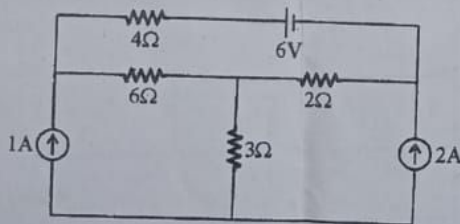
- Q.1 State Norton theorem. [CO2]
- Q.2 Explain Form factor and Peak factor. [CO1]
- Q.3 Explain Kirchhoff's current law to solve the electrical circuit. [CO1]
- Q.4 Define active, reactive and apparent power. [CO1]
- Q.5 Explain Kirchhoff's voltage law to solve the electrical circuit. [CO1]
- Q.6 State Superposition theorem. [CO2]
- Q.7 State Thevenin's theorem. [CO2]
- Q.8 Explain RMS value and Average value. [CO1]
- Q.9 Explain phase angle and phase difference. [CO1]
- Q.10 How Current source is converted to voltage source. Give example. [CO2]

10x 2 = 20

Part B Analytical/Problem solving questions
Attempt any four questions (word Limit 100)

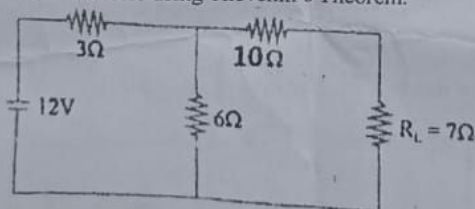
Q.1 Find the current through 3Ω resistor using Mesh Analysis.

[CO1]



Q.2 Find the current in $R_L = 7\Omega$ resistor using Thevenin's Theorem.

[CO1]



Q.3. A Non-inductive resistance of 10Ω is connected in series with a inductive coil across 200 V, 50 Hz a.c. supply. The current drawn by the series combination is 10 A. The resistance of coil is 20Ω . Design a circuit first and then calculate inductance of coil, power factor of coil, power factor of circuit and voltage across the coil. [CO2]