

## Department of Mechanical Engineering

Sessional 1<sup>st</sup> (Mechanical Engg. and Robotics & AI Engg. 1<sup>st</sup> Semester)

Basic Electrical Technology (ESC101A)

Time: 1:30 hrs

M. Marks: 15

Note: Part – Attempt any three questions.

- Q.1) By using mesh analysis, determine the current supplied by each battery in the given circuit. (CO1) (5)

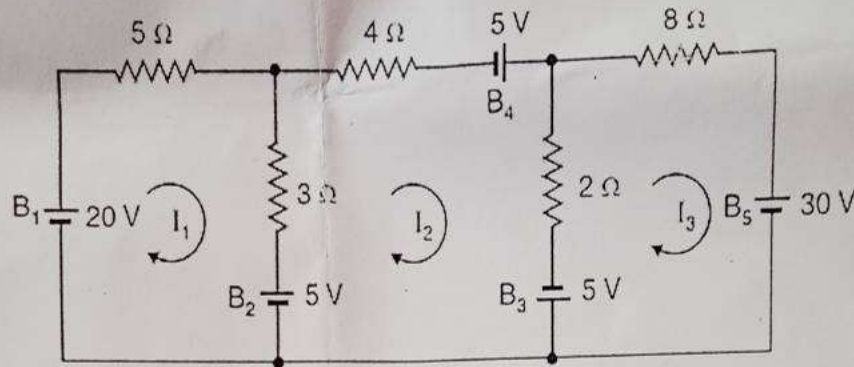


Fig-1

- Q.2) State and explain maximum power transfer theorem. Derive the condition for maximum power transfer. State the applications of maximum power transfer theorem. (CO1) (5)
- Q.3) Determine voltage across the 4Ω resistor using superposition theorem, in the circuit shown in Fig.2 (CO1) (5)

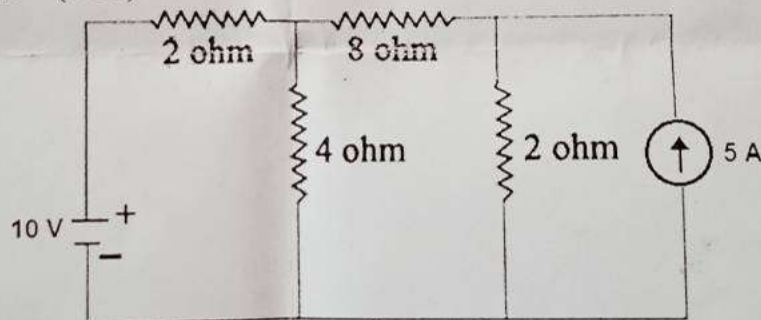


Fig-2

- Q.4) Determine the current flowing in 4 ohm resistance using Thevenin's theorem in the network shown in fig.3 (CO1) (5)

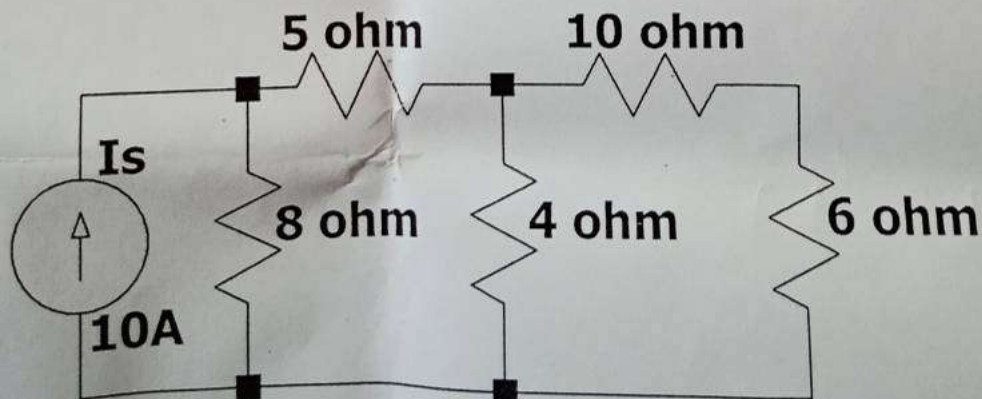


Fig-3