



## Assignment 1 (Spring 24)

**Circuit Theory (PHY301)**

Marks: 25

Due Date: April 29, 2024

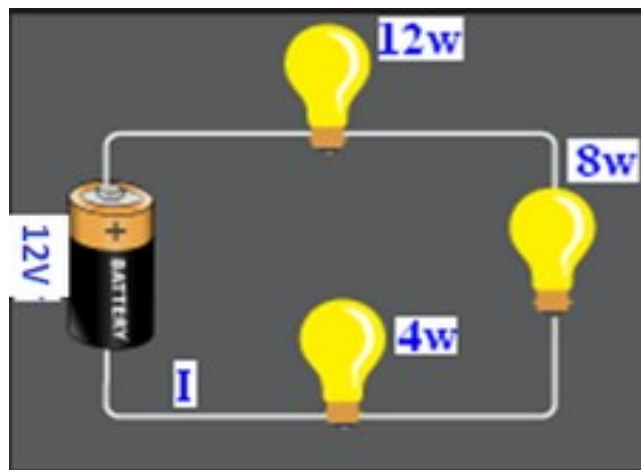
DON'T miss these *important instructions*:

- To solve this assignment, you should have good command over the first 9 lectures.
- Upload assignments as MS Word file through LMS, (No Assignment will be accepted through email).
- Write your ID on the top of your solution file.
- All students are directed to use the font and style of text as is used in this document.
- Don't use colorful backgrounds in your solution files.
- Use Math Type or Equation Editor etc for mathematical symbols.
- No excuse will be accepted by anyone if found to be copying or letting others copy.
- Don't wait for the last date to submit your assignment.

*You can draw circuit diagrams in "Paint" "Corel Draw" in "circuit maker" or in any convenient App you find. The simple and easy way is to copy the given figure in "Paint" and make the required changes in it.*

### Q.1:

Consider the given below circuit network,



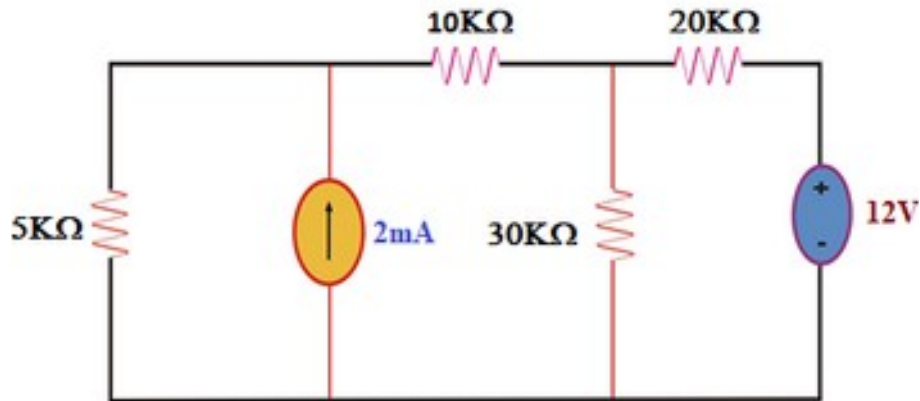
Determine the following about given circuit network!

[Marks:10]

- 1- Current  $I$  flowing through the circuit?
- 2- Power supplied by the battery.
- 3- Current flow through circuit if 12W bulb is opened?

**Q.2:**

Identify and label each node and using the Nodal analysis, find out Voltage value at each node and Current for  $5\text{K}\Omega$  in circuit given below. [Marks:10]

**Q.3:**

**Give brief answers:**

[Marks:5]

- a) Two resistances of value  $4\Omega$  and  $6\Omega$  are connected in parallel of  $2\text{mA}$  current source. Find power dissipated across  $4\Omega$ .
- b) How are three quantities related in Ohm's law?

.....Good Luck.....