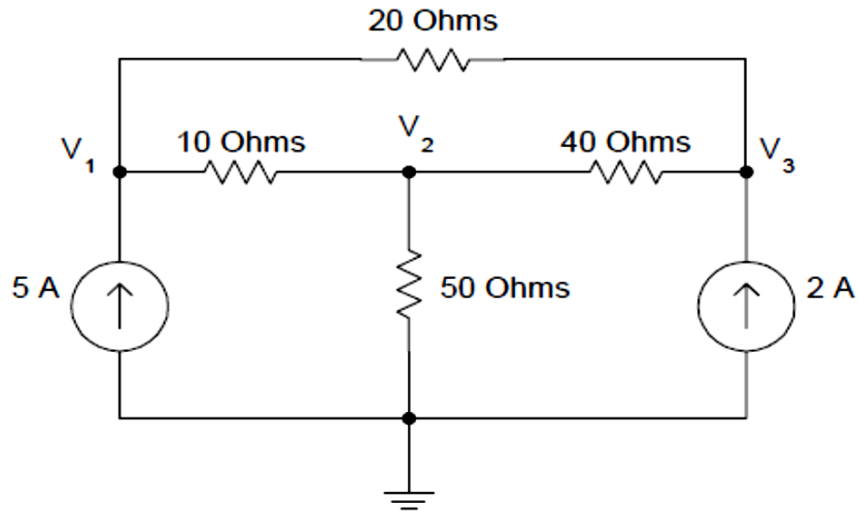


**Elements of Power System Lab**  
**Assignment – II**

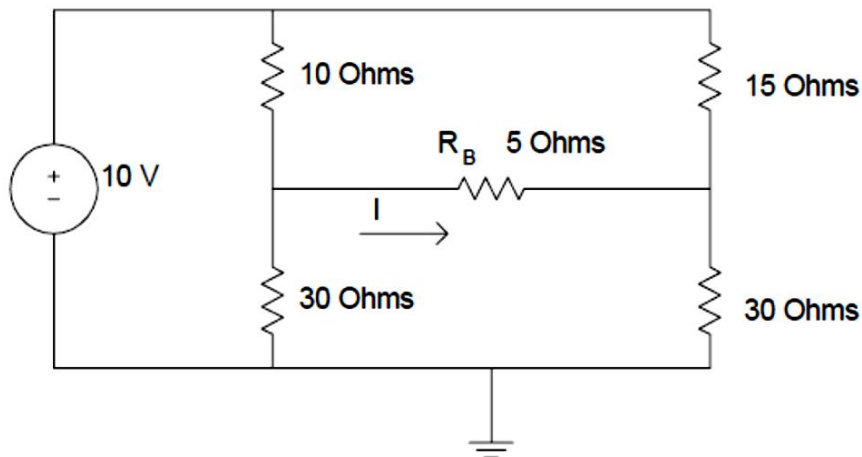
Q.1. Create a 3x3 matrix, A. Find if (a) A (2:3,2:3) (b) delete third row of A (c) size of A (d) A(:) (e) pick the last row of A (use *end*) (f) Extracts the diagonal elements of A

Q.2. Find the squares of all the integers starting from 1 to 100.

Q.3. **For the circuit shown below, find the nodal voltages  $V_1$ ,  $V_2$  and  $V_3$ .**



Q.4. **Use the mesh analysis to find the current flowing through the resistor  $R_B$ . In addition, find the power supplied by the 10-volt voltage source.**



Q.5. **Simplify the complex number  $z$  and express it both in rectangular and polar form.**

$$z = \frac{(3 + j4)(5 + j2)(2\angle 60^\circ)}{(3 + j6)(1 + j2)}$$

Q.6. Compute the value of the following function for  $n = 1$  to 20:

$$y(n) = 1^3 \cdot (1^3 + 2^3) \cdot (1^3 + 2^3 + 3^3) \cdot \dots \cdot (1^3 + 2^3 + \dots + n^3)$$

Q.7. Print the square root of the first five  $n$  integers.

Q.8. Write a script file to print the following pattern

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*
**
***
****
*****
*****
*****
*****
.....
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Q.9. Write a 'for loop' to compute the sum of the squares of all integers from 2 to 20:  
 $2^2 + 3^2 + 4^2 + \dots + 20^2$

Q.10. Evaluate the following summation:

$$\text{Sum} = \sum_{i=1}^{10} i^3$$

-----X-----