

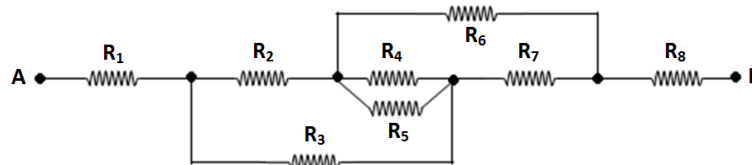
**Metropolitan University, Sylhet**  
**Department of Computer Science and Engineering**  
**Midterm Examination Spring - 2021**  
**Program: CSE, Batch: 50 (A+B+C)**  
**Course: CSE 123: Basic Electrical Engineering**

**Time: 2 hours 30 minutes**

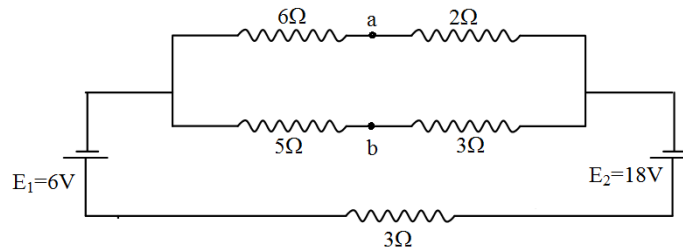
**Total Marks: 30**

**Note:** Please mention all the possible steps in your solution. Provide **student's name** and **ID** at the top of the answer script. Accepted answer script format is **PDF**.

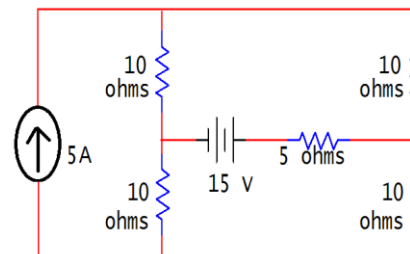
**Question 1** Determine the equivalent resistance,  $R_{AB}$  of the following circuit. (6)  
 [R1-R3 = 20Ω, R4-R7 = 1.5 KΩ, R8 = 25 Ω]



**Question 2** Determine the potential difference across the point *a* and *b*. (4)



**Question 3** Determine the currents through and voltages across each branch of the network using Mesh current method. (10)



**Question 3** Determine the currents through and voltages across each branch of the network using Node voltage method. (10)

