

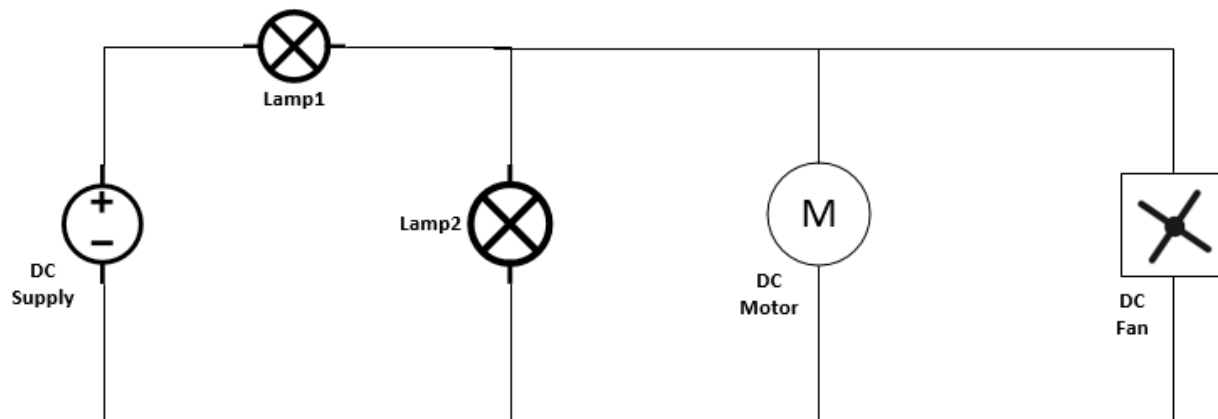


IQRA NATIONAL UNIVERSITY
DEPARTMENT OF ELECTRICAL ENGINEERING
Linear Circuit Analysis (LAB)

Open Ended Lab

Consider a DC circuit in which two lamps, one DC motor and one DC fan are connected in series-parallel combination to a 12V DC power supply as shown in the figure below. Resistances of two lamps are denoted by R_1 and R_2 respectively. Resistance of the coil of DC motor is denoted R_3 and resistance of the coil of DC fan is denoted by R_4 . Using any of the circuit analysis techniques, compute the below given parameters:

- 1) Current flowing through each lamp, DC motor and DC fan.
- 2) Voltage across each lamp, DC motor and DC fan.
- 3) Power loss in each lamp, DC motor and DC fan



Note:

- a) Each student should take different value of R_1 , R_2 , R_3 , and R_4 .
- b) Verify the result practically through a circuit simulation software.