V.E.S. INSTITUTE OF TECHNOLOGY,CHEMBUR

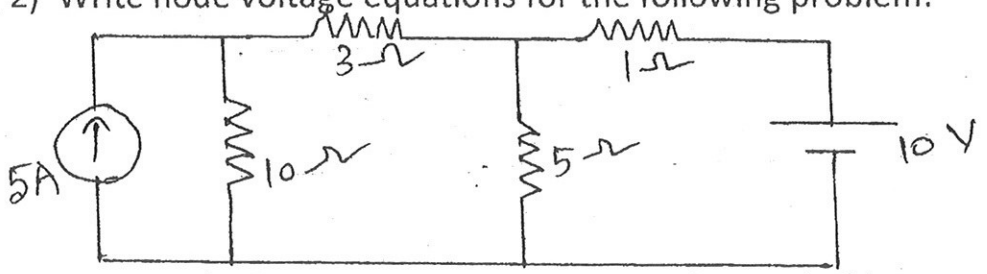
TEST I - SUBJECT BEE DATE : 13/09/14

ODD NUMBERS MAX MARKS:20

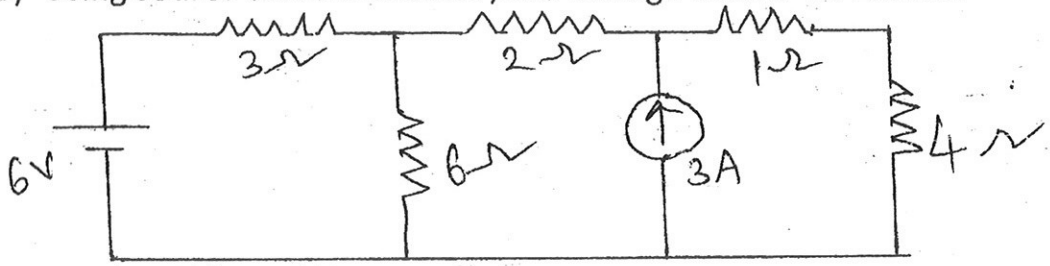
I Answer any FIVE : (5*2=10)

1) State maximum power transfer theorem.

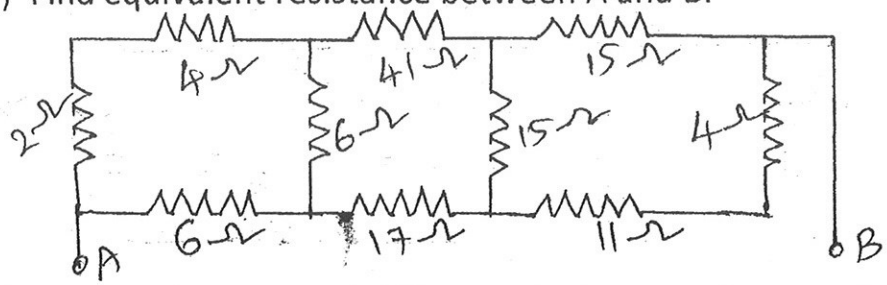
2) Write node voltage equations for the following problem:



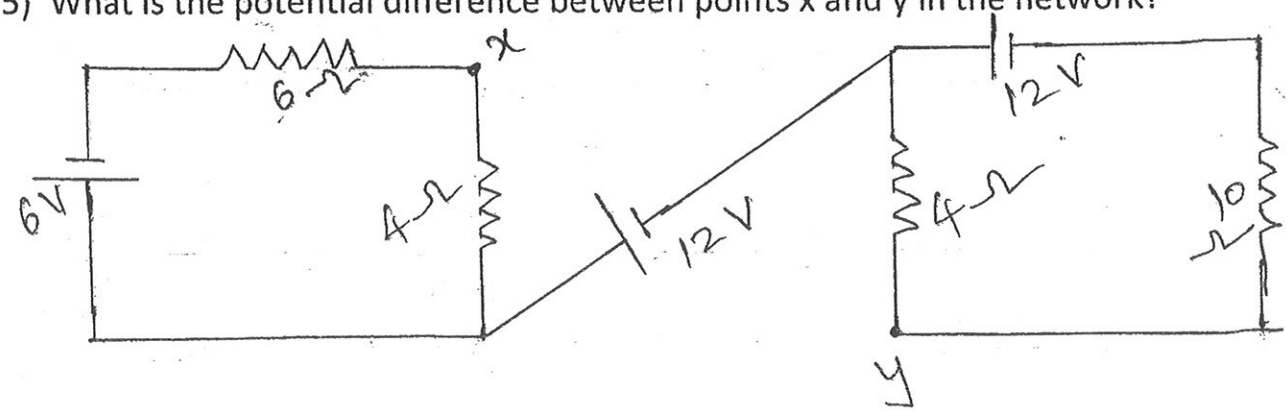
3) Using source transformation ,find voltage across 4Ω resistor



4) Find equivalent resistance between A and B.

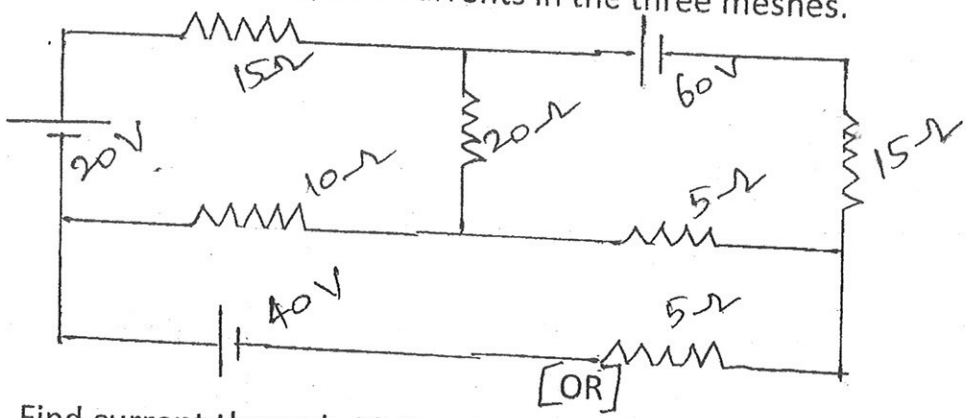


5) What is the potential difference between points x and y in the network?



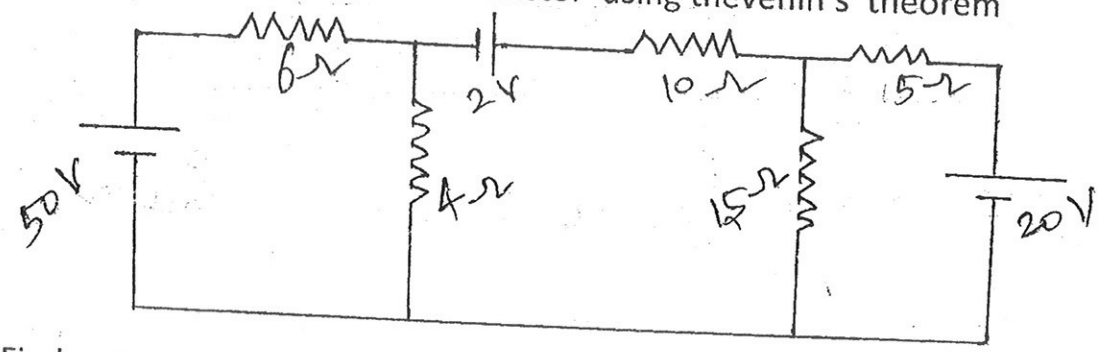
6) A circuit consists of two parallel resistors ,having resistances of 20 Ω and 30 Ω respectively, and is connected in series with a 15 Ω resistor. If the current through 15Ω resistor is 3 A, find current through 20 Ω and 30Ω resistors.

II Using mesh analysis, find currents in the three meshes. (5*1=5)

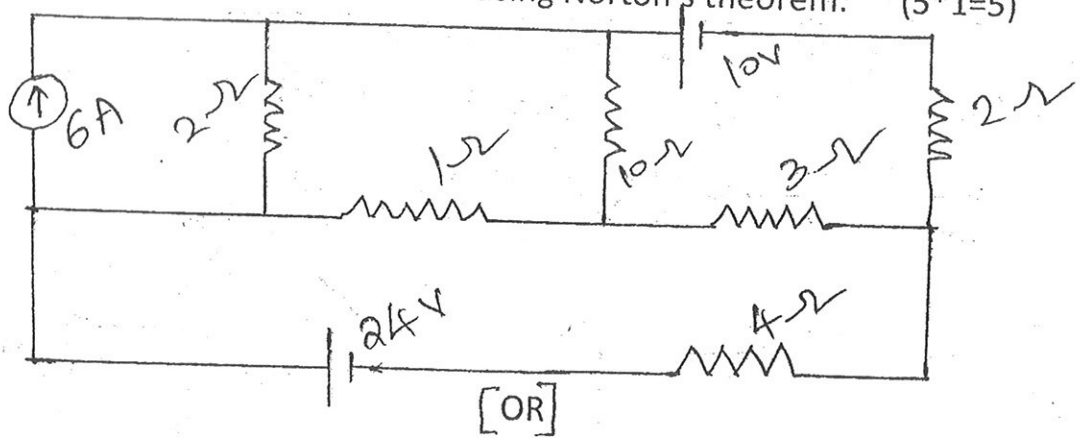


[OR]

Find current through 10 Ω resistor using thevenin's theorem



III Find current through 4Ω resistor using Norton's theorem. (5*1=5)



[OR]

Find current in 5 Ω resistor by superposition theorem