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**Atharva College of Engineering**

1<sup>st</sup> Sem, MST (Oct-2010): Subject: BEE, Class: 1,2,4

MAXIMUM MARKS

20

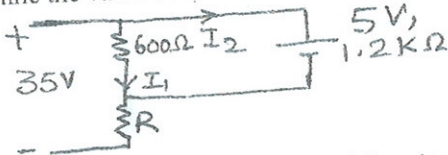
TIME

1 HR

- Notes: (1) All symbols have standard meaning unless otherwise specified.  
 (2) Use standard notation and values for constants.  
 (3) Solve all the parts of each question together.

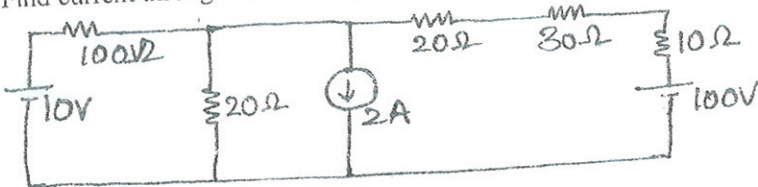
Q1 Any two (Compulsory).

(a) Determine the value of resistance R as shown in fig using KVL & KCL. 5

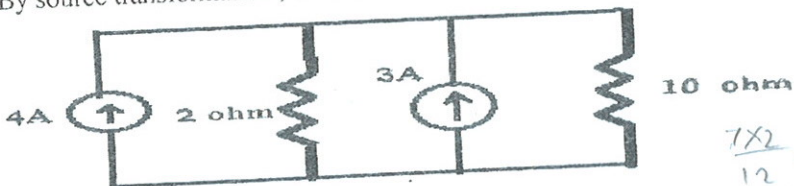


$V = IR \quad R = \frac{V}{I}$

(b) Find current through 100Ω using nodal analysis. 5

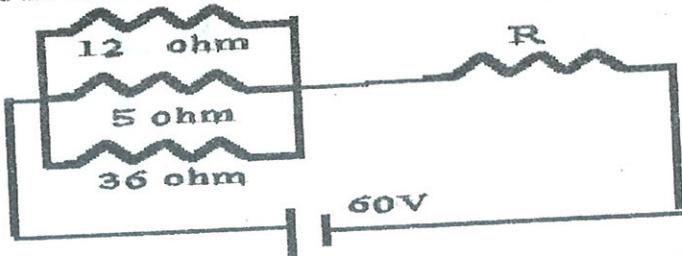


(c) By source transformation, find current in 10 ohm. 5



$\frac{7 \times 2}{12} = \frac{14}{12}$

(d) Find the value R when power consumed by 5Ω resistor is 42W. 5



$1.20$   
 $6.40$

$22 \times 5 = 110$

$V = IR$

$R = 45509$

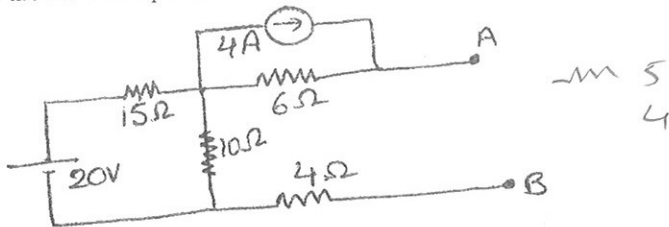
$V = IR$

$I =$

Q.2

Find the Norton equivalent circuit for the given network.

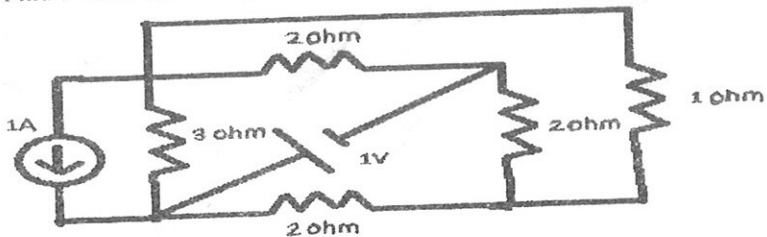
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OR

(b) Find the current through the 1 ohm resistor by thevenins theorem.

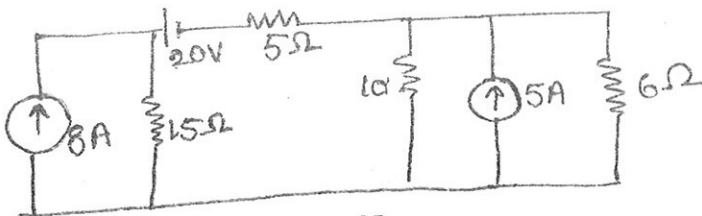
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Q3

(a) Find current through  $6\Omega$  using superposition theorem

5



OR

(b) Find the maximum power at  $R_{th}=R_L$ .

5

