

**6**

**(a)**

Explain what is meant by *electromotive force of a source* and *potential difference between two points of a circuit*.

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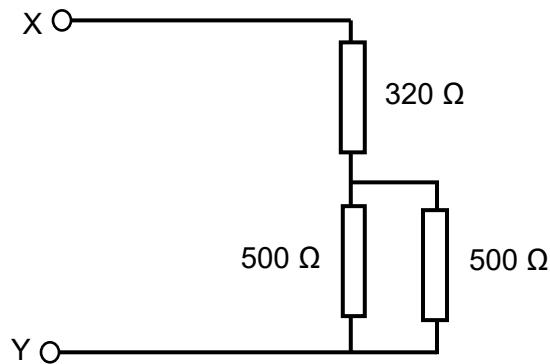
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.....

[2]

**(b)**

The circuit in Fig. 6.1 consists of three fixed resistors, each of which has a safe power rating of 0.80 W.



**Fig. 6.1**

**(i)**

Determine the *maximum safe* current through each resistor.

current in  $320 \Omega$  = ..... A

current in  $500 \Omega$  = ..... A  
[3]

**(ii)**

Determine the maximum potential difference that can be applied between X and Y without damage to any of the resistors.

maximum potential difference = ..... V  
[3]