

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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(b)

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

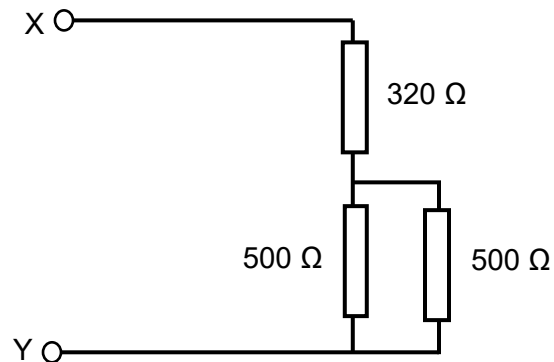


Fig. 6.1

(i)

Determine the *maximum safe* current through each resistor.

current in 320 Ω = 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]