Name of the Student:_____

Max. **Marks : 22 Marks**   **Time : 22 Minutes**

Q1.

(i)   Write the equation which shows the relationship between the electric *current*,
the *power* and the *voltage*.

_____

_____

(1)

(ii)   Calculate the power if the current is 5 A and the voltage is 400 000 V. Show clearly how you
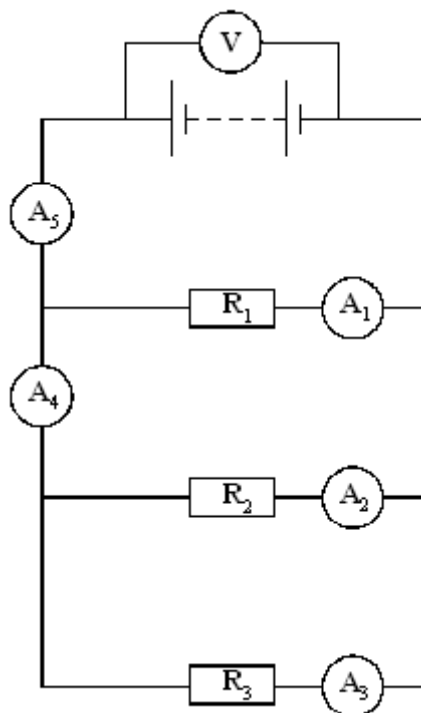work out your answer and give the unit.

_____

_____

Power = _____

(2)
(Total 3 marks)

Q2.

A circuit was set up as shown in the diagram.

(a)   The table gives the current through three of the ammeters. Complete the table to show the current through the other two ammeters.

Ammeter	Reading on ammeter in amps
A_1	0.2
A_2	0.6
A_3	0.3
A_4	
A_5	

(2)

(b)   The reading on the voltmeter is 12 V.

What is the resistance of R_2?

Show your working and include the correct unit.

_____

_____

_____

Resistance = _____

(3)

(c)   In the circuit above, the resistor R_2 burned out and current stopped flowing in it. There was no other change to the circuit.

Complete the table below to show the readings on the ammeters after this took place.
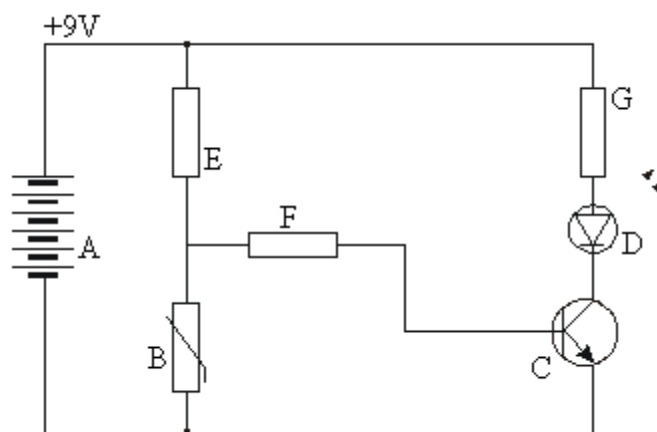
Ammeter	Reading on ammeter in amps
A_1	0.2
A_2	0.0
A_3	
A_4	
A_5	

(3)
(Total 8 marks)

Q3.
The diagram shows an electronic circuit.
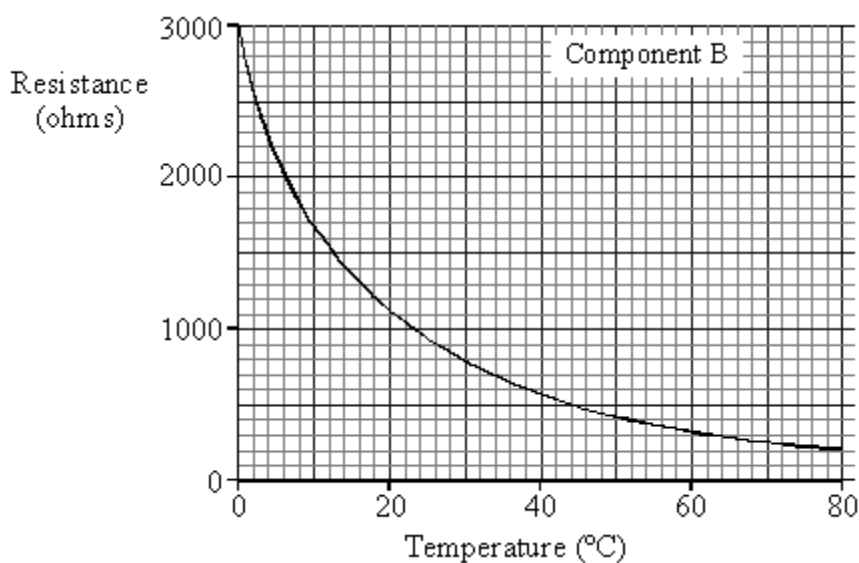
(a)   Write down the names of the components in the list below.

A   =   _____

B   =   _____

C   =   _____

D   =   _____

E, F and G   =   _____

(5)

(b)   The graph shows how the resistance of component B depends on its temperature.

Describe, in as much detail as you can, how the resistance of component B changes as its temperature rises from 0ºC to 80ºC.

_____

_____

_____

_____

_____

(c)   At what temperature does component B have a resistance of 1000 ohms?

Answer _____ °C .

(2)
(Total 11 marks)