PHYSICS 1004
Introductory Circuits Test SAMPLE

Solution

Surname	**First Name**
SID	**Team No. (e.g. 6ENV12)**
The solutions to this Test can be found on the unit WebCT site under the *Experimental Physics Lab* and *Past Examination Papers* links	

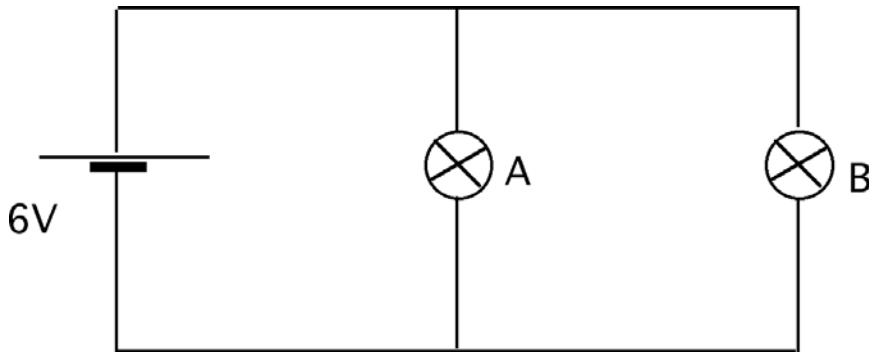
Duration **30** minutes / Open book test / No need to show working, only the final answer is checked / All numerical answers must have appropriate units and appropriate significant figures.

Question 1

A and B are two identical light bulbs.

If the potential difference across the battery terminals is 6 V, what is the potential difference across bulb A?

6V



(1 mark)

Question 2

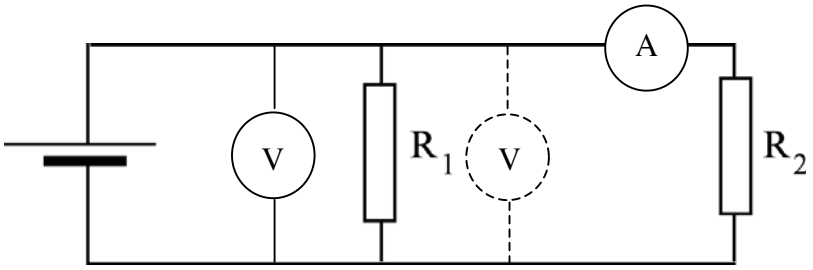
In the circuit diagram below add meters to measure

a) the potential difference across R_1

(1 mark)

b) the current through R_2

(1 mark)



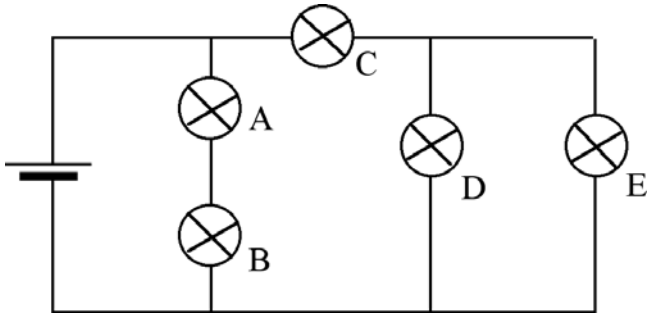
Either voltmeter position acceptable

Question 3

The circuit below is made up using identical light bulbs. List the light bulbs in order of increasing brightness, indicating any of equal brightness.

D & E, A & B, C

(1 mark)



Question 4

A graph from an oscilloscope screen is shown below. The vertical scale is set to 0.5 V/division and the timebase to 1 ms/division. What is the period and peak-to-peak amplitude of the signal?

(a) What is the period of the signal?

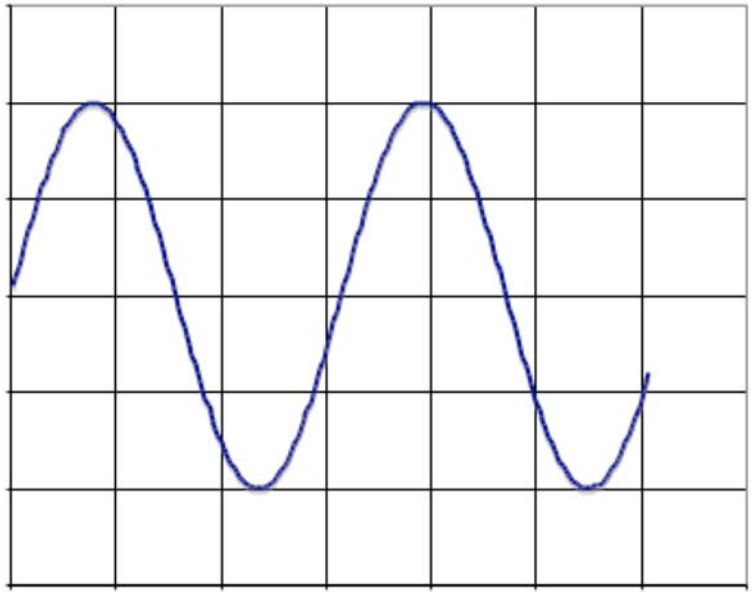
3 ms

(1 mark)

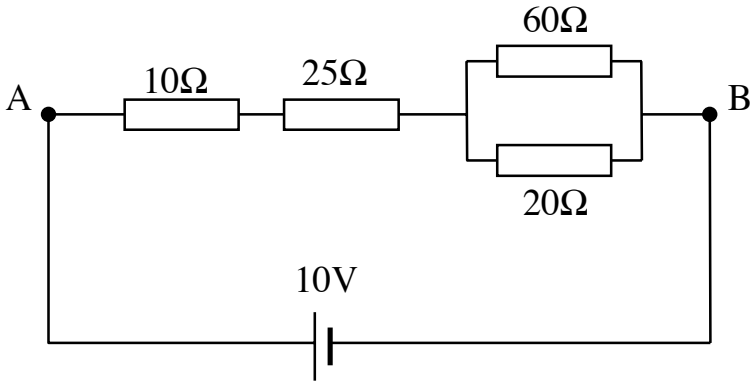
(b) What is the peak-to-peak amplitude of the signal?

2 V

(1 mark)



Question 5



(a) What is the resistance between the terminals A and B?

50 Ω

(1 mark)

(b) Calculate the current through the 60 Ω resistor.

0.05 A

(1 mark)