

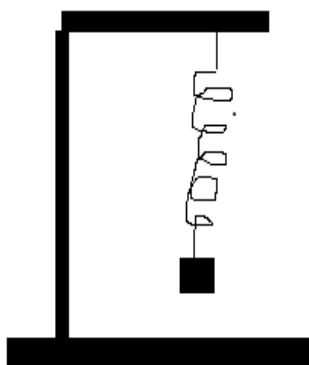
PROVISIONAL MARKING KEY

PHYSICS II

QUESTION 1

- a. Tie a metal block to a spring balance using the thin thread/(1). Note the spring balance reading before releasing the metal block to hang/(1).
- b. Release the block and allow it to settle in the air. Note its reading/(1).
- c. Fill some water into the beaker/(1).
- d. Note the level of the water/(1).
- e. Lower the metal block gently into the water/(1).
- f. Note the spring balance reading when it is partially immersed/(1) and when it is wholly immersed in water/(1).
- g. Calculate the upthrust of the liquid using the readings in air/(1) and wholly immersed in water/(1).

QUESTION 2



3 marks for correctly labelled diagram:

1 for spiral spring

1 for retort stand

1 for correct diagram

- Set up the apparatus as shown above.
- Hang a mass e.g 50g on the lower end of spring. /(1)
- Pull the mass downwards and allow it to oscillate. /(1)
- Take time for 10 oscillations using stop watch /(1), and record it in table of results/(1),.
- Calculate frequency and record in the table of results /(1),.
- Repeat /(1), steps (b) to (e) using different masses e.g 100g, 150g and 200g.

g. Compare the masses and their frequencies /(1),.

QUESTION 3

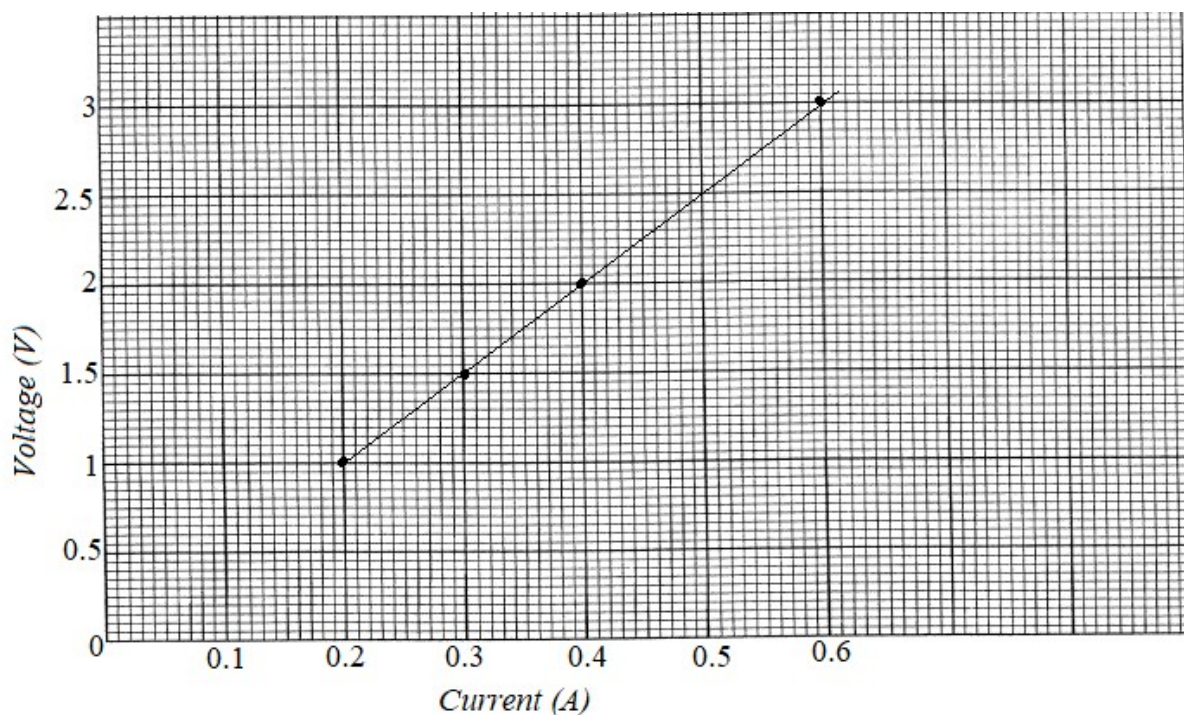
Current (A)	Voltage (V)
0.2	1 (0.9- 1.1)
0.3	1.5 (1.4- 1.6)
0.4	2 (1.9- 2.1)
0.6	3 (2.9- 3.1)

Acceptable range = $\pm 0.1V$

Each correct value of voltage = 1 mark

e.





Correct scale on both axes = (1)

Correct labelling on both axes = (1)

Correct plots = 2 marks (1 mark for one pair of correct plots)

Correct shape of graph line = (1)

f. electrical resistance /1 mark

QUESTION 4

Mass (g)	100	200	300	400
Reaction force, R(N)	0.1	2.0	3.0	4.0
Spring reading force, F(N)	0.2	0.4	0.6	0.8

(1 mark for each entry totalling to 8 marks)

- f. Applied force varies directly with the reaction force /(1). As the applied force increases, the reaction force also increases /(1).

END OF PROVISIONAL MARKING KEY
(THIS KEY CAN BE ENRICHED)

