



DESHA EXAMINATION BOARD
2024 MALAWI SCHOOL CERTIFICATE OF EDUCATION
MOCK EXAMINATION

PHYSICS

Subject Number: M164/II

Time Allowed: 2 hour sessions

Friday 15th March, 2024

PAPER II

(40 marks)

Practical

Instructions

- This paper contains 8 pages. Please check.
- Write your Examination Number at the top of each page of this question paper.
- Answer all the 4 questions in the spaces provided.
- Use of electronic calculators is allowed.
- The maximum number of marks for each answer is indicated against each question.
- In the table provided on this page, **tick** against the number of questions you have answered.
- You should hand in your question paper to the invigilator when you are called to stop writing.

Question number	Tick if answered	Do not write in these columns	
1			
2			
3			
4			

Turn over.....

Section A (20 marks)

1. With the aid of a diagram describe an experiment that could be done to show that upthrust is affected by density of a liquid.

[illegible]

2. Describe an experiment that could be done in order to determine the focal length of a convex lens by graphical method.

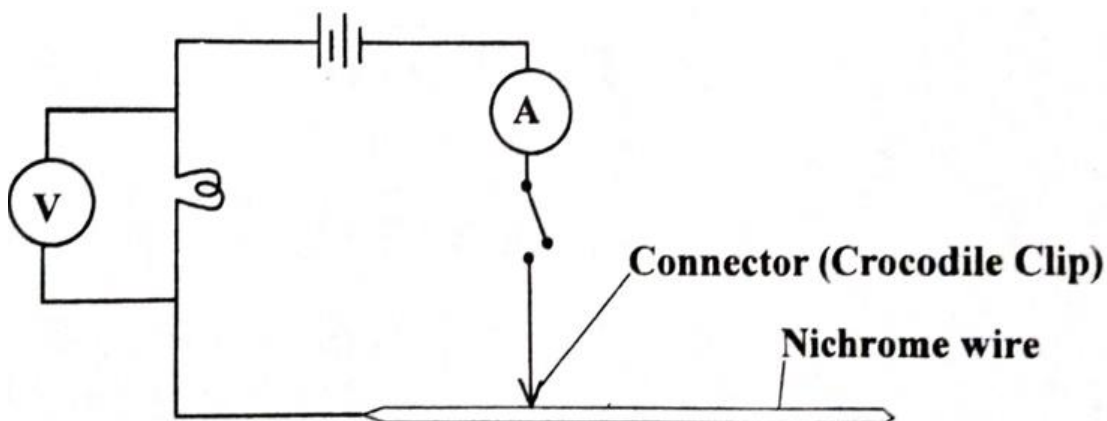
[illegible]

10 marks

Section B (20 marks)

3. You are provided with the following materials: a cell, cell holder, ammeter, voltmeter, 1 metre nichrome wire, connecting wires and a switch.

a. Connect a circuit as shown in the **Figure 1** below



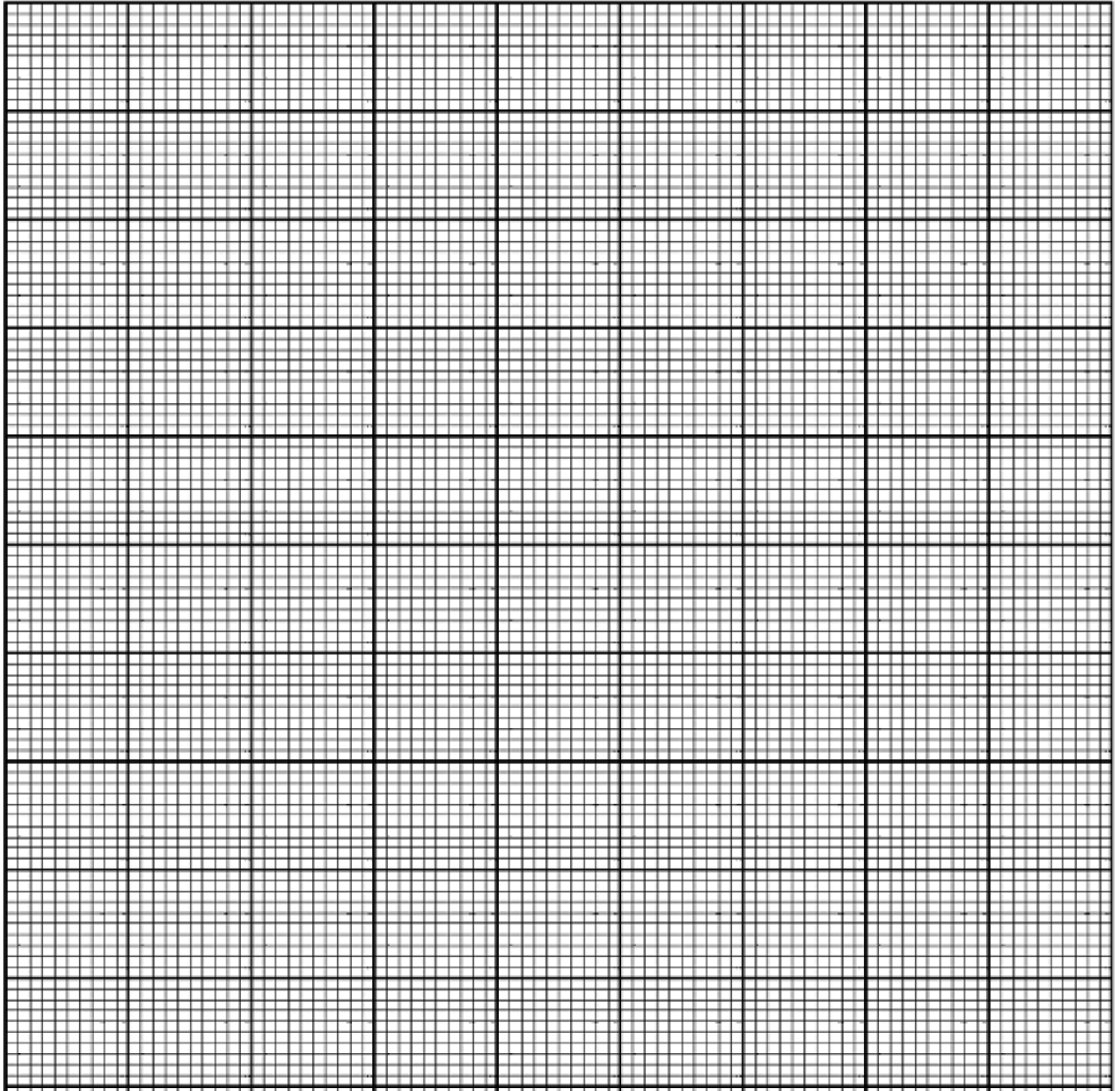
- b. Close the switch and adjust the crocodile clip / connector until the ammeter reads 0.2A.
- c. Note and record the voltage across the cell in the table below.
- d. Repeat steps (b) and (c) using the ammeter readings given in the table.
- e. Complete the table in **Table 1**.

CURRENT (A)	VOLTAGE ACROSS THE CELL (V)
0.2	
0.4	
0.6	

3 marks

f. Plot a graph of voltage across the cell against current

4 marks



g. Use your graph to determine the following:

i. Electromotive force (e.m.f)

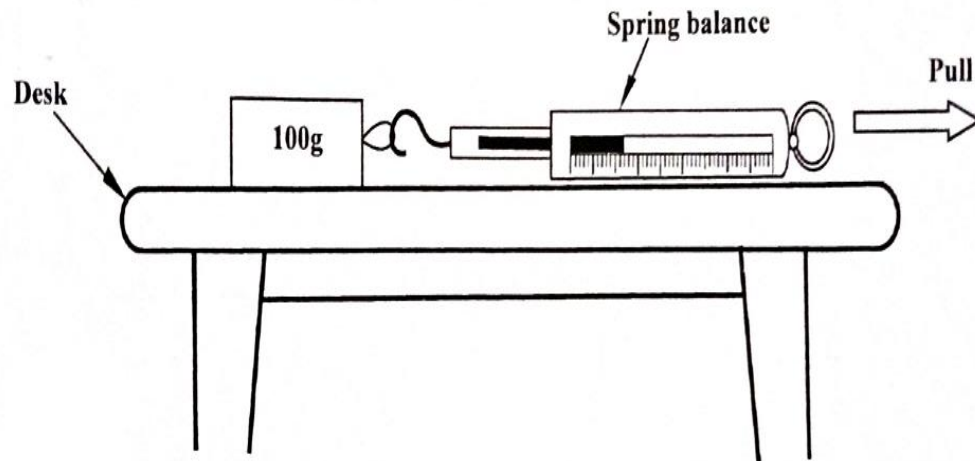
_____ 1 mark

ii. Internal resistance of the cell

2 marks

4. You are provided with a spring balance, 100g, 200g, 300g and 400g masses on the desk.

- a. Arrange the apparatus as shown in Figure 2 below.



- b. Pull the spring balance until the block is just about to move
c. Note and record the force on the spring balance in Table 2 below.

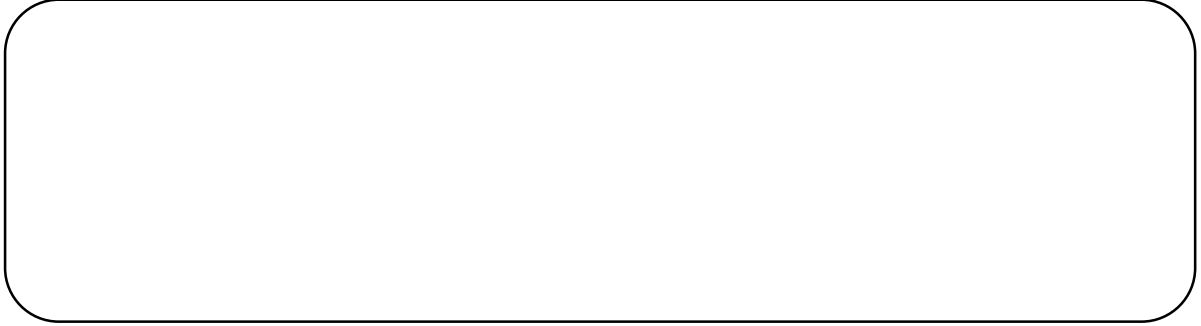
Mass (g)	100	200	300	400
Normal Reaction, R (N)				
Spring balance reading, F (N)				

4 marks

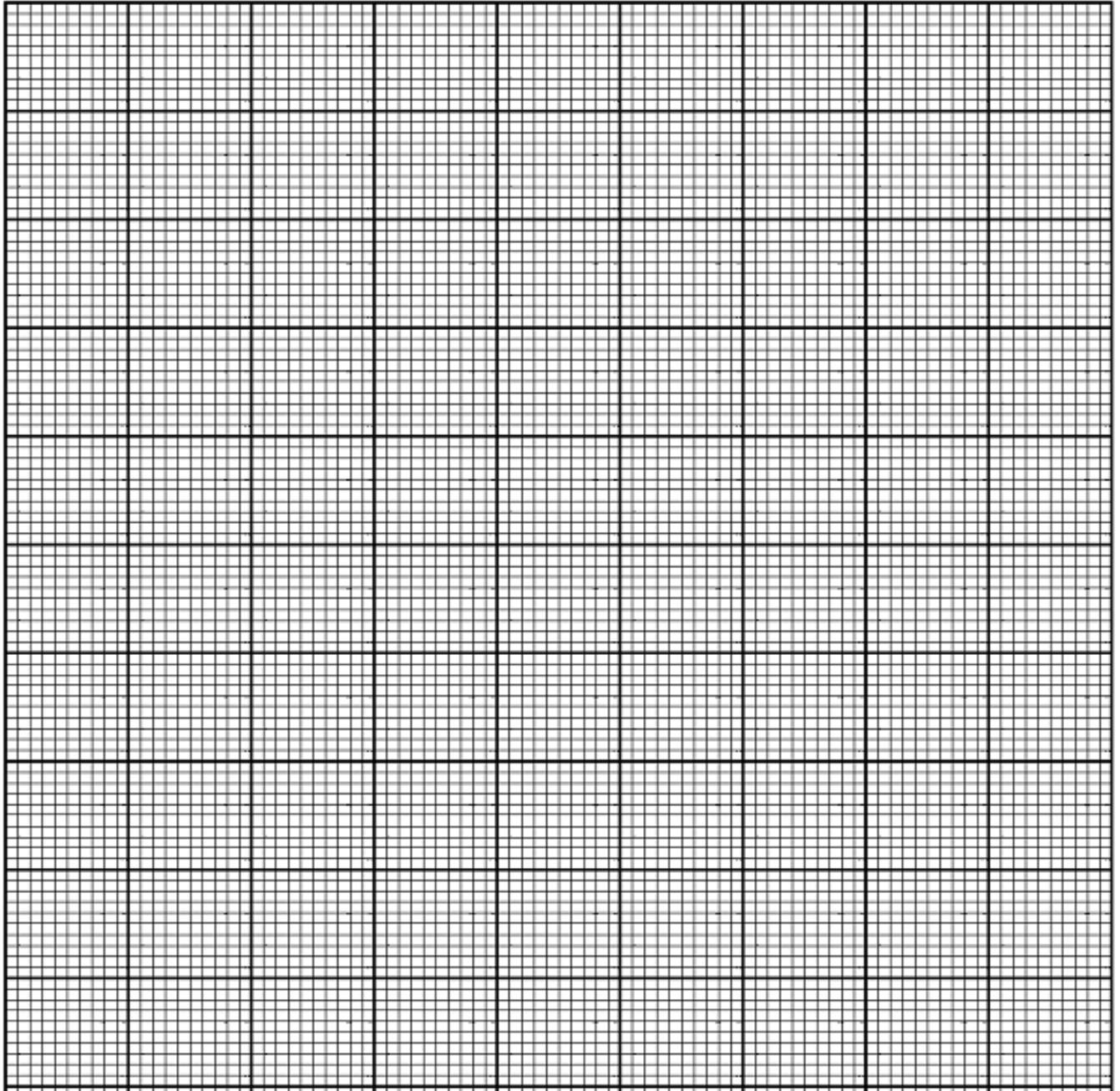
- d. Repeat steps (b) and (c) using 200g, 300g and 400g masses
e. Draw the graph of applied force (F) against normal reaction (R)

4 marks

- f. Use your graph to calculate the coefficient of static friction.



2 marks



END OF QUESTION PAPER

NB: This paper contains 8 printed pages