

CANDIDATE NUMBER: \_\_\_\_\_



## CENTRAL EAST EDUCATION DIVISION

2023 MALAWI SCHOOL CERTIFICATE OF EDUCATION MOCK  
EXAMINATION

### PHYSICS

Wednesday, 15<sup>th</sup> March

Subject Number: M164/II

Time allowed: 2 hour sessions

8:00 a.m. onwards

#### PAPER II

(40 marks)

(PRACTICAL)

#### PAPER II

##### Instructions

1. This paper contains 7 pages. Please check.
2. Before beginning, fill in your examination number at the top of each page of the question paper.
3. Write your answers on the question paper.
4. This paper consists of two sessions, **A** and **B**.
5. Section **A** consists of **two** descriptive questions on practical work to be answered in **1 hour**. Marks will be given for accurate and orderly presentation of facts supported relevant diagrams.
6. In section **B**, there **two** practical questions to be answered in **1 hour**.
7. Marks for section **B** will be given for observation, accuracy and interpretation of results.
8. You should spend 30 minutes on each question. The 30 minute period allowed for each question includes 3 minutes to tidy up the apparatus and have it checked by the supervision.
9. In the table provided on this page, tick against the question number you have answered.

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

CANDIDATE NUMBER: \_\_\_\_\_

@ 2023 CEED MOCK

TURN OVER!

1. With the aid of a diagram, describe an experiment, to show that liquid pressure depends on height of the liquid.

---

---

---

---

---

---

---

---

---

---

---

---

**(10 marks)**

2. With the aid of a well labelled diagram describe an experiment which would be carried out to investigate the relationship between length of wire and resistance

CANDIDATE NUMBER: \_\_\_\_\_

---

---

---

---

---

---

---

---

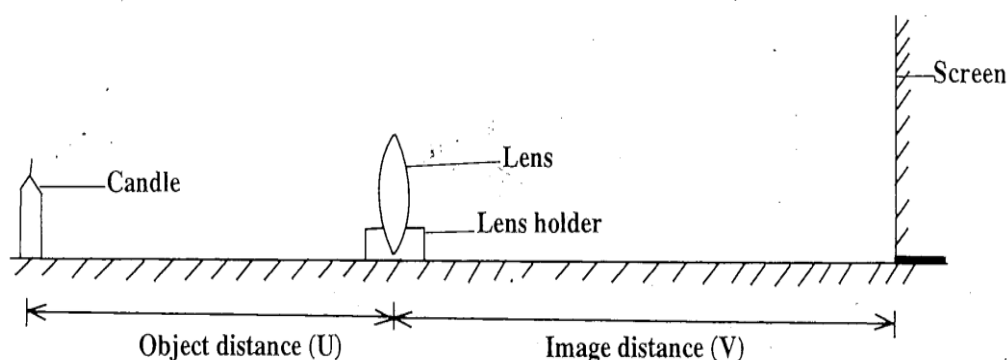
---

---

**(10 marks)**

3. You are provided with a candle, matches, a lens, a lens holder, a meter ruler and a screen.

a. Arrange the apparatus as shown in the figure below.



- b. Light the candle
- c. Move the candle (object) until it is 15cm from the screen.
- d. Move the screen until a clear image is formed on the screen.
- e. Measure the image distance,  $V$  and record it in the table of results.
- f. Repeat steps c to e for object distances shown in the table below.

CANDIDATE NUMBER: \_\_\_\_\_

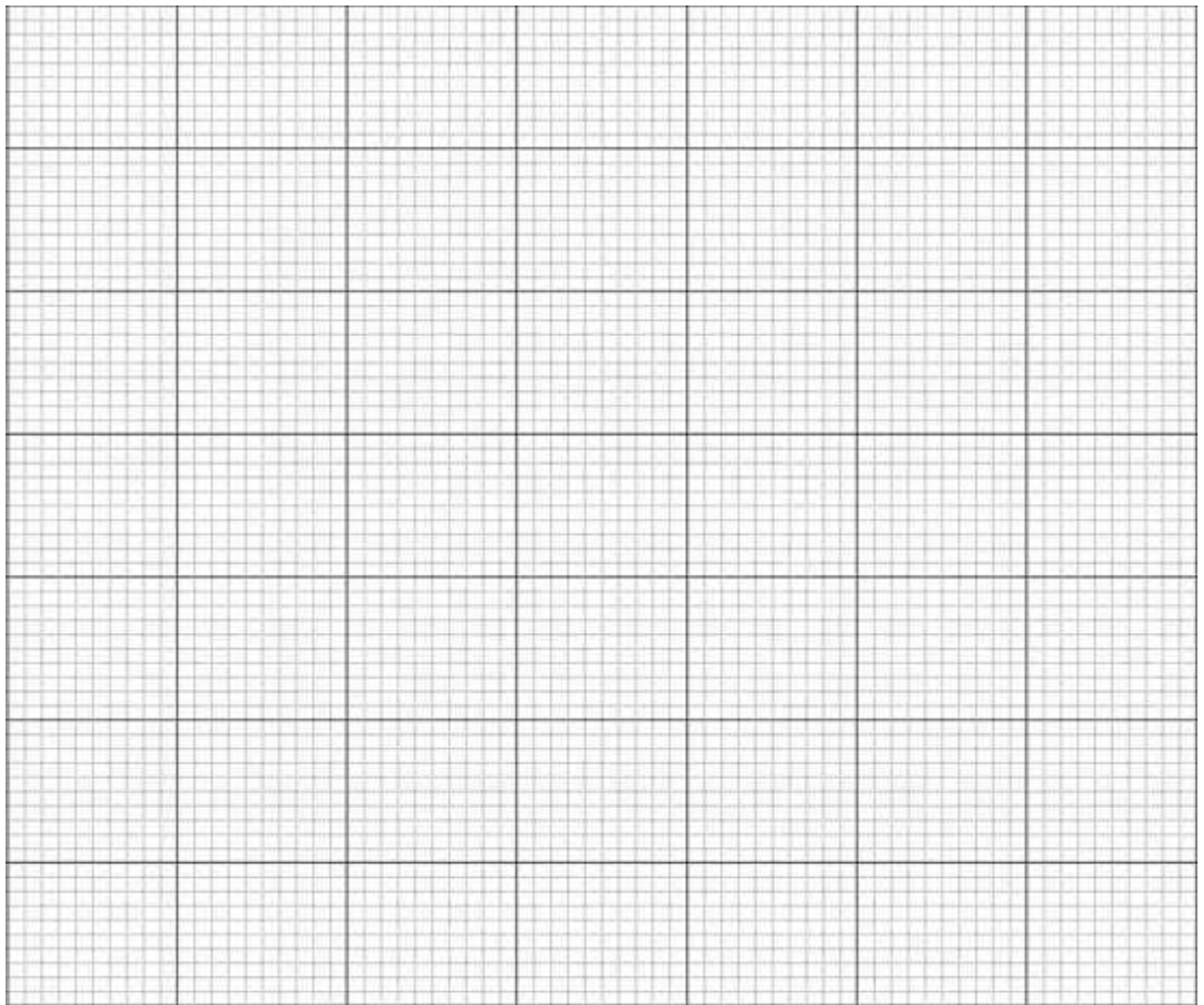
g. Complete the (U+V) column of the table below

**Table of results**

Object distance, U (cm)	Image distance, V (cm)	U+V (cm)
15		
20		
25		
30		
40		

**(5 marks)**

h. Plot a graph of (U+ V) against U.



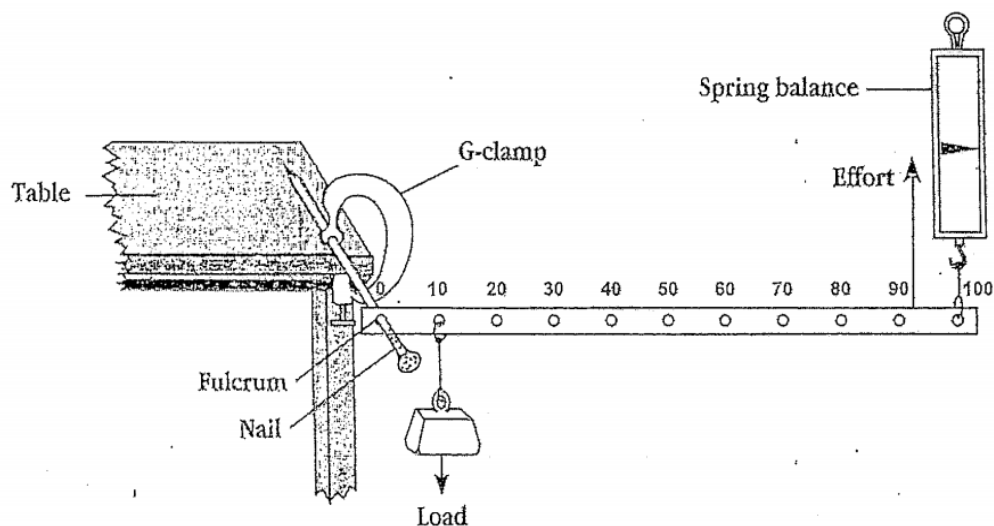
(4 marks)

- i. Use the graph to find the focal length of the lens

\_\_\_\_\_ (1 mark)

4. You are provided with a 500g mass, a spring balance, a nail, a metre rule with holes drilled into it at regular intervals of 10cm and a wire or string.

- a. Arrange the apparatus as shown in the figure below.



- b. Hook the 500g mass 10cm from the fulcrum.
- c. Hook the spring balance on the last hole (100cm) from the fulcrum.
- d. Lift the spring balance so that the metre rule is in a horizontal position.
- e. Record the reading on the spring balance in the appropriate spaces in **Table 1** below.

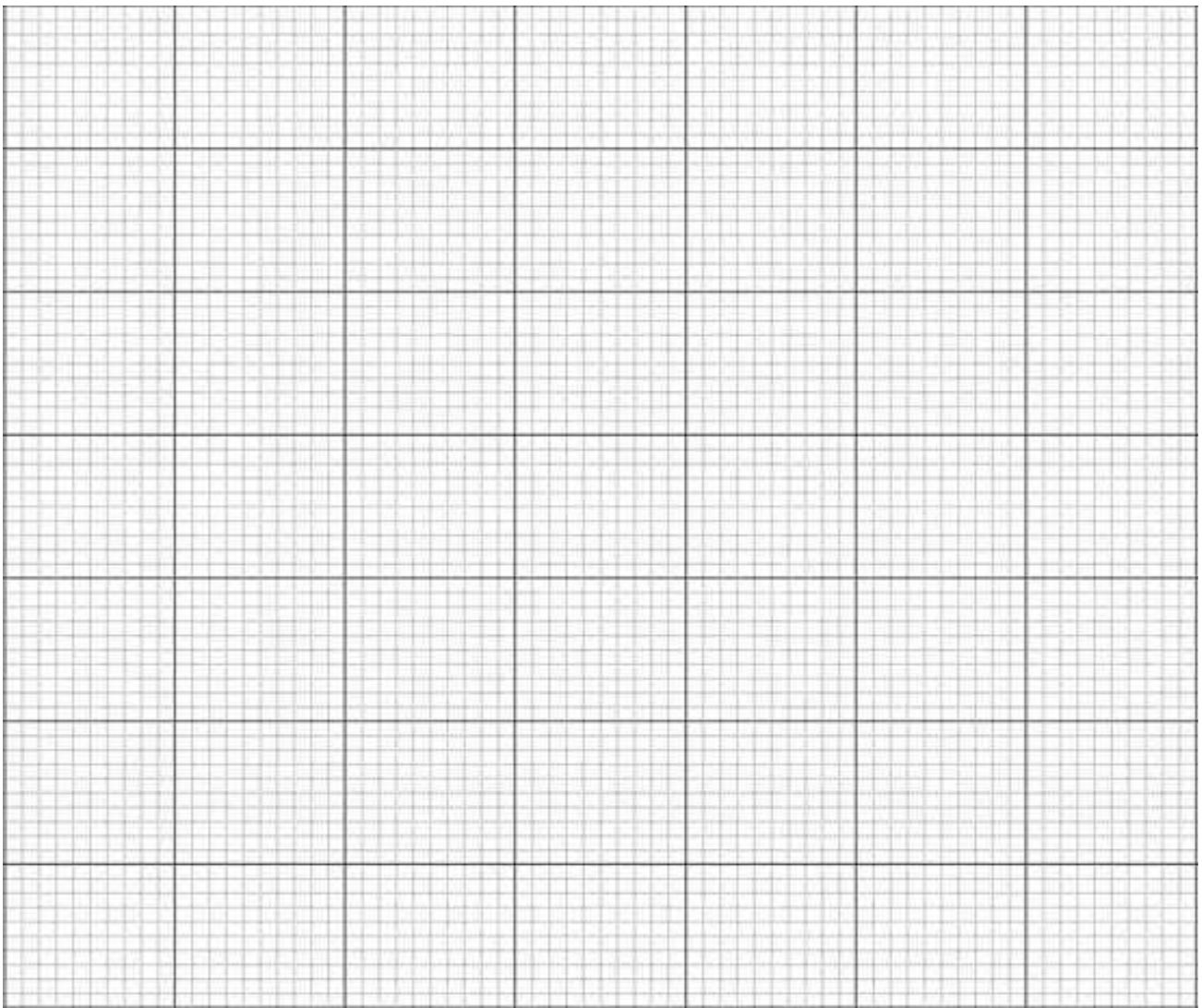
CANDIDATE NUMBER: \_\_\_\_\_

**Table 1**

Distance of load from fulcrum (cm)	Reading of spring balance Effort( N)
10	
30	
50	
70	

**(3 mark)**

- f. Repeat procedure **b** to **e** using the distances shown in the table.
- g. Plot a graph of effort against distance between mass and fulcrum.



CANDIDATE NUMBER: \_\_\_\_\_

**(5 marks)**

- h. What is the relationship between the effort applied and the distance from the mass to the fulcrum?
- 

**(2 mark)**

**END OF QUESTION PAPER!**