NAME OF CANDIDATE: CLASS:

MZUZU DIOCESE

2021 MALAWI SCHOOL CERTIFICATE OF EDUCATION MOCK EXAMINATION

PHYSICS

PAPER II

(40 marks)

Practical

Friday, 30th July 2021 **Subject Number: M164/II**

Time Allowed: 2hrs per session
7:30 am onwards

Instructions:

1. **This paper contains pages. Please check.**
2. Fill in your **Name** at the top of each page.
3. This paper has **two** sections, **A** and **B**.
4. Section **A** consists of **two** descriptive questions on practical work to be answered in one hour. Marks will be awarded for accuracy and orderly presentation of facts supported by relevant diagrams
5. In section B, there are **two** practical questions to be answered in **one hour**.
6. You should spend **30minutes** on each question. The 30 minutes period allowed for each question includes **3 minutes** to tie up the apparatus and that has been checked by the supervisor.
7. Marks for each question will be awarded for observation, accuracy and interpretation of results.
8. In the table provided on this page, **tick** against the question number you have answered.
9. Hand in your paper to the invigilator when time is called to stop writing.

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

 Turn Over…

NAME OF CANDIDATE: CLASS:

SECTION A(20 Marks)

1. **a.** Define resonance

_____

_____**(1mark)**

b. Describe with aid of a diagram, an experiment you would carry out to obtain resonance between a tuning fork and column of air in a bottle.

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_____**(9marks)**

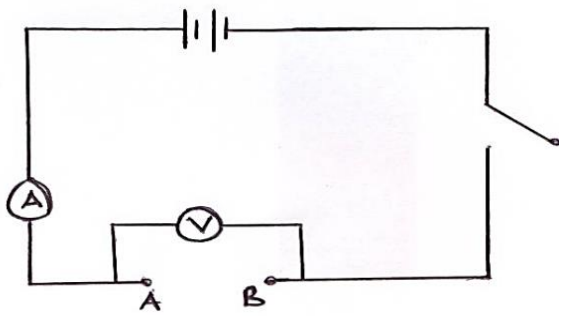
2. With the aid of a well labelled diagram, describe an experiment to show that different metals conducts heat differently

(10marks)

SECTION B (20Marks)

3. You are provided with a nichrome wire, a meter ruler, a cell holder, 2 cells, a voltmeter, an ammeter, a switch and connecting wires.

a. Connect the circuit as shown below



b. Measure 20 cm of the nichrome wire and connect it on the gap **AB**

c. Close the switch.

d. Read and record the ammeter and voltmeter readings in appropriate spaces in Table 1

e. Measure 40cm and bend the wire in 2 folds and make sure length of the bent wire be 20cm. connect at gap AB.

f. Read and record the ammeter and voltmeter readings.

g. Measure 60cm of the nichrome wire and bend wire in 3 folds and make sure length of bent wire be 20cm.

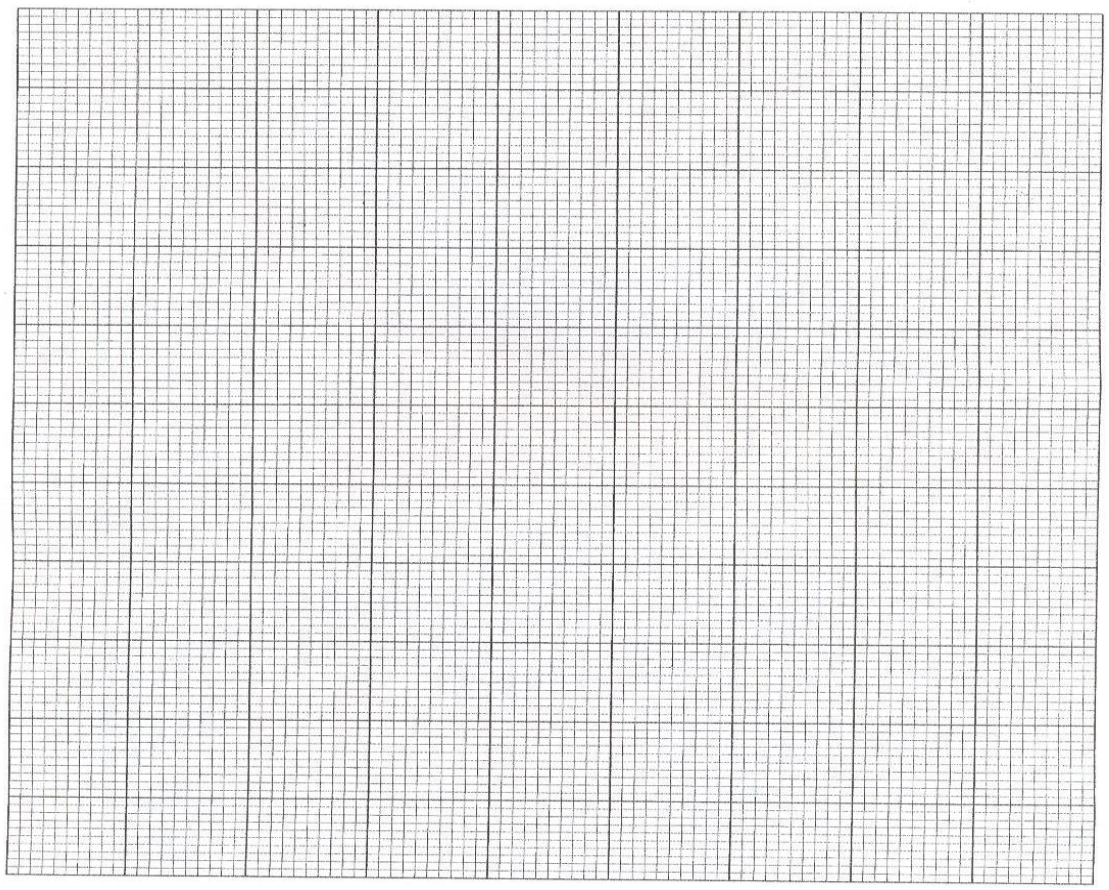
h. Calculate the resistance and record in the appropriate space in Table 1

i. Repeat steps **e and g** for length of 80cm bent in 4 folds

Thickness of nichrome	Ammeter reading (A)	Voltmeter reading (V)	Resistance (V/I)
1 fold			
2 folds			
3 folds			
4 folds			

6 marks

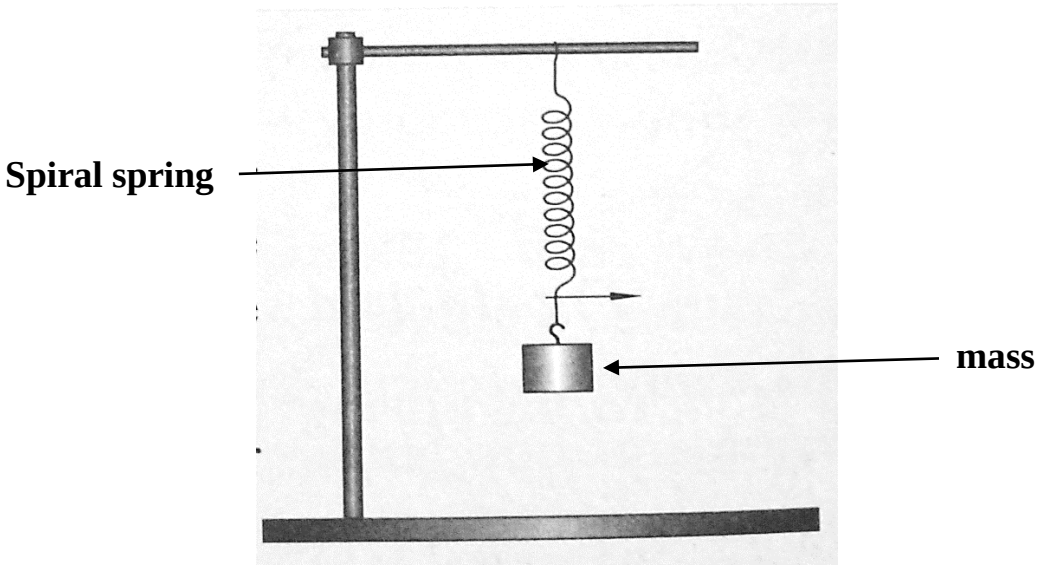
j. Plot a graph of wire folds against resistance.



4marks

4) You are provided with: a clamp stand, a spiral spring, a string, a stop watch and masses (50g, 100g, 150g and 200g).

i. Set up the material as shown below with 50g



ii. Pull the mass slightly downwards then release it

iii. Record the time taken for 10 complete oscillations

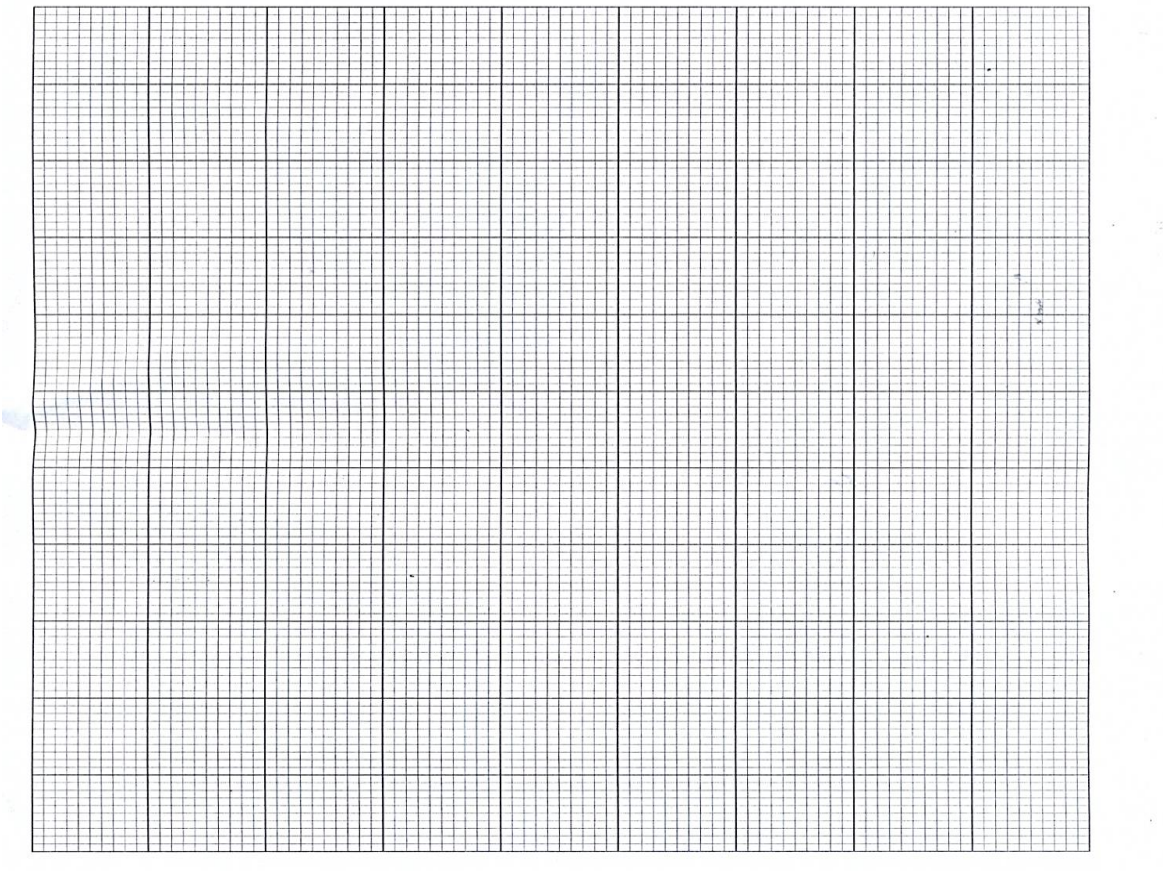
iv. Repeat the experiment for the rest of the masses (100g, 150g and 200g)

v. Record the results in the table 2 below

Mass (g)	Time for 10 oscillations(s)	Frequency
50		
100		
150		
200		

6marks

vi. Plot a graph of frequency against mass



4marks

END OF QUESTION PAPER