ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

PHYSICS 4023/3

PAPER 3 Practical Test

INSTRUCTIONS TO SUPERVISOR

SPECIMEN PAPER 2 hours

Prior to the examination, the Supervisor should ensure that all apparatus provided for the candidate, as listed in these instructions, are in good working condition.

No access to the Question Paper is allowed before the examination Date and Time.

The Supervisor is **NOT** allowed to access the question paper before the examination **Date** and **Time**.

These Instructions consist of 6 printed pages and 2 blank pages.

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Instructions for preparing apparatus

1 In addition to the usual equipment of a Physics laboratory, candidates will require the apparatus specified on pages 3 and 4.

Enough apparatus must be provided to ensure that
(a) no candidate is kept waiting at the end of the allocated time for each question,
(b) spare apparatus is immediately available in the event of failure or breakage of any item.

2 If a candidate is unable to proceed with any of the experiments, the Supervisor is expected to give sufficient help to enable the candidate to do the experiment. If the Supervisor sees that a candidate is proceeding incorrectly, he should give the minimum help to enable the candidate to do the experiment correctly. In giving help, the following regulations should be followed:
(a) No help may be announced to the candidates as a whole.
(b) Candidates should be told that the Examiners will be informed of any help given.
(c) A report must be made of any assistance given to any candidate, identified by name and index number.

Supervisors may find it useful to make the following announcement to the candidates at the start of the examinations. **'The examiners do not want you to waste time when you are unable to do the experiment. Any candidate who is unable to get on with an experiment may come and ask for help. I will report to the Examiners any help given and some marks may be deducted.'**

3 Supervisors are asked to provide the information required by the examiner (if any) at the end of each list of items to be supplied. Page 6 should be used to provide information about any help given to candidates. Pages 5 and 6 should be detached and attached to the 'Supervisor's Results' before despatch to the Examiner.

4 Candidates should be instructed at the start of the examination that all of their work should be written on the spaces provided on the question paper.

5 **The Supervisor must perform the experiments and submit with the candidates' answers, a sample set of results in the same form as that expected of the candidates.**

Question 1

The five different volumes of water should be in 5 different bottomed flasks to ensure they all start at same temperature.

After each measurement, the thermometer should be inserted in a beaker with water at room temperature (should start at room temperature)

Apparatus per candidate:

alcohol thermometer ($-10°C\ to\ 110°C$

500ml beaker

burner /carnister

wire gauze

triple stand

box of matches

5 x 300 ml flat bottomed flask

wooden stopper (centre holded) to support the thermometer

100 ml measuring cylinder

stop watch

Question 2

Apparatus per candidate:

- 1 x 200 Ω, 1 A variable resistor
- 1 x 22 Ω carbon resistor sealed and labelled R
- 3 x 1.5 V dry cell (Eveready or duracell)
- 1 x 7 connecting leads (with banana and crocodile clips
- 1 x switch
- 1 x circuit board
- 1 x 100 mA Analogue Ammeter
- 1 x 3 V Analogue voltmeter

Instruction To Supervisor

To start the experiment the variable resistor should be set at maximum value. All readings or measurement should start by decreasing value of resistance of variable resistor.

This form must be completed and returned with the scripts.

REPORT ON PRACTICAL PHYSICS

1. Please submit details of the results obtained by the Supervisor for all the questions on a spare copy of question paper clearly marked 'Supervisor's Results' showing the Centre number.

2. The Supervisor is asked to give the following details using the space provided on page 6 where necessary.

(a) Any help given to a candidate.

(b) Any general difficulties encountered in preparing the apparatus.

(c) Any difficulties experienced by particular candidates. This should include reference to difficulties due to faulty apparatus or materials and accidental damage to apparatus or materials. Candidates should be identified by name and index number.

3. Other cases of hardship, such as disability or illness, should be reported to ZIMSEC **in the normal way**.

4. The Supervisor is asked to provide a plan of the work benches, giving details by index numbers of the places occupied by the candidates for each session. The plan should be enclosed with the question papers.

5. Declaration to be signed by the Supervisor

The preparation of this practical examination has been carried out so as to fully maintain the s ecurity of the examination.

Signed _____

Name (block capitals) _____

Centre number _____

Centre name _____

Report on any difficulties by candidates

Signature _____ **Date** _____

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