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**BIOLOGY SPECIMEN PAPER**

**1428/02**

**Paper 2                  Practical Test**

**October/November 2025**

**CONFIDENTIAL INSTRUCTIONS**

This document gives details of how to prepare for and administer the practical exam.

**Great care should be taken that any confidential information and the identity of any materials given by Botswana Examinations Council must NOT reach the candidates, either directly or indirectly.**

**The supervisor must complete the report at the end of this document and return it with the scripts.**

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**INSTRUCTIONS FOR PREPARING APPARATUS**

**The teacher is not allowed to consult the Question Paper before the examination.** The teacher should, as part of the preparation of the examination requirements, test each set of the apparatus in order to ensure that it is satisfactory as per the instructions provided.

**The Supervisor or the teacher responsible must complete the report on pages 7 and 8. All reports must be signed by the Supervisor, being the person responsible for preparing the apparatus and the Head of Centre.** The report must be enclosed with the candidates' scripts. The Supervisor should also report any assistance given to candidates under the regulations explained on page 2.

On the day of the examination, the Supervisor is asked to perform the experiment in Questions 2 and record the results on a spare copy of the question paper clearly labelled 'Supervisor's Results', followed by the Centre number. This must be enclosed with the scripts. **Unless this is done, candidates may be unavoidably penalised.**

In addition to the usual equipment of a science laboratory, each candidate will require the apparatus specified overleaf. If a candidate breaks any of the apparatus, or loses any of the material supplied, the matter should be rectified, and a note made in the report.

**Note: Candidates are NOT allowed to refer to notebooks and textbooks during the examination.**

**It is essential that candidates accept the descriptions of the solutions as they appear on the question paper.**

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This document consists of **5** printed pages and **1** blank page.

## General information about practical exams

### Safety

- Supervisors must follow national and local regulations relating to safety and first aid.
- Only those procedures described in the question paper should be attempted.
- Supervisors must inform candidates that materials and apparatus used in the exam should be treated with caution. Suitable eye protection should be used where necessary.

The following hazard codes are used in these confidential instructions, where relevant:

<b>C</b>	corrosive
<b>MH</b>	moderate hazard
<b>HH</b>	health hazard
<b>T</b>	acutely toxic
<b>F</b>	flammable
<b>O</b>	oxidising
<b>N</b>	hazardous to the aquatic environment

Hazard data sheets relating to substances used in this exam should be available from your chemical supplier.

### Before the exam

- The packets containing the question papers must **not** be opened before the exam.
- It is assumed that standard school laboratory facilities, as indicated in the *Guide to Planning Practical Science*, will be available.
- Spare materials and apparatus for the tasks set must be available for candidates, if required.

### During the exam

- It must be made clear to candidates at the start of the exam that they may request spare materials and apparatus for the tasks set.
- Where specified, the supervisor **must** perform the experiments and record the results as instructed. This must be done **out of sight** of the candidates, using the same materials and apparatus as the candidates.
- Any assistance provided to candidates must be recorded in the supervisor's report.
- If any materials or apparatus need to be replaced, for example, in the event of breakage or loss, this must be recorded in the supervisor's report.

### After the exam

- The supervisor must complete a report for each practical session held and each laboratory used.
- Each packet of scripts returned to BEC must contain the following items:
  - the scripts of the candidates specified on the bar code label provided,
  - the supervisor's results relevant to these candidates
  - the supervisor's reports relevant to these candidates
  - seating plans for each practical session, referring to each candidate-by-candidate number

## Instruction sheet

### **Question 1**

- specimen **N** cut surface of a ground nut with at-least 2 seeds visible
- specimen **M** cut surface of a red grape with seeds
- white tile
- ruler
- magnifying lens

### **Question 2**

- 3% hydrogen peroxide in a small beaker
- soap solution in a small beaker
- 3 x 15cm test-tubes / boiling tubes **labelled L1, L2 and L3**
- test-tube rack for test-tubes **L1, L2 and L3**
- 2 potato cylinders in each of the three test tubes, cut from cork size 2 of length 50mm
- 3 x 250 ml beakers; one with iced water of temperature not more than 10°C, one containing water at room temperature, and an empty beaker
- hot water between 70 °C and 80 °C (to be provided during the examination)
- 2 droppers
- gloves
- safety goggles
- paper towel
- ruler