



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini General Certificate of Secondary Education

---

**BIOLOGY**

**6884/03**

**Paper 3 Practical Test**

**October/November 2024**

CONFIDENTIAL INSTRUCTIONS

**Great care should be taken that any confidential information given does not reach the candidates either directly or indirectly.**

---

**The Supervisor's attention is drawn to the form on page 5 which must be completed and returned with the scripts.**

---

This document consists of **6** printed pages and **2** blank pages.

### Instructions for preparing apparatus

These instructions give details of the apparatus required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidates is included, where appropriate, to allow the Biology teacher who is the supervisor to test the apparatus appropriately.

**No access to the question paper is permitted in advance of the examination session.**

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 Supervisor's report.

It is assumed that the ordinary apparatus of a science laboratory will be available, including a supply of purified water (distilled or deionised).

If arrangements are made for different sessions for different groups of candidates, care must be taken to ensure that the different groups of candidates are effectively isolated so that **no information passes between them**.

Supervisors are advised to remind candidates that **all** substances in the examination should be treated with caution. Pipette fillers and safety goggles should be used where necessary.

**C** = corrosive substance

**H** = harmful or irritating substance

**T** = toxic substance

**F** = highly flammable substance

**O** = oxidising substance

**MH** = moderate harmful substance

**Instructions for preparing apparatus****For Question 1**

Each candidate to be provided with the following:

- (i) test-tube rack or other suitable container to hold 6 test-tubes
- (ii) 2 cm<sup>3</sup> of 1% amylase solution in test-tube labelled **A**
- (iii) 2 cm<sup>3</sup> of 1% boiled and cooled amylase solution in test-tube labelled **B**
- (iv) 2 test-tubes, labelled **1** and **2** each containing 5 cm<sup>3</sup> of 1% starch solution
- (v) 2 clean empty test-tubes, labelled **3** and **4**. Labels should be waterproof
- (vi) a pipette/dropper
- (vii) a beaker or other container with distilled water labelled 'water for washing'
- (viii) a beaker or other container labelled 'waste water'
- (ix) a spotting tile with at least four holes
- (x) 5–10 cm<sup>3</sup> of 5% iodine in potassium iodide solution [**MH**] [**N**] in a suitable container with a pipette labelled "Iodine solution"
- (xi) 5–10 cm<sup>3</sup> Benedict's solution [**MH**] in a suitable container labelled "Benedict's solution"
- (xii) a supply of warm water, (35–45 °C), to be provided in a 250 cm<sup>3</sup> beaker when a candidate raises a hand
- (xiii) a supply of hot water (give indication of temperature required), to be provided in a 250 cm<sup>3</sup> beaker when a candidate raises a hand
- (xiv) timer or sight of a clock with a second hand
- (xv) paper towels

**Preparation of reagents**

- 1** To prepare 1% amylase solution: add about 100 cm<sup>3</sup> of water into a 1 dm<sup>3</sup> volumetric flask then add 10g of amylase powder. Shake to mix then top up with water to the 1 dm<sup>3</sup> mark. Swirl the flask to mix well.
- 2** To prepare 1% boiled amylase solution: Prepare amylase solution as above. Boil it and allow it to cool.
- 2** To prepare 5% iodine solution, measure 50 cm<sup>3</sup> of stock iodine solution into a 1 dm<sup>3</sup> volumetric flask and top up to the mark. Swirl to mix thoroughly.
- 3** To prepare 1% starch solution, add 10g of soluble starch powder into water and stir. Place the solution into a 1 dm<sup>3</sup> volumetric flask and top up with water to the mark. Heat the solution in a suitable container and then leave to cool. Decant to leave out any undissolved powder.

**For Question 2**

Each candidate to be provided with the following:

- (i) broad bean seed soaked in water for 12–24 hours labelled **W1** on a white tile
- (ii) green bean pod (with seeds inside) labelled as **W2**
- (iii) scalpel/knife
- (iv) ruler

*Information required from the Supervisor:*

**The Supervisor is asked to carry out the experiments and to enter the results on a spare copy of the examination paper, clearly marked ‘Supervisor’s Results’ and showing the Centre number. This should be returned with the scripts. Failure to do so may cause the candidates to be penalised.**



**This form must be completed and returned in the envelope with the scripts together with the seating plan and a copy of the Supervisor's Results.**

**REPORT ON PRACTICAL BIOLOGY  
October/November 2024 Examination**

**General**

The Supervisor is invited to give details of any difficulties experienced by particular candidates, giving their names and candidate numbers. These should include reference to:

- (a) difficulties due to faulty apparatus;
- (b) accidents involving apparatus or materials;
- (c) physical handicaps, e.g. short sight, colour blindness;
- (d) any other information that is likely to assist the examiner, especially if this cannot be discovered in the scripts;
- (e) any help given to a candidate.

.....

.....

.....

.....

.....

.....

.....

*The Supervisor is asked to supply the following information:*

Plan of work benches, giving details by candidate numbers of the places occupied by the candidates for each session and a copy of the 'Supervisor's Results'.

NAME OF CENTRE .....

CENTRE NUMBER .....

NAME OF SUPERVISOR .....

SIGNED .....

DECLARATION (to be signed by the Head of Centre)

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

NAME .....  
(in block capitals)

SIGNED .....  
(Head of Centre)



