



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

BIOLOGY

6884/03

Paper 3 Practical Test

October/November 2019

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 **5** printed pages and **3** 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.

In accordance with COSHH (Control of Substance Hazardous to Health) Regulations, operative in UK, a hazard appraisal of the examination has been carried out.

C = corrosive substance

H = harmful or irritating substance

T = toxic substance

F = highly flammable substance

O = oxidising substance

Instructions for preparing apparatus**Question 1**

Each candidate to be provided with the following apparatus and materials:

- (i) 4 × spinach seedlings, *Spinacia oleracea* (common shiny spinach) 50 mm to 100 mm tall, soil rinsed off the roots, placed on petri dish or suitable container
- (ii) 1 × mature spinach leaf, *Spinacia oleracea* (common shiny spinach), dark green and shiny
- (iii) 1 × 100 ml beaker
- (iv) 1 × transparent plastic bag, about 200 mm × 110 mm, dry and un-punched (ice bag)
- (v) cotton thread 150 mm to 200 mm

Note: Seedlings to be removed from soil, the soil rinsed from the roots and then the roots to be wrapped in a wet plastic bag until required.

Question 2

Each candidate to be provided with the following apparatus and materials:

- (i) 1 × boiling tube (20 mm diameter) with glucose solution, about 5 cm³, labelled “glucose solution”
- (ii) 1 × test-tube
- (iii) 1 × stop watch or sight clock with second hand
- (iv) a 15 cm or 30 cm ruler
- (v) test-tube rack
- (vi) 3 g of active yeast (instant yeast) placed on suitable paper
- (vii) 1 balloon
- (viii) syringe or plastic pipette, suitable for delivering 2 cm³ of solution
- (ix) 1 × boiling tube (20 mm diameter) containing 5 cm³ limewater labelled “limewater”

The glucose solution is to be prepared by dissolving 50 g of glucose powder in 250 ml of tap water at room temperature.

Note: protective clothing should be provided where necessary.

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

Session **October/November 2019 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.

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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(S)

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)

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