



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

BIOLOGY

6884/03

PAPER 3 Practical Test

October/November 2020

Confidential

MARK SCHEME

{6884/03}

MARKS: 40

This document consists of **6** printed pages.

MARKING

1. Mark crossed out answers when nothing else has been written.
2. If the candidate has left an answer blank, record this as NR (no response) in the marks column.
3. Apply the agreed final mark scheme, making professional informed judgements about what the candidate has written. You need to decide if the point made is equivalent to the point in the mark scheme, or if it is not, based on your knowledge of the subject and understanding of the mark scheme.

GENERAL NOTES

Mark Schemes will use these abbreviations:

- ; separates marking points
- / separates alternatives for a marking point
- R reject
- A accept (for answers correctly cued by the question, or
- AW alternative wording (where responses vary more than usual)
- MP mark point- used in guidance notes when referring to numbered marking points
- ORA or reverse argument/reasoning
- OWTTE or words to that effect
- I ignore/irrelevant – this response gains no mark, but any following correct answers can gain marks
- () the word/ phrase in brackets is not required to gain marks but sets context of response for credit. e.g. (waxy) cuticle. Waxy not needed but if it was described as cellulose cuticle then no mark.
- small I underlined words- this word only (grammatical variants excepted)
- D, L, T, Q quality of drawing/ labelling/ table / writing as indicated by mark scheme
- max indicates the maximum number of marks that can be given

INSTRUCTIONS FOR EXAMINERS**Correct biology**

Always credit correct statements even if they follow incorrect statements. Usually apply this to sentences, but use judgement if candidate writes lengthy sentences.

Marking questions where a specified number of responses is indicated

Mark first answer on each row unless considered neutral.

If several answers on first line and no answers on subsequent lines, mark all answers on first line up to the number specified in the question.

Do not mark answers in excess of number indicated by the question.

Calculations

Award full marks for correct answer with units even if no working shown.

If units not given, then award one mark for numerical answer.

If no answer or incorrect answer award one mark for correct working.

Errors carried forward

Examples:

If structure is identified incorrectly, then apply error carried forward (ecf / transfer error (TE)) rule for subsequent answers.

If first answer using information provided is incorrect allow ecf / TE for next question.

Vague answers

Do not allow 'particles' in place of molecules

Crossed out work

Mark crossed out work if there is no second attempt at the answer. Otherwise ignore it;

Watch for:

- context and scientific correctness (don't just spot key words / treat separate sentences independently).
- spellings that matter (e.g. mitosis / meiosis, glucagon/ glycogen, ureter / uterus / urethra;
- spellings / grammatical constructions that don't matter (for many candidates, English is their 2nd or 3rd language);
- lists that include wrong points (e.g. if 3 points are needed and 5 given, mark the first 3 only);

- only one mark should be awarded per numbered line, unless some of the lines are left blank, in which case the 2nd or 3rd idea on the first line can be marked as well;
- mark all the candidate's answers wherever they have written them.

1 (a) (ii) blue black; [1]

(vii) CHECK SUPERVISOR'S REPORT [5]

time/min	observations		
	ice water 0°C-10°C	warm water 35°C-40°C	hot water 80°C-90°C
2	blue - black	blue - black	Blue - Black/ (light) purple
4	blue - black	light blue - black	blue – black / cloudy white / chalky
6	blue - black	light blue - black	blue – black cloudy white / chalky
8	blue - black	brown	blue – black cloudy white / chalky
10	blue - black	brown	blue – black cloudy white / chalky

1 mark for each correct row

(b) the powder will dissolve quickly / faster;
all of the powder will dissolve;
ensures the same/uniform/consistent concentration of starch in all test-tubes; [max. 2]

(c) ice cold water- starch present+ temperature too low ,(enzyme activity slow);
warm water- starch digested+ temperature optimum (fast enzyme action) / ecf;
hot water- starch present+ enzyme denatured/
allow ecf [3]

(d) for the amylase to take the temperature of the water baths/ so the amylase solution will
reach the correct temperature/AW; [1]

(e) time;
temperature of water baths; [max. 1]

- (f) same volume of starch/ amylase solution;
 same concentration of starch/ amylase solution;
 same number of drops of iodine;
 same time intervals; [max. 2]
- (g) repeat the investigation;
 increase the sample size;
 have a wide temperature range/more than 3 water baths;
 use a pipette to add a fixed volume of iodine;
 use of stirrer; [max. 3]
- (h) at least 5 different pH values;
 same volume of starch/ iodine used/ amylase/ temperature/ AVP;
 measure time taken for colour change to occur at each pH;
 least time taken for colour change indicates optimum pH value; [4]
- [Total: 22]**

- 2 (a) (i) **G-** *Prunus persica*;
H- *Psidium guajava*;
J- *Brassica oleracea*;
K- *Persea americana*;
L- *Solanum lycopersicum*; [5]
- (ii) network of / reticulate/ branching, veins;
 broad; [2]
- (iii) large+ realistic (lobbed);
 continuous outline;
 correct label to any vein; [3]
- (iv) correct measurement (for both) in mm; [1]
 correct substitution;
 correct magnification with x; [2]
- (b) (i) upper surface shiny + lower dull;
 upper surface darker + lower pale; [2]
- (ii) upper shiny/lower dull- more cuticle/ minimise water loss on upper surface/ ORA;
 upper darker/lower pale- more chlorophyll/ chloroplasts on upper surface/ ORA;
 [max. 1]
- (iii) observation: more bubbles on lower surface than upper/ ORA; [1]
 (refer to both surfaces)
 explanation: more stomata on lower surface/ ORA;
 more gas exchange; [1]
- [Total: 18]**