

JUNE 2003

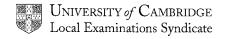
INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0610/05

BIOLOGY (Practical)



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- 1 (a) * lose if *no table*;
 - * use of ruled lines for columns and rows;
 - * time (table heading);
 - * height/level/measurement (table heading);

record of units mm/cm and min/(A) clock times;

readings taken at 5 min intervals;

records for both sets of dough S1 and S2;

manipulation of data/recording increase or differences;

max 5

(b) * lose if bar chart

orientation of axes; (time horizontal, height vertical)

labels for axes including units; (A) clock times

plotting data using suitable scale; c. half the paper min.

- * plotting data for S1 (points visible, no obvious error, not (0,0));
- * plotting data for S2 (points visible, no obvious error, not (0,0));
- * clear lines;

each curve identified/use of key;

max 6

(c) curve for S1 rises (with time);

comment on rate of increase; suitable qualification

curve for S2 does not rise;

Look at candidate's graph. If not as expected, apply scheme as S1 trend, S2 trend and suitable comment on rate of increase

3

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(d) yeast is, living organism/fungus;

respiration;

without oxygen/anaerobic/fermentation;

sugar source of, food/nutrition/energy/substrate;

equation (for anaerobic respiration);

carbon dioxide evolved;

trapped/bubbles (remain in dough);

causes dough to rise;

rise stops as sugar runs out;

rise stops as yeast killed by alcohol;

dough sinks and valid explanation.

max 6

Total: 20

2 (a) (i) purple/mauve/lilac; reject precipitate/dark purple

(protein) present;

2

(ii) add, sodium/potassium, hydroxide (solution);

then (a few drops) copper sulphate (solution);

2

(b) (i) Drawing – clear outline S4;

at least 5 cm in one direction;

main shell (if present)/pattern on dorsal surface (if shell absent);

foot/other soft parts, shown;

use label to help you identify presence of soft parts if drawing unclear or if snail in shell

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Labels – shell/dorsal surface pattern; reject exoskeleton alone
any soft part; (A) soft body reject eyes alone

(ii) length of drawing measured correctly (± 2 mm);

correct calculation of "drawing length + specimen length"; (1 d.p.)

ratio needs to be labelled

2

6

(c) Candidates may use snails "as they are" in this beaker or remove some/all of them. Apply scheme to any sensible plan.

use, thermometer/temperature probe;

place thermometer in contact with soft part of snail to record body temp.;

record temp. of surrounding air; (A) area reject earth

repeats; (A) several snails

investigate at different temps.;

leave snails to adjust to surroundings before measuring; (A) time ref.

idea of fair test; (e.g. same procedure when investigating at different temps.; leave same time interval between measurements; use same number of snails; other detail of fair test)

reject control

max 3

(d) (i) hard/rigid;

colour/pattern;

contrast between inside and outside;

shape; (A

(A) like

hollow;

opening;

texture; (A) smooth qualified

dimensions;

max 2

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(ii) effervescence/fizzing/AW;

shell is made of calcium carbonate;

2

(iii) support/protection ((A) shelter)/camouflage/muscle attachment;

1

Total: 20