

JUNE 2002

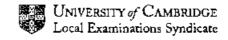
INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0610/5

BIOLOGY (PRACTICAL)



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The Mark Scheme

As a guide to interpreting the mark scheme, please note:

- (a) Candidates must use the correct biological term in the right context, or some variation agreed during co-ordination, (e.g. the statement 'use of biceps and triceps as sphincter muscles producing movement of the arm' will not be acceptable as use of the term sphincter is incorrect).
- (b) A statement must be biologically correct and, therefore, an Examiner must not simply look for a key word, or words, and mark it correct, (e.g. 'waste materials from the alimentary canal leave the anus as faeces by the process of excretion', will not be acceptable, even if the points in bold are underlined on the mark scheme).

It is vital that the Examiners read the whole sentence.

- (c) Disregard spelling mistakes when awarding the content mark, unless otherwise specifically instructed, provided that the word is clearly recognisable and does not have another biological meaning, for instance mitosis/meiosis; ureter/uterus/urethra; urea/urine; thymine/thiamine; adenine/adenosine.
- (d) Do not select correct points from a list which includes wrong points, provided by the candidate. For example, if three points are required and candidates give five, mark the first three and ignore the last two. Likewise, if the candidate has made several attempts at the same point without clearly crossing some out, mark the first attempt. The candidate, not the Examiner, is answering the question.

Where a specified number of points are required in an answer, and numbered lines are provided, only one mark should be awarded per specified line.

- (e) Do not transfer marks from section to section within a question, unless instructed to do so. Marks are not normally given for correct information in the wrong sub-section.
- (f) Mark all the candidate's answers. Do not restrict your marking to lines or spaces provided in the answer booklets.

(g) a semi colon ; indicates a separation of marking points

an oblique line / indicates alternative wording or acceptable alternative

R means reject

A means accept

A.W means 'alternative wording'

underlined with a accept this word only, no alternative word is acceptable straight line

D represents quality mark(s) awarded for diagrams,

as indicated on the mark scheme

L represents mark(s) awarded for labels on diagrams,

as indicated on the mark scheme

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1.(a) (I) clear/colourless/transparent;		1	
(ii) milky/cloudy/white;		1	
(b) Volume increases;		1	
(c) appearance: bubbles of gas/carbon dioxide; cloudy/creamy/white PLUS particulate/sediment AW smell : yeasty/ethanol/of alcohol/like beer;	·	ipita	te; 2
 (d) sucrose converted to glucose; glucose used in respiration; no supply of oxygen/anaerobic/fermentation; ethanol/alcohol is a product; carbon dioxide is a product; which turns limewater milky; 	max	5	2
(e) (I)red/yeilow/orange R green; protein absent;		2	
(ii) yeast has enzyme/sucrase;yeast/enzyme catalyses sucrose to glucose;		2	
 (iii) glucose/sugar molecule small enough to move through/across me diffusion/dialysis; 	embrar	ie;	
	max	2	
 (f) enzyme(s) in yeast denatured; A yeast killed R enzyme killed no reducing sugar formed; respiration ceases; no carbon dioxide given off/produced; 	max	3	
(total	19)		

2.(a) drawing: clear, sharp outline; R single line drawing quality of drawing: use of 8 cm. space or more; seedling A and B: A shorter internodes than B; A larger leaves than B; A thicker stem than B; A taller overall than B;

max 5

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seedling B seedling A (b) short internodes; long internodes small leaves; large leaves yellow leaves/stem; green leaves /stem 3 thinner stem; max thicker stem A other valid point eg. grooved stem/smooth stem; 1. Leaf venation pinnate/reticulate/net/not parallel; 2 Tap root/main root/not adventitious roots; 3. Leaf shape broad; 2 max 4. two cotyledons; (d) Drawing: Fills space; min 3.5 cm Clear, sharp outline; Detail Shape of cotyledon/detail of small leaves in plumule; Hilum shown; max 3, Micropyle shown; Observation:Labels: External appearance: hilum/scar/point of attachment (to pod); Micropyle; : two cotyledons; Internal structure Plumule; R shoot Radicle; max 3 6 Attachment of cotyledons to embryo; (e)(I) explanation : count squares/suitable maths technique; measure/be aware of value of, single square; : correct answer(approx); area 3 max units in mm2/cm2; area of leaf in (e)(I) x 8 (or no.of leaves provided); (ii) shoot C: correct answer in mm2; A error carried forward 21) (total