## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Ordinary Level

## MARK SCHEME for the October/November 2008 question paper

## **5090 BIOLOGY**

5090/06

Paper 6 (Alternative to Practical), maximum raw mark 40

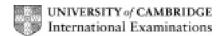
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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	GCE O LEVEL – October/November 2008	5090	06
	ring; ring seedling/leaves (with a bag etc.); eline/shade/darkness. R: cold/negatives.		[2]
trar	er absorbed until no more available; espiration/evaporation/surface loss (continues); edling/cells lose water/become flaccid;		[up to 2]
so t	<u>t hairs</u> damaged/broken; that no water absorbed; t <u>hairs</u> once in <b>(ii)</b> or <b>(iii)</b> , otherwise A: root		[2]
	v <u>root hairs</u> grow (overnight); ref conditions.		[1]
` '	iliser solution reduced <u>water potential</u> (in soil); king endosmosis impossible (AW);		[2]
moi	e seedling/surrounding soil, re water/raising external water potential; f fertiliser mentioned.		[1]
ran	y points needed: ge of concentrations (of fertiliser solutions) prepared; east 3 days for results to show;		
see nan unif unif hov	to three more marks from: edlings grown in pots/other containers; ne of plant/fertiliser used; form size; form condition(s), etc.; v fertiliser applied/used for watering, etc.;		
	lication; ult recording/tabulation;		[up to 5]
	gg.		
			[Total: 15]
Colour of co	ntents:		
	(a) blue; A1 (b) blue; A2 (blue)-black; A2 accept iodine colour, brown, orange		[3]
`´ <b>A</b> 1	<ul> <li>conclusions</li> <li>reducing sugar/glucose present;</li> <li>no protein/protein absent;</li> <li>starch present;</li> </ul>		[3]
`´ B1	ole 2.2 – conclusions  (a): no reducing sugar/glucose;  (b): protein present;  fat (oil)/lipid present;		[3]

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Page 3	Mark Scheme	Syllabus	Paper
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 (iv) chopping increases surface area/releases cell contents; dissolved in ethanol; water added to complete test; if water added to original, ethanol goes milky/AW;

[up to 2]

[Total: 11]

3 (a) (i) blood;

[1]

(ii) leucocyte/wbc/polymorph/granulocyte/phagocyte/lymphocyte; erythrocyte/rbc;

platelet;

plasma; R: serum, etc.

[4]

(iii) Drawing marks:

1. at least 5 cm, realistic, clear and clean lines.

2. accurate nucleus – 3 main lobes.

[D.2]

Labels: nucleus;

cytoplasm/cell membrane; R: if cell wall shown

[2]

(iv) both dimensions accurate, with units at least once; R: if no indication on drawing where measured.

[ $10 \text{ mm} \pm 1 \text{ mm}/1.0 \text{ cm} \pm 0.1 \text{ cm}$  on Fig. 3.1]

correct expression – drawing over image ; [e.g. 50/10]

allowance for  $\times$  750;

correctly stated mag;  $[750 \times 5 = ] \times 5 / \times 3750$ 

[must be whole number for 3000 +,

up to 2 d.p. and 0.2 rounding if no allowance for  $\times$  750]

[4]

(b) (i) transport of oxygen;

[1]

[Total: 14]