

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE O Level

MARK SCHEME for the May/June 2006 question paper

5090 BIOLOGY

5090/03

Paper 3

maximum raw mark 40

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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.

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1 (a) (i)

Table 1.1

	Observations		conclusions
	starch test	fat test	
F1	as per report	clear	consistent with report no fat/oil
F2	as per report	cloudy/milky	consistent with report fat/oil present

[4]

(ii) break up material ;
dissolve in ethanol ;
by shaking/stirring ;
add (to) water ;

[up to 3]

(b) (i) 4 temp. readings in Table 1.2 ;
starting temps. similar ;
second readings higher ;
F2 more than F1 ;
rises correctly calculated ;

[5]

(ii) substitutions correct for both ;
answer correct for both ;
F2 more than F1 ;

[3]

(iii) F2 contains fat/oil ;
more energy stored in fat than in CHO ;

[2]

(iv) repeat and average ;
means of increasing surface area ;
insulating test-tube ;
identical starting temps ;

[up to 3]

[Total : 20]

2 (a) S2

softer ;
smoother ;
bigger ;

[2]

(b) (i) cutting/grinding etc. ;
heat with Benedict's ;
in waterbath ;

[3]

(ii) turned red (etc.) – (reducing) sugar present ;

[1]

(c) ref osmosis ;
higher water potential outside ;
water enters (sultana) ;
through partially permeable membrane ;

[up to 3]

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(d) (i) drawing marks: **D.3**

1. at least 5 cm clear, clean, realistic
2. tripartite, with seeds shown
3. vascular bundles

three labels from:

seed ;
pericarp ;
funicle ;
loculus ;
vascular bundle ;

[3]

(ii) at least 3 cm with some more detail ;
attachment correct ;

[2]

(iii) line ruled and measured, units ;
correct expression ;
magnification correctly expressed ;

[3]

[Total : 20]