

IGCSE Biology 4325 4437 03 07
Mark Scheme (Results)
Summer 2007

IGCSE

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BIOLOGY 4325, MAY 2007, MARK SCHEME

Key

- ; indicates separate mark points
/ indicates alternatives
eq allow for correct equivalent
— word underlined means no alternatives allowed

Paper 3

1. (a) (i) measuring cylinder; (1)
(ii) line correctly drawn eg horizontal across the cylinder at 5; (1)
- (b) (i) Benedicts; (1)
(ii) blue / light blue;
red / brick-red / brown-red / orange / yellow / green; (2)

Total 5 marks

2. (a) 3. Remove a leaf from the plant;
5. Heat the leaf in boiling ethanol;
7. Add iodine solution; (3)
- (b) no photosynthesis / light needed for photosynthesis;
uses up starch / destarch / respire starch; (2)
Ignore glucose
- (c) safety / dangerous;
(ethanol) flammable / prevent fire; (2)
- (d) blue-black / black / blue / dark blue; (1)
Reject brown

Total 8 marks

3. (a) find pulse in wrist / neck;
count number of pulses in a time period; (2)
- (b) (i) increases;
up to a peak / eq; (2)
(ii) 4 / 64 ; (1)
(iii) stays the same / remains high for a while;
goes down / decreases; max
to 68 / normal / resting rate; (2)
- (c) table with temperature and time headings;
two columns;
units present; (4)
order;

Total 11 marks

4. (a) (i) Plant B: tally correct + 12;
Plant C: tally correct + 4; (2)
- (ii) 192mm^3 ;;
 $4 \times 8 / 32$ for 1 mark only (2)
- (b) conclusion based on only one experiment / need to repeat /
one 10 s period;
reference to volume of bubble / content;
plant not equal in mass / eq; max
abiotic factor(s) or example(s);; (3)

Total 7 marks

5. (b) C - different fish foods;
O - same species/age / size of fish /eq;
R - several fish used;
M1 - growth measured in mass / length / size;
M2 - time period stated (more than a week);
S - named condition controlled;; e.g. temperature, water pollution, max
mass of food (5)

Total 5 marks

6. (a) 2.56;
3.18; (2)
- (b) (i) S - linear scale chosen for sucrose;
L - line through points;
A - axes correct way around;
A - labels for % change and sucrose (M); (5)
P - points plotted; (1)
- (ii) point read off graph; (1)
- (c) the same; (1)
- (d) (sucrose) concentration greater in potato / reference to gradient;
water enters (the potato);
(by) osmosis; (3)
- (e) (i) more sensitive balance / measure mass to 3 d.p. / (1)
take more readings at different concentrations;
- (ii) repeat each experiment /take averages / reference to (1)
anomalies / ensure other factors are controlled;

Total 14 marks

PAPER TOTAL 50 MARKS