

NOVEMBER 2002

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 40

SYLLABUS/COMPONENT : 0610/5

BIOLOGY

(PRACTICAL)



- 1 (a) (i) Drawing: (max 4 marks)
 8cm or more space used;
 clear sharp outline;
 axillary / lateral , buds / shoots, shown;
 scale leaves shown;
 terminal bud / attachment to parent plant , shown;
 lenticels shown;
- Labels: (max 1 mark)
 (axillary / lateral) bud / shoot / eye;
 scale / reduced , leaf;
 terminal bud / attachment to parent plant; max 5
- (ii) organ of , perennation / storage;
 asexual reproduction;
 genetically identical offspring;
 stores , starch / products of photosynthesis; max 2
- (iii) (axillary / terminal) bud;
 (reduced) leaves;
 lenticels; max 1
- (b) (ii) froth / gas / bubbles , rose in boiling tube;
 vigorous reaction; 2
- (d) (i) y axis labelled, units in mm;
 correct plotting (refer to (b)(i) and (c));
 chopped greater than 4 cube level;
 x axis labelled; 4
- (ii) chopped has greater surface area / 4 cubes have smaller surface area;
 chopped cuts open more cells / AW;
 releases more enzyme (molecules);
 more contact with , substrate / Y;
 Y / H₂O₂ , is substrate;
 gas / oxygen , is product;
 more , gas / froth / bubbles , in chopped than in cubes; max 4
- (e) (i) boiled potato;
 same , amount of chopped / number and size of cubes of , potato;
 cool to same temperature as experiment before using potato;
 same quantity of Y;
 same concentration of Y; max 3
- (ii) no reaction (at this temperature);
 enzyme has been denatured (by boiling); 2

[Total : 23]

2 (a) (i) (½ mark per label, round up)
label lines and labels correct for incisor, canine, premolar, molar ;; 2

(b)

	incisors	canines	premolars	molars
upper	4	2	4	6
lower	4	2	4	6

1

(c)

	incisors	canines	premolars	molars
upper	4	2	4	4
lower	4	2	4	4

or refer to Fig. 2.1 if different

1

(d) candidate has no wisdom teeth / converse;
wisdom teeth found , after puberty / between 16 – 25 years / AW;
tooth / teeth , extracted / absent from birth;
accounts for no differences;; max 2

(e) (i) clear sharp outline;
incisor has , chisel / square / rectangular , shape;
canine has conical shape; 3

(ii) incisor tip , flat / broad , and thin;
incisor cuts;
canine tip pointed;
canine , seizes / tears / rips; 4

(f) (i) $100\text{mm}^2 / 1\text{cm}^2$, approx. (allow 80 – 144 / 0.8 – 1.44); 1

(ii) large surface area for , grinding / crushing;
uneven cusps help , grinding / crushing;
breaks open , cells / tissues / plant cells;
releasing , cell / tissue , contents for digestion; max 3

[Total : 17]