UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2007 question paper

0654 CO-ORDINATED SCIENCES

0654/05 Paper 5 (Practical), maximum raw mark 45

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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1 (a) (i) clear drawings;
with visible differences between raisins (raisin **A** should be larger in size and than raisin **B**);

(ii) raisin **A** has become larger/rounder;
water has entered the raisin; [2]

(iii) solution in which raisin **A** was immersed was less concentrated (or a higher water potential) than the raisin cells;
water entered;
by osmosis;
until cells of raisin become turgid; [3 max]

(b) (i) first row of table below completed correctly;; [2]

(ii) second row of table below completed correctly;; [2]

test on urine	sample **D**	sample **E**	sample **F**	sample **G**
Benedicts test	**blue**	**blue**	**red**	**blue**
protein test	**blue**	**blue**	**blue**	**lilac**

(iii) (diabetes) sample **F**;
(kidney failure) sample **G**; [2]

(iv) white precipitate forms after adding acidified silver nitrate;
sample **E**; [2]

[Total: 15]

2 (a) stating the value of resistance/m should be the same as the supervisor [1]

(b)&(c) 5 values of **y** and I
good range of **y** to include 85 or more [3]

(d) (i) R is correctly calculated
current decreases with increasing **y** do not allow if I greater than 1.0 [1]

(ii) IR is calculated correctly
2 places of decimals used [2]

(e) Graph
A axes labelled
S sensible scale used
P plotting correct allow one error
C smooth curve drawn
Origin included [5]

(f) correctly read from graph must be on graph

(g) explanation needs to say that current would be greater
similar curve but above experimental one [2]

[Total: 15]

3 Chemistry question

(a) **X** is colourless/no change/cloudy/stayed the same NOT clear
Y is pink
Z is pink [1]
all need to be correct

X is an acid
Y is an alkali
Z is an alkali [2]
each incorrect lose a mark to zero

(b) test correctly described TWO marks acidifying not necessary

acid is hydrochloric ONE

test can be for sulphate showing negative therefore must be chloride
it must be clear that the candidate has carried out the experiment
if in doubt, maximum of two marks [3]

(c) **(i)** pink colour disappears/colourless [1]

(ii) pink colour disappears/colourless

effervescence
do not allow clear as equal to colourless [2]

(d) **(i)** white precipitate

dissolves in excess [2]

(ii) white precipitate

precipitate does not dissolve [2]

(e) **Y** could be sodium hydroxide

Z could be sodium carbonate

a formula is allowed if it is correct [2]

[Total: 15]