As part of CIE's continual commitment to maintaining best practice in assessment, CIE has begun to use different variants of some question papers for our most popular assessments with extremely large and widespread candidature, The question papers are closely related and the relationships between them have been thoroughly established using our assessment expertise. All versions of the paper give assessment of equal standard.

The content assessed by the examination papers and the type of questions are unchanged.
This change means that for this component there are now two variant Question Papers, Mark Schemes and Principal Examiner's Reports where previously there was only one. For any individual country, it is intended that only one variant is used. This document contains both variants which will give all Centres access to even more past examination material than is usually the case.

The diagram shows the relationship between the Question Papers, Mark Schemes and Principal Examiner's Reports.

## Question Paper

| Introduction |
| :--- |
| First variant Question Paper |
| Second variant Question Paper |

Mark Scheme

| Introduction |
| :--- |
| First variant Mark Scheme |
| Second variant Mark Scheme |

Principal Examiner's Report

| Introduction |
| :--- |
| First variant Principal |
| Examiner's Report |
| Second variant Principal <br> Examiner's Report |

Who can I contact for further information on these changes?
Please direct any questions about this to CIE's Customer Services team at: international@cie.org.uk

## MARK SCHEME for the May/June 2008 question paper

## 0610 BIOLOGY

0610/31 Paper 31 (Extended Theory), maximum raw mark 80

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.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

## First variant Mark Scheme

| Page 2 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

1 (a) reject lines to or from the same box, e.g. anther and petal to produce pollen grains A if lines do not touch box but meaning is clear

(b) assume answer is about stigma of wind-pollinated flower unless told otherwise, accept ora, 2 max for differences, 1 or 2 for significance
wind-pollinated stigma,
feathery / hairy ; R branched ignore not sticky large(r) ; A large surface area outside flower / AW ; A pendulous / exposed ignore long and short
insect-pollinated stigma
not, feathery / hairy ;
ignore sticky
small(er) ; A small surface area
inside flower / AW ;
[2 max]
explanation
to catch pollen / AW (in the wind) ; A for pollen to attach (to stigma)
or make pollination more likely / easier
increase chance of pollination ;
'more likely to catch pollen' = 2 marks
[max 3]
(c) 1 little / less / AW / no, variation; R cloning

2 ref to becoming homozygous ; ignore ref to gene
3 e.g. of consequence 'good' or 'bad';
e.g. less chance of adapting to changing conditions / less ability to evolve /
may become extinct / adapted variety spreads / AW ;
4 greater chance of pollination / ensures pollination occurs ;
A reproduction / fertilisation
5 useful if no other plants (of same species) nearby ;
6 less wastage of pollen; A gametes
7 not dependent on (named) agent of pollination ;

## First variant Mark Scheme

| Page 3 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

2 (a) (i) eats / consumes / feeds on, animals / meat / flesh ;
(ii) fur / hair / whiskers / vibrissae ;
external ear(s) / pinna(e);
mammary glands / breasts / nipple / glands that produce milk / AW ;
$\mathbf{R}$ milk unqualified by external structure
(b) (i) disease / parasite(s) / (named) pathogen(s);
hunting (by farmers) ; R poaching
shortage of, food / antelopes; A idea of fewer
shortage of water / drought ;
predation (by lions); A more lions
loss of habitat / AW e.g. territory ; R space unqualified
change of climate / AW ;
pollution ;
AVP ; e.g. shortage of mates / small populations do not breed as much $\mathbf{R}$ competition unqualified
(ii) extinction / become endangered / become rare / inbreeding ;
(c)

grass $\longrightarrow \underset{$\begin{tabular}{l}
primary <br>
consumer / <br>
herbivore

$}{\text { antelope }} \longrightarrow$

secondary <br>
consumer / <br>
carnivore

$\quad$

wild dog

 

tertiary <br>
consumer / <br>
top carnivore / <br>
top predator /
\end{tabular}

1 mark for minimum of two arrows in correct direction ;
1 mark for all organisms named and all in correct order as a chain ; ignore sun / decomposers / parasites
2 marks for labelling the trophic levels -
either producer, primary, secondary + tertiary consumer
or $\quad 1^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}, 4^{\text {th }} ;$;
if one or two labels incorrect award 1 mark

First variant Mark Scheme

| Page 4 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

(d) (i) maintenance / protection / preservation / 'caring for' / 'looking after', of, habitat / ecosystem / community / species / (named) organisms / resources;
'making a habitat' = 1 mark
One of the following for a max 1 mark
for future generations / prevent extinction ;
encourage breeding (in wild or in captivity) ;
ref to, biodiversity / genetic resources / AW ;
(ii) prevent destruction of, grassland / habitat; A preserve (nature) reserve / wild life park / AW ;
rangers / wardens;
ensure good supply of, food / antelopes / prey / AW ;
legislation / AW ; e.g. refs to poaching / wild life trade
control of, predators / lions ;
A 'kill lions' / 'drive lions away' / 'provide food for lions' education of local population ; captive breeding / breed in a zoo / breeding programme ; reintroduction to the wild;
AVP ; e.g. further detail of any of the above points
(e) ignore refs to nitrogen fixation / denitrification marking points $7+8$ must be in the correct context

1 (eaten / digested by) (named) scavenger(s) / hyaenas / vultures ;
2 excretion / urine / egestion / faeces / AW ;
3 dung beetles / detritivores / maggots;
4 decay / decomposition / rotting, by, bacteria / fungi / named decomposer ;
5 protein $\rightarrow$ amino acids;
6 deamination / amino acids $\rightarrow$ ammonia ; $\int$ A protein $\rightarrow$ ammonia
7 ammonia $\rightarrow$ nitrite ;
8 nitrite $\rightarrow$ nitrate; $\int$ A ammonia $\rightarrow$ nitrate
9 nitrification / nitrifying bacteria;
10 Nitrosomonas / Nitrobacter in correct context of nitrification ;
11 plants absorb, nitrate / ammonia ;
'decomposition by nitrifying bacteria' $=0$

## First variant Mark Scheme

| Page 5 Mark Scheme | Syllabus | Paper |  |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | $\mathbf{0 6 1 0}$ | 31 |

3 (a) (i) excretion;
(ii) biological ; A made by, cells / organisms catalyst / described;
(made of) protein / AW ;
bio-catalyst = 2 marks
(b) (i) pH ; $\mathbf{A} p h / \mathrm{PH} / \mathrm{Ph}$
(ii) temperature; $\mathbf{R}$ heat ignore room size / mass / quantity / amount / surface area / type, of potato ;
volume of hydrogen peroxide ; concentration of hydrogen peroxide ;

A 'amount' with respect to hydrogen peroxide $\mathbf{R}$ refs to catalase / enzyme
(c) award two marks if correct answer (0.56 / $0.57 / 0.58$ ) is given - may be in white space below the table
if no answer or incorrect answer award one mark for correct working if 0.5 or 0.6 award one mark

10 divided by 17.4
0.56 / 0.57 / 0.58 ;;
(d) graph
$1 x$-axis labelled pH ;
$2 y$-axis labelled - must have units rate (of oxygen production / of reaction), $\mathrm{cm}^{3} \mathrm{~min}^{-1} / \mathrm{cm}^{3}$ per min ;
3 points all correct ; use the overlay, but A ecf from (c)
4 continuous and clear line, which may be either a curve which may not go through all the points or straight lines between points
$\mathbf{R}$ if line goes beyond plotted points
(e) (i) increase in rate to $(\mathrm{pH}) 6$ then decrease / reaches a peak at $(\mathrm{pH}) 6$; any rate given as a data quote, with $\mathbf{c m}^{\mathbf{3}} \mathbf{m i n}^{-1} / \mathbf{c m}^{3}$ per min ;
(ii) pH 6 is, optimum / when enzyme 'works best' ;
following points may refer to optimum or sub-optimum
ref to shape of enzyme ;
ref to active site ;
ref to denaturation; A destroyed $\mathbf{R}$ 'killed' ref to substrate / hydrogen peroxide, fitting into, enzyme / active site ;

| Page 6 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

4 (a) try to mate them together, failure = suggests different species; mate together, no offspring = suggests different species; breed together and see if any offspring are, sterile / infertile ; test DNA / examine chromosomes;
(b) (i) continuous; A discrete
(ii) Equus grevyi; A grevyi
(c) (i) phenotype; A close phonetic spellings
(ii) these two points are linked - 'change' unqualified does not get a mark, but 'change in DNA' gets 2 marks
change / AW ; e.g. substitution / deletion / error in meiosis
in, DNA / gene(s) / chromosome(s) ;
change in genotype / 'genetic, structure / genetic make-up' = 1 mark
(d) (i) exoskeleton / external skeleton; segmented / jointed, limbs / legs / appendages ; segmented body ;
(ii) three parts to the body / head + thorax + abdomen ;

A sections / $\mathbf{R}$ segments
wings ; ignore numbers of wings if given
6 / 3 pairs of, legs ;
(e) (i) stripes (on head and neck), become / are, horizontal (when feeding); less attractive to (tsetse), flies / insects ; A AW A camouflage in grass ;
(ii) 1 ref to mutation and number of stripes ;

2 ref to number of stripes and likelihood of being bitten ;
3 ref to, disease / death ;
4 survivors breed;
5 ref to offspring; (fewer stripes = less / more stripes $=$ more $)$
6 passing on advantageous, alleles / genes (for more stripes) ;
7 natural selection / survival of fittest ;
$\mathbf{R}$ artificial selection

## First variant Mark Scheme

| Page 7 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

5 (a) balanced diet
provides, sufficient energy / energy for needs ;
provides, molecules / materials, for metabolism / equivalent; A substances provides, nutrients / named nutrients ; CPFVM $\mathrm{H}_{2} \mathrm{O}$ fibre

A minimum of any three named nutrients
A contains (all the) food, groups / types / classes R 'substances'
in correct / right, quantities / proportions / amounts ;
A adequate / sufficient $\mathbf{R}$ 'equal'
$\mathbf{R}$ 'balanced' as it is in the question
(b) (i) liver ;
(ii) glucose ; $\mathbf{R}$ if two compounds are given
(iii) aerobic;
carbon dioxide / water / no lactic acid, produced ;
anaerobic $=0$ for the whole of (iii)
(c) dissolved / in solution / soluble ;
in plasma ;
(d) mark name and function independently
read the functions of $\boldsymbol{A}$ and $\boldsymbol{B}$ together before awarding marks

| part | name of part | function |
| :---: | :--- | :--- |
| A | glomerulus ; <br> A knot of capillaries <br> $\mathbf{R}$ capillaries | filtration / filtering (blood) ; <br> A increase in (blood) pressure / ref to high pressure <br> A ‘substances forced out' <br> $\mathbf{R}$ diffusion |
| B | capsule ; <br> R cup | collects filtrate / allows filtration ; |
| C | tubule ; <br> distal is neutal <br> $\mathbf{R}$ nephron / tube | (selective) reabsorption ; <br> reabsorbs, water / glucose / salts / minerals / ions / <br> amino acids ; <br> ignore nutrients <br> A description of reabsorption, e.g. active uptake of <br> glucose <br> absorption back into blood |
| D | collecting duct ; | (re)absorbs water / passes urine to pelvis or ureter ; <br> R urea unless with water <br> A waste substances |


| Page 8 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 31 |

(e) (i) award two marks if correct answer (1699 / 1699.2 / 1700) is given award one mark if no answer or incorrect answer but correct working is shown
$1.18 \times 60 \times 24 / 1.18 \times 1440$
1699 / 1699.2 / $1700\left(\mathrm{dm}^{3}\right)$;;
(ii) award two marks if

- correct answer (0.1) is given
- allow ecf from (e)(i) - so check calculation
if no answer or incorrect answer award one mark for dividing 1.7 by something and multiplied by 100
$1.7 / 1700 \times 100$
0.1 (\%) ;;
[Total: 20]


## MARK SCHEME for the May/June 2008 question paper

## 0610 BIOLOGY

0610/32
Paper 32 (Extended Theory), maximum raw mark 80

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.

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CIE is publishing the mark schemes for the May/June 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

## Second variant Mark Scheme

| Page 2 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

1 (a) reject lines to or from the same box, e.g. anther and petal to produce pollen grains A if lines do not touch box but meaning is clear

(b) assume answer is about stigma of wind-pollinated flower unless told otherwise, accept ora, 2 max for differences, 1 or 2 for significance
wind-pollinated stigma,
feathery / hairy ; R branched ignore not sticky
large(r) ; A large surface area outside flower / AW ;

A pendulous / exposed ignore long and short
insect-pollinated stigma
not, feathery / hairy ;
ignore sticky
small(er) ; A small surface area
inside flower / AW ;
[2 max]
explanation
to catch pollen / AW ; A for pollen to attach (to stigma)
increase chance of pollination or make pollination more likely / easier
'more likely to catch pollen' $=2$ marks
(c) 1 little / less / AW / no, variation ; R cloning

2 ref to becoming homozygous; ignore ref to gene
3 e.g. of consequence 'good' or 'bad' ;
e.g. less chance of adapting to changing conditions / less ability to evolve /
may become extinct / adapted variety spreads / AW ;
4 greater chance of pollination / ensures pollination occurs ;
A reproduction / fertilisation
5 useful if no other plants (of same species) nearby ;
6 less wastage of pollen; A gametes
7 not dependent on (named) agent of pollination ;
[Total: 10]

| Page 3 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

2 (a) (i) community / (all) organisms / animals and plants / (all) species / (all) populations / biotic components, (living together) in same, area / place / environment ; R habitat many habitats ;
interacting / interdependent / AW ; A description of food chains / food web (together with / interacting with) abiotic / physical / non-living, factors / features ;
(ii) few (native) animals in Namibia eat it ; grows uncontrollably / AW ; R reproduce quickly
(S. molesta has) flat leaves that grow over surface of water
so less light penetrates to plants below ;
less / no, photosynthesis;
plants die and are decomposed by bacteria;
aerobic bacteria / bacteria use oxygen ;
less oxygen for, animals; A organisms / ref to BOD R plants must be linked to less photosynthesis / bacteria use oxygen
less food for, animals / herbivores ;
destruction of, food chains / food web ;
AVP ; e.g. bacteria produce toxins
(b) (i) herbicides (may), kill / harm, all / other, plants; $\mathbf{R}$ organisms consumer / beetle, will not eat all plants / specific to S. molesta; idea that herbicides will disrupt, food chain / community / ecosystem ; herbicides accumulate in food chain ;
plants may develop resistance to herbicides;
(ii) Australian beetle may have no (natural) predator ; may eat other, plants / organisms ; (increase in numbers and) cause damage to, crops / AW ;
compete with other plant eaters ;
idea that beetles disrupt, food chain / community / ecosystem ;
comparison with any other example, e.g. cane toad ;
(c) (i) S-shaped curve; ignore start at the origin / ignore death phase stationary phase may show fluctuations
(ii) each label must be in correct place on curve
lag;
log / exponential ;
stable / stationary / constant ; A plateau / fluctuating / oscillating
(iii) space / grazing / (eaten by) beetles / (eaten by) herbivores / C. saliniae ;

## Second variant Mark Scheme

| Page 4 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

(iv) magnesium and nitrate may score 2 marks each
accept other named ions and correct reasons
if candidate gives minerals and magnesium or nitrate - mark to max 2
competition must be qualified by one of these factors
$\boldsymbol{R}$ 'limit growth' as in the question - A 'less growth' in correct context
space ; A water in context of space (if not in (c)(iiii))
no more wetlands to grow over / nowhere for new leaves to grow /
competition for raw materials or light / AW ; A less growth
grazing / eaten by herbivores (if not given in (c)(iii)) ;
reduces leaf area for photosynthesis / removes products of photosynthesis / AW ;
light intensity ; A amount of light / less light / limited light
$\mathbf{R}$ light unqualified
less energy trapped / for photosynthesis / AW ;
carbon dioxide, concentration / level ; A amount of $\mathrm{CO}_{2} \mathbf{R ~ C O} 2$ unqualified for photosynthesis ;
temperature ;
ref to, enzymes / growth / photosynthesis / rate of chemical reactions ;
water;
A any appropriate function of water ;
e.g. turgidity / transport / photosynthesis / growth
minerals / nutrients / salts / ions ;
ref to less growth ; $\mathbf{R}$ growth unqualified
magnesium (ions) ;
idea that lack restricts formation of chlorophyll ;
nitrate (ions) / ammonium ions / ammonia; $\mathbf{R}$ nitrogen
ref to less for making, amino acids / proteins / DNA / RNA / nucleic acids ;
iron (ions) ;
for making chlorophyll ;
salt ; as in increasing salinity of irrigated land
reduce water potential / make it difficult to absorb water ;
disease ;
removes products of photosynthesis / less (material for) growth / less
reproduction / AW ; A plants die'
[Total: 19]

| Page 5 Mark Scheme | Syllabus | Paper |  |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

3 (a) (i) excretion;
(ii) biological ; A made by, cells / organisms
catalyst / described;
(made of) protein / AW ;
bio-catalyst = 2 marks
(b) (i) pH ;
(ii) temperature; $\mathbf{R}$ heat ignore room size / mass / quantity / amount / surface area / type, of potato ;
volume of hydrogen peroxide ; concentration of hydrogen peroxide ;

A 'amount' with respect to hydrogen peroxide
$\mathbf{R}$ refs to catalase / enzyme
(c) award two marks if correct answer (0.56 / $0.57 / 0.58$ ) is given - may be in white space below the table
if no answer or incorrect answer award one mark for correct working if 0.5 or 0.6 award one mark

10 divided by 17.4
0.56 / 0.57 / 0.58 ;;
(d) graph
$1 x$-axis labelled pH ;
$2 y$-axis labelled - must have units rate (of oxygen production / of reaction), $\mathrm{cm}^{3} \mathrm{~min}^{-1} / \mathrm{cm}^{3}$ per min ;
3 points all correct ; A ecf from (c)
4 continuous and clear line which may be either a curve which may not go through all the points or straight lines between points
$\mathbf{R}$ if line goes beyond plotted points
(e) (i) increase in rate to $(\mathrm{pH}) 6$ then decrease / reaches a peak at $(\mathrm{pH}) 6$; any rate given as a data quote, with $\mathbf{c m}^{3} \mathbf{m i n}^{-1}$ or $\mathbf{c m}^{3}$ per min ;
(ii) pH 6 is, optimum / when enzyme 'works best' ;
following points may refer to optimum or sub-optimum
ref to shape of enzyme ;
ref to active site ;
ref to denaturation; A destroyed $\mathbf{R}$ 'killed' ref to substrate / hydrogen peroxide, fitting into, enzyme / active site ;

## Second variant Mark Scheme

| Page 6 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

4 (a) try to mate them together, failure = suggests different species; mate together, no offspring = suggests different species; breed together and see if any offspring are, sterile / infertile ; test DNA / examine chromosomes ;
(b) (i) continuous; A discrete
(ii) Equus grevyi; A grevyi
(c) (i) phenotype; A close phonetic spellings
(ii) these two points are linked - change unqualified does not get a mark, but change in DNA gets 2 marks
change / AW ; e.g. substitution / deletion / error in meiosis
in, DNA / gene(s) / chromosome(s);
change in genotype / genetic, structure / 'genetic make-up' = 1 mark
(d) (i) exoskeleton / external skeleton; segmented / jointed, limbs / legs / appendages ; segmented body ;
(ii) three parts to the body / head + thorax + abdomen ;

A sections / $\mathbf{R}$ segments
wings ; ignore numbers of wings if given
6 / 3 pairs of, legs ;
(e) (i) stripes (on head and neck), become / are, horizontal (when feeding); less attractive to (tsetse), flies / insects ;
A camouflage in grass ;
(ii) 1 ref to mutation and number of stripes ;

2 ref to number of stripes and likelihood of being bitten ;
3 ref to, disease / death ;
4 survivors breed;
5 ref to offspring; (fewer stripes = less / more stripes $=$ more $)$
6 passing on advantageous, alleles / genes (for more stripes) ;
7 natural selection / survival of fittest ;
$\mathbf{R}$ artificial selection

| Page 7 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

5 (a) balanced diet
provides, sufficient energy / energy for needs ;
provides, molecules / materials, for metabolism / equivalent; A substances provides, nutrients / named nutrients ; CPFVM $\mathrm{H}_{2} \mathrm{O}$ fibre

A minimum of any three named nutrients
A contains (all the) food, groups / types / classes $\mathbf{R}$ 'substances' in correct / right, quantities / proportions / amounts ;

A adequate / sufficient $\mathbf{R}$ 'equal'
$\mathbf{R}$ 'balanced' as it is in the question
(b) (i) liver ;
(ii) glucose ; $\mathbf{R}$ if two compounds are given
(iii) aerobic;
carbon dioxide / water / no lactic acid, produced ;
anaerobic $=0$ for the whole of (iii)
(c) dissolved / in solution / soluble ;
in plasma ;
(d) mark name and function independently
read the functions of $\boldsymbol{A}$ and $\boldsymbol{B}$ together before awarding marks

| part | name of part | function |
| :---: | :--- | :--- |
| A | glomerulus ; <br> A knot / bundle, of <br> capillaries <br> $\mathbf{R}$ capillaries | filtration / filtering (blood) ; <br> A increase in (blood) pressure / ref to high pressure <br> A 'substances forced out' <br> $\mathbf{R}$ diffusion |
| B | capsule ; <br> R cup | collects filtrate / allows filtration ; |
| C | tubule ; <br> distal is neutal <br> $\mathbf{R}$ nephron / tube | (selective) reabsorption ; <br> reabsorbs, water / glucose / salts / minerals / ions / <br> amino acids ; <br> ignore nutrients <br> A description of reabsorption, e.g. active uptake of <br> glucose <br> absorption back into blood |
| D | collecting duct ; | (re)absorbs water / passes urine to pelvis or ureter ; <br> R urea unless with water <br> A waste substances |

Second variant Mark Scheme

| Page 8 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | IGCSE - May/June 2008 | 0610 | 32 |

(e) (i) award two marks if correct answer (1699 / 1699.2 / 1700) is given award one mark if no answer or incorrect answer but correct working is shown
$1.18 \times 60 \times 24 / 1.18 \times 1440$
1699 / 1699.2 / $1700\left(\mathrm{dm}^{3}\right)$;;
(ii) award two marks if

- correct answer (0.1) is given
- allow ecf from (e)(i) - so check calculation
if no answer or incorrect answer award one mark for dividing 1.7 by something and multiplied by 100
$1.7 / 1700 \times 100$
0.1 (\%) ;;
[Total: 20]

