

Biology B J643

Gateway Science Suite

General Certificate of Secondary Education

Report on the Units

January 2009

J643/MS/R/09J

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Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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B631/01 Unit 1: Modules B1, B2 and B3 Foundation Tier

General Comments

Generally candidates performed well on this paper. Very few questions were not attempted and a number of candidates showed a good breadth of knowledge. Candidates however should be encouraged to follow instructions clearly. When asked to describe they need to realise more than one word is required. This was especially true of question 6 part (a).

Areas of the specification that were clearly understood included:

- The classification and adaptation of animals
- Competition between species
- The structure of the eye and genetics.

Areas of the specification that were clearly not understood included:

- The role of acids and enzymes in digestion
- The affects of smoking
- Pollution.

Comments on Individual Questions

SECTION A - MODULE B1

Question 1

- (a) In part (a) the majority of candidates could correctly label the optic nerve but a number of them labelled the iris as the retina.
- (b) Very few candidates could describe the function of the cornea, the majority of them thought it was there for protection.
- (c) Most candidates showed a clear understanding of inherited characteristics and the position of genes in the cell.

Question 2

- (a) The candidates that failed to be awarded the mark tended to just give one answer instead of LSD and amphetamines.
- (b) Most candidates were able to carry out the simple calculation.
- (c) Candidates struggled to describe the effects of stimulants, they should be encouraged to describe it in terms of increased brain activity and not 'it makes you hyper' or 'it works faster/ harder'.

Question 3

- (a) Very few candidates understood the role of hydrochloric acid in digestion.
- (b) Only the more able candidates could recall the name protease or pepsin as the enzyme involved in protein digestion.
- (c) Very few candidates realised that mechanical digestion is used in the stomach.

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- (d) Those candidates that only gained one mark in this question tended to score the mark for oxygen. Some candidates managed to use all the correct words but in the wrong order.

Question 4

- (a) The majority of candidates gained one mark only on this question. Only the more able were able to correctly match all three diseases to their pathogens.
- (b) Although a large number of candidates knew about white blood cells they lost the second mark due to the descriptions of how the white blood cells remove the pathogens. Terms such as 'eat', 'kill' and 'fight' should be replaced by engulf or destroy the bacteria.

Question 5

- (a) Many candidates incorrectly assume nicotine stains the cotton wool, instead of the correct answer tar.
- (b) Few candidates realised that carbon monoxide causes less oxygen to be carried in the blood.
- (c) Although the question gave the example of cancer and asked for one other disease, a large number of candidates gave a type of cancer as their answer. They also tended to give vague answers such as lung disease which was not credited with a mark.

SECTION B - MODULE B2

Question 6

- (a) Most candidates were able to identify one way in which the dogs showed variation. However when an instruction is given to describe, candidates should be encouraged to use more than one word. The answer 'fur' can be a little vague where the answer 'one has longer fur' would be better.
- (b) Most candidates knew the dogs were mammals however they struggled to give a reason. Again vague answers such as 'they give birth' could not be credited, they should be encouraged to use more specific mammal examples such as 'they have fur or mammary glands'.
- (c) The candidates that did badly in this section tended to write just one word, e.g. teeth or claws.

Question 7

- (a) The majority of candidates showed a clear understanding of how to use a key.
- (b) Very few candidates were able to calculate the number of plants. Most of them tended to give an answer of 8000, because they divided 2000 by 0.25.
- (c) Most candidates realised that photosynthesis is needed for food or growth; however some still think plants photosynthesise to provide animals with oxygen.

Question 8

- (a) Some candidates thought squirrels needed protection because their numbers were going down, they needed to go one step further and realise the squirrels were close to extinction.
- (b) The correct answer of increase was given by most candidates.
- (c) Some candidates missed the link from part (b) and gave the incorrect answer of removing grey squirrels. Putting squirrels into zoos is not credit worthy unless they include breeding programs.

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- (d) Candidates should be encouraged to be more specific in their answers to competition. Shelter or nesting sites are acceptable but homes and habitat are not.
- (e) Candidates were able to successfully answer this question if they realised that the squirrels needed to avoid predators. Those candidates that simply thought it was to see both sides were not awarded the mark. Very few candidates used the correct term of wide field of view.

Question 9

- (a) Candidates performed badly on this question. A simple statement such as 'they are burnt to release carbon dioxide and sulfur dioxide' would have scored all three marks. However, candidates tended to give a long list of uses instead of saying how they are used. They then went on to randomly mention either acid rain for a mark or ozone for no mark.
- (b) Candidates seemed unfamiliar with the term finite resource, with very few of them choosing the correct answer.
- (c) Many candidates are still confusing global warming and ozone depletion. Only the more able candidates realised that CFCs damage the ozone layer.

SECTION C - MODULE B3

Question 10

- (a) Generally candidates understood the functions of both parts of the cell with correct answers being seen at all levels. The most common error was candidates who saw the word control in part (i) and therefore gave the answer of nucleus.
- (b) The majority of candidates scored one mark for placing the onion on the slide. Only the more able candidates understood the need for a thin slice of onion and either iodine solution or cover slip.

Question 11

- (a) Most candidates realised the powder required contained plant hormones.
- (b) Candidates realised that genes were involved but they did not understand that the new plants would be genetically identical. Of those that did they failed to score a second mark for explaining why they were genetically identical, e.g. they were clones or produced by asexual reproduction.

Question 12

- (a) The majority of candidates gained two marks by successfully completing the first two sentences. However they struggled to realise that the zygote grows using mitosis.
- (b) The less able candidates found the scale on the graph difficult and were often out on at least three of their points. However the quality of curve drawing seems to have improved at this level. Part (ii) was generally well answered by all candidates.

Question 13

- (a) Only the more able candidates seemed to know that capillaries are small blood vessels. In part (ii) candidates tended to tick the last box, probably because they saw the familiar word valves which they associate with blood vessels.
- (b) Again it tended to be the more able candidates that knew the function of platelets.
- (c) As with the rest of this question only the more able candidates correctly described the change as mutations. However more candidates successfully answered part (ii).

B631/02 Unit 1: Modules B1, B2 and B3 Higher Tier

General Comments

The level of difficulty of the paper appeared to be appropriate for the ability range of the candidates, producing a good distribution of marks, covering almost the whole mark range available. Questions targeted at grades A and A* allowed the most able candidates to demonstrate what they knew and understood, whilst questions targeted at grades C and D allowed all candidates access to the paper. It was clear however that some candidates would have been better served by entry to the Foundation tier paper instead. All candidates appeared to have had sufficient time to complete the paper, with most attempting all, or almost all, questions. The quality of candidates' spelling, punctuation and grammar was generally good and there were only a few cases where it was really difficult to interpret a candidate's writing.

Comments on Individual Questions

SECTION A - MODULE B1

Question 1

- (a) Most candidates gained at least one mark and almost half gained both marks for correctly identifying the iris and suspensory ligament. Common errors were to suggest the pupil and retina.
- (b) Almost half the candidates could correctly describe the job of the cornea, referring variously to refraction, focusing or bending light. Non-scoring responses often suggested 'protection'.
- (c) Most candidates gained at least one mark, with well over a third gaining full marks. To gain the marks, specific answers were needed, such as the advantage of binocular vision being good depth perception, or the disadvantage being a narrow visual field. Vague answers such as 'can see better' or 'can not see as well' did not score.

Question 2

- (a) Only a minority of candidates correctly identified cannabis and LSD as hallucinogens and so worked out the total as 51. 3 (i.e. LSD alone) was a common incorrect answer.
- (b) This question was targeted at an A grade, so vague descriptions of the effect of stimulants as 'speeding up' synapses were not sufficient, and only a minority of candidates gained the mark. The most common acceptable answer was that stimulants increase the number of neurotransmitters. Common incorrect answers were that impulses or transmitters travel faster, although some didn't refer to synapses at all, instead describing speeding up reactions or even just speeding up the nervous system.

Question 3

- (a) Just about half candidates correctly named 'hydrochloric acid' or even just 'acid'. The most common incorrect answer was probably 'bile', although 'lactic acid' and 'amino acid' also frequently appeared.
- (b) About two thirds of candidates correctly named the enzyme as a protease. Although an allowance was made for poor spelling, candidates should be aware that there is a limit to this. For example 'protaze' was given a mark, as phonetically it has the typical enzyme ending, but 'proteze' wasn't.

- (c) The vast majority of candidates correctly completed the word equation for aerobic respiration.

Question 4

- (a) Although over a third of candidates gained one mark, far fewer gained two or even three, which is appropriate given that the question was targeted at grades A / A*. To gain the marks, candidates had to explain immunisation in terms of antigens triggering off antibody production, with the ability retained of producing them quickly in case of re-infection. Weaker answers omitted any reference at all to antigens or antibodies. Better, but still non-scoring, responses implied that the body already has the antibodies in store and just has to find them or release them when infection or re-infection occurs.
- (b) Less than half of the candidates correctly chose both the 3rd and 4th options as being those which correctly described the uses of placebos. Indeed, about a fifth failed to score at all, even though it was a 'multiple-choice' type question.

Question 5

- (a) Most candidates scored one mark for describing problems that tar causes smokers. Although there were lots of acceptable answers on the mark scheme, marks were not awarded for vague answers such as 'makes it difficult to breathe' which is why most candidates were not awarded both marks, although they did give answers of an appropriate length.
- (b) About two thirds of candidates knew that the chemical in cigarette smoke causing less oxygen to be carried in the blood is carbon monoxide. Common incorrect answers included carbon dioxide and nicotine.

SECTION B – MODULE B2

Question 6

- (a) Virtually every candidate knew that dogs are mammals. Most could also give an acceptable reason such as the presence of fur or milk production. The mark scheme also allowed 'the production of live young' although it is not strictly speaking a defining feature of mammals.
- (b) Around two thirds of candidates did not explain correctly how you could show that both types of dog belonged to the same species. Typically these candidates tried to explain how labradors and border collies shared features, or even shared a common ancestor. Some tried to answer in terms of the binomial system but these answers were generally confused. Candidates who tried to explain that they could breed together producing fertile offspring usually gained both marks.
- (c) Although most candidates knew that parasites live on or in a host, and more knew that the parasite benefits, relatively few also explained that the host is harmed in some way in such relationships. This was necessary to gain the mark.

Question 7

- (a) Around half the candidates correctly worked out the total number as 6000. Most candidates did as instructed, showing their working, allowing a few who did not get the correct final answer still to pick up one mark.
- (b) Well over half the candidates correctly completed the balanced symbol equation for photosynthesis.
- (c) Although many candidates knew that cellulose is needed to make cell walls, credit was not given for answers such as simply 'growth' or 'structure'. Fewer candidates seemed to

know that starch is a storage product. Credit was given for answers such as 'a source of sugars' but not for the common answer 'energy'. Over a half of candidates gained at least one mark in total.

Question 8

- (a) With a variety of acceptable answers as to how red squirrels could be protected, around two thirds of candidates gained the mark. Typically marks were lost for giving vague unqualified answers such as 'conservation' or 'preservation'.
- (b)
 - (i) Almost half the candidates correctly explained an ecological niche in terms of where an organism lives and how it lives. Both ideas were needed for the mark, with answers such as 'its environment' being insufficient.
 - (ii) Most candidates gained the mark by explaining the decrease in red squirrels in terms of competition, or its effects, such as there not being enough food.
- (c) Over half the candidates correctly explained that woodland can be managed as a sustainable resource by replanting trees that are taken down. Just not cutting down trees was not an acceptable answer, nor was simply 'letting them re-grow'.
- (d) As the question asked candidates to explain how the adaptations of conifer needles help reduce water loss, marks could not be given for simply rephrasing what they've been told with answers such as 'it helps keep water in'. Storage of water was another non-scoring idea that was commonly seen. Many candidates did however explain that the needle shape reduces surface area (to volume ratio) and that the cuticle is waxy or impermeable. Over half gained at least one mark, but relatively few gained both.

Question 9

- (a) The majority of candidates knew that CFCs damage the ozone layer.
- (b) The concept of exponential growth was generally not well explained and those who gained the mark (less than a third) usually did so for a correctly drawn graph. Most candidates seemed to think an exponential increase is just a rapid increase.
- (c) Although over half the candidates gained the mark for giving another consequence of the human population increase, with answers such as overcrowding, or a lack of resources being common, a noticeable number did not follow the instructions and gave examples of pollution.

SECTION C - MODULE B3

Question 10

- (a) Most candidates gained at least one mark but relatively few gained both. Common incorrect answers included zygote or gamete or haploid instead of diploid, and meiosis instead of mitosis.
- (b)
 - (i) Most candidates correctly plotted the graph, although significantly fewer drew an acceptable line. To gain the mark, the line had to be a smooth curve through all the points. 'Sketchy' lines that seemed to be several lines did not score. Candidates should be advised to plot points using crosses, not dots, and to use a sharp pencil.
 - (ii) Most candidates gave the correct answer of 0.6 (kg), or an answer that was in the acceptable range.
 - (iii) Most candidates correctly explained that the graph could be used to indicate growth problems. The common unacceptable answer was simply 'to see how she grows', with no explanation of why this might be necessary.

Question 11

- (a) (i) Most candidates could correctly name the vessels as capillaries.
- (a) (ii) Around two thirds of candidates knew that capillaries allow the exchange of materials.

- (b) To gain the mark it was necessary to make a comparison, stating that arteries have thicker walls, or more elastic or more muscular walls than veins. That arteries have 'thick' walls was not enough. Around half the candidates gave a valid answer. A noticeable minority referred to thick(er) cell walls, which of course negated any mark they might otherwise have got.

- (c) (i) Around half the candidates gained the mark for describing changes in DNA in terms of base changes.
- (c) (ii) Far fewer candidates, compared to part (i), correctly answered this question, for which candidates had to describe a change in the amino acids.
- (c) (iii) The acceptable answers as to why some people are worried about genetic engineering were either the ethical issues, or the possible unknown consequences. That it just might not work was not sufficient. References to mutations, designer babies or a genetic underclass were also not acceptable answers. Just less than half the candidates gained the mark.

Question 12

- (a) Candidates who simply repeated the question, explaining that enzymes become damaged at high temperatures, obviously gained no marks. To gain full marks it was necessary to refer to denaturing or the active site changing shape. Over half the candidates gained at least one of the two marks.

- (b) Just less than half the candidates chose the correct description, that bases code for the amino acid order in proteins.

Question 13

- (a) Just over half the candidates correctly identified the villi.

- (b) About a third of candidates gained both marks for explaining how the large surface area of the small intestine is important for the rapid absorption of food. A lot of candidates however seemed to confuse absorption with digestion.

- (c) Over half the candidates correctly gave another adaptation of the small intestine, other than its large surface area. Commonly, answers referred to the blood supply or its thin wall. As in Q.11(b), a number of candidates lost the mark because they referred to cell walls.

B632/01 Unit 2: Modules B4, B5 and B6 Foundation Tier

General Comments

Less than 60 candidates sat this paper in this session and so it is difficult to make meaningful generalisations.

However, most of the candidates seemed to have attempted the correct tier and a wide spread of marks was achieved.

The bar chart in question 1 was well handled but the line graph in question 8 proved more challenging.

The weakest area without a doubt was that of genetic engineering with very few candidates gaining any credit in question 10(b)(i).

Comments on Individual Questions

SECTION A - MODULE B4

Question 1

- (a) (i) (ii) These two questions provided an accessible start to the paper and most candidates scored at least one mark here.
- (b) This was reasonably well answered although some candidates were distracted by all the other incorrect options.
- (c) (i) The majority of candidates could extract the correct figures from the graph.
(ii) Disappointingly few candidates scored on this question despite the intended accessibility of the mark scheme. Many tried to overcomplicate their answers and made errors.

Question 2

- (a) Very few incorrect answers were seen.
- (b) A number of incorrect references to viruses and carbon dioxide were seen but this was generally answered well.
- (c) Some candidates seemed to think that the microbes are directly responsible for plant growth but a significant number of the candidates realised the importance of the microbes in breaking down the dead plant material.

Question 3

- (a) This was well answered by most candidates as they were able to make the link between producers and food production.
- (b) The majority of candidates simply stated that water entered the plant in the roots and moved up to the leaves. Very few stated that this was through the xylem and was powered by transpiration.

Question 4

- (a) Well answered by most candidates with some even referring to the role of root hairs.
- (b) Disappointingly few candidates could make the link between magnesium and chlorophyll production.
- (c) Although few candidates could make the link with chlorophyll production in (b), more realised that the absence of magnesium turned leaves yellow.

Question 5

- (a) A number of candidates realised the importance of stomata in gaseous exchange but many still believe that water is taken in by this route.
- (b) Well answered by some candidates although some obviously confused this with photosynthesis and discussed surface area.

SECTION B - MODULE B5

Question 6

- (a) Approximately half of the candidates correctly identified red blood cells and white blood cells but most of the remainder transposed the two labels.
- (b) Well answered by many of the candidates.
- (c) Anti-coagulant was correctly identified in many cases but the incorrect answers were split between the two distracters.
- (d) Very few of the candidates could recall the term for this condition.

Question 7

- (a) Many candidates correctly identified cartilage but a number chose bone or bone/cartilage.
- (b)
 - (i) Gills were stated by the majority of candidates but lungs were a popular alternative.
 - (ii) Many could make the link between oxygen and energy although marks were often lost by candidates making statements such as 'oxygen supplies energy'.
- (c) Correct descriptions of a single circulatory system were rarely seen.
- (d) Many candidates identified the insects circulatory system as 'open' but the smaller vessels were often referred to as bronchioles.

Question 8

- (a)
 - (i) A wide range of organs were seen here, but rarely the lungs.
 - (ii) Rather surprisingly more candidates could identify the liver here than scored marks in (i).
- (b)
 - (i) Well answered, with some candidates describing the reverse situation.
 - (ii) It was disappointing that so many candidates failed to take more care in reading this value from the graph.
- (c) The key idea of evaporation was missing from most candidates answers.

Question 9

- (a) This was answered correctly by most candidates.
- (b) Very few candidates could state mitosis or spell it carefully enough to distinguish it from meiosis.

SECTION C - MODULE B6

Question 10

- (a)
 - (i) Very few errors were made here.
 - (ii) Most candidates gave a viable route into the body.
 - (iii) Malaria proved to be the most common incorrect answer here.
- (b)
 - (i) (ii) Very few candidates could give any correct statements concerning genetic engineering and the calculation was equally poorly answered.
- (c) Many candidates seemed to appreciate the small size of bacteria.

Question 11

- (a) The majority of candidates answered correctly but zooplankton was a common distracter.
- (b) Perhaps surprisingly this question proved more difficult than (a) with a number of candidates thinking that the aquatic plants do not need water.
- (c) Almost no correct answers were seen here.
- (d) Many candidates failed to score here, assuming that the fertilisers must have fallen from a ship or were dumped overboard.

Question 12

- (a)
 - (i) Correctly answered by most candidates.
 - (ii) A significant number of candidates failed to answer this question. Presumably they failed to read the question and skipped on to (b) in error.
- (b) Well answered by the high scoring candidates but many of the other candidates lost marks by trying to include yeast in the equation.
- (c) There were many vague answers about environmental damage that were not credited. Other candidates seemed to forget that gasohol does contain petrol and so incorrectly stated that it is sustainable.

B632/02 Unit 2: Modules B4, B5 and B6 Higher Tier

General Comments

This paper was sat by a small cohort of candidates in this session. It is therefore difficult to produce any generalisations but the paper did produce a wide spread of marks.

There were certainly a small number of candidates who would have been better served by a foundation tier entry.

Whilst some excellent scripts were seen there were several common sources of errors. Candidates lost marks from a lack of written precision in question 7 (c) and a lack of graphical precision in question 8 (b).

These errors may have been in part caused by the candidates' relative inexperience in examination situations.

Comments on Individual Questions

SECTION A - MODULE B4

Question 1

- (a) The majority of candidates correctly identified the definition of intensive farming.
- (b)
 - (i) A significant number of candidates lost marks on this question by failing to back up their argument by using figures from the graph, although prompted to do so. Of the number that did use figures, there were some who carelessly dropped zeros from their answers.
 - (ii) There were some good answers referring to eutrophication or the killing of non-target organisms by pesticides. However, there are still many candidates who confuse the actions of pesticides and fertilisers. Others just made vague statements concerning pollution.

Question 2

- (a) There was some confusion here between the feeding of saprophytes and the decomposition by bacteria and fungi. Many candidates saw these as separate actions, one leading to the other. The best candidates correctly discussed extra-cellular digestion.
- (b) This proved to be one of the least accessible questions on the paper with few candidates being able to discuss the osmotic actions of the sugar. Many just stated that the saprophytes cannot eat sugar.

Question 3

- (a) There were some good explanations of the passage of water through the xylem with references to the importance of evaporation from the leaves. Some candidates lost a mark for simply describing the pathway without referring to the driving force for the movement.
- (b) Many correctly identified phloem, with a wide range of spellings.

Question 4

- (a) Generally well answered although there were some references to growth without mentioning chlorophyll production.
- (b) A range of colours were given here with some candidates simply referring to wilting. However, many candidates correctly gave the answer of 'yellow leaves' even if they did not score in (a).
- (c)
 - (i) A range of answers were given here but many candidates identified active transport.
 - (ii) The link between oxygen and active transport was well explained by many candidates but some tried to link the need for oxygen with photosynthesis.

Question 5

- (a) Many candidates correctly positioned the X but it did seem that some were trying to cover several options with marks on the border of different cells.
- (b)
 - (i) Well answered by many candidates although some obviously confused this with photosynthesis and discussed surface area.
 - (ii) Many candidates simply restated their answer to (i). The top scoring candidates appreciated the significance of the top surface being more exposed than the bottom leaf surface.
- (c)
 - (i) There were many correct answers here but the fourth option was a good distractor.
 - (ii) It was clear that a significant number of candidates believe that water enters the plant through the stomata. There was also some confusion over the direction of gaseous exchange for photosynthesis and respiration.

SECTION B - MODULE B5

Question 6

- (a)
 - (i) This was well answered although a number of candidates tried to assign a wide range of roles to red blood cells.
 - (ii) There were many good descriptions of the link between the shape and surface area although some candidates incorrectly targeted the lack of a nucleus. Weaker answers tried to suggest that 'oxygen molecules get caught in the dimple'.
- (b) Reasonably well answered but a wide range of letters did appear here.
- (c) The answers to this question did not really seem to link to the candidates overall performance. Some had obviously learnt the condition whereas others had little idea.

Question 7

- (a) Again, many candidates had learnt the advantages but some incorrectly referred to protection.
- (b) Well answered by most candidates although some were distracted by the position of the gill slits.
- (c) It was clear that some candidates had some knowledge of what is meant by a single circulatory system but they were unable to describe this clearly on paper. Simply stating that the blood is 'only pumped by the heart once' did not gain credit.
- (d) Answers to this question were probably Centre specific with some candidates well prepared and others with little knowledge about Harvey.

Question 8

- (a) Generally well answered although a range of different organs were seen.
- (b)
 - (i) Well answered with some candidates describing the reverse situation.
 - (ii) It was disappointing that so many candidates failed to take more care in reading this value from the graph.
- (c) A good discriminating question. Good candidates could describe the pituitary / ADH / kidney link but many others could only repeat the information given in the question.
- (d) The key idea of evaporation was seen in about fifty percent of candidates' answers.

Question 9

- (a) Echocardiogram was the most powerful distracter here.
- (b) Most candidates achieved credit here by highlighting the improvements in medical technology.
- (c) Again, well answered by most candidates although some referred to the life expectancy stated in the question.

SECTION C - MODULE B6

Question 10

- (a)
 - (i) Correctly answered by most candidates.
 - (ii) A significant number of candidates failed to answer this question. Presumably they failed to read the question and skipped on to (b) in error.
- (b) Well answered by the high scoring candidates but a number of the other candidates lost marks by trying to include yeast in the equation.
- (c) There were many vague answers about environmental damage that were not credited. Other candidates seemed to forget that gasohol does contain petrol and so incorrectly stated that it is sustainable.

Question 11

- (a) Well answered by most candidates.
- (b) All options were seen but many correctly identified 'rod'.
- (c) All manner of strange ways of contracting 'food poisoning' were seen here, many totally unconnected to food or hygiene.
- (d) Protozoa proved to be the most popular incorrect response.

Question 12

- (a) Many candidates focused on the salt content of sea water and failed to discuss the osmotic problems of living in fresh water although some good answers were seen.
- (b)
 - (i) Many candidates just referred to the faster growth without mentioning the impact on yield.
 - (ii) Some candidates did discuss the dangers of competition if any fish escaped or the possible risk to people but many just focused on a possible cruelty aspect which is not related to genetic engineering.

Question 13

- (a) (i) Lactose was the most common incorrect answer.
- (a) (ii) Disappointingly, many candidates just mentioned the 'preferred taste' rather than the opportunity to use less sugar.

- (b) (i) A large proportion of candidates ignored the '**one other**' phrase in the question and discussed the health issue. Others confused digestion with absorption.
- (b) (ii) Well answered by most candidates although some did imply that it is a person's genes that break down lactose.

Grade Thresholds

General Certificate of Secondary Education
Biology B (Specification Code J643)
January 2009 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	A*	A	B	C	D	E	F	G	U
B631/01	Raw	60	-	-	-	36	29	22	15	8	0
	UMS	69	-	-	-	60	50	40	30	20	0
B631/02	Raw	60	43	34	25	17	11	8	-	-	0
	UMS	100	90	80	70	60	50	45	-	-	0
B632/01	Raw	60	-	-	-	33	27	21	15	9	0
	UMS	69	-	-	-	60	50	40	30	20	0
B632/02	Raw	60	42	34	26	18	13	10	-	-	0
	UMS	100	90	80	70	60	50	45	-	-	0

Specification Aggregation Results

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

	Maximum Mark	A*	A	B	C	D	E	F	G	U
J643	300	270	240	210	180	150	120	90	60	0

The cumulative percentage of candidates awarded each grade was as follows:

	A*	A	B	C	D	E	F	G	U	Total No. of Cands
J643	44.2	82.7	86.5	96.2	100.0	100.0	100.0	100.0	100.0	52

For a description of how UMS marks are calculated see:

http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.

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