UNIVERSITY OF MALTA

SECONDARY EDUCATION CERTIFICATE
SEC

BIOLOGY

May 2012

EXAMINERS' REPORT

MATRICULATION AND SECONDARY EDUCATION
CERTIFICATE EXAMINATIONS BOARD

SEC Biology
May 2012 Session
Examiners' Report

Part 1: Statistical Information

A total of 1469 candidates sat for the Biology SEC examination in May 2012. The Table below shows the distribution of grades for the May 2012 session.

Table 1: Distribution of the candidates' grades for SEC Biology May 201

GRADE	1	2	3	4	5	6	7	U	ABS	TOTAL
PAPER A	76	132	216	234	140			185	6	989
PAPER B				37	49	92	65	211	26	480
TOTAL	76	132	216	271	189	92	65	396	32	1469
% OF TOTAL	5.17	8.99	14.70	18.45	12.87	6.26	4.42	26.96	2.18	100

Part 2: Comments regarding the candidates' performance

2.1 General Comments
•   Overall English used is terrible and very difficult to follow and even understand. This is a serious problem, as it also shows the lack of understanding of the simplest of questions. It seems we cannot assume that SEC candidates can understand English well.
•   Linked to the previous point is the fact that many biological terms were misspelt. In particular scientific binomial names; none of the names written were underlined. The convention is international, yet the SEC candidates seem oblivious to this rule. It is hoped that teachers seriously take note of this issue for future sessions.
•   In some instances the answers were so long that space provided was not enough. In contrast there were also many other instances where the answers were left blank. In both cases, it clearly indicates that the candidates need more preparation to sit for the SEC Biology exam.
•   A lot of marks were lost in basic recall questions, possibly reflecting severe lack of studying or inability to understand questions as already mentioned.

2.2 Comments regarding Paper I

Biology Paper I

Question 1		
		Many candidates stated sugars instead of carbohydrates; alcohol (or alcohol) instead of ethanol; catalysts rather than enzymes/biological catalysts.
Question 2		
a		Most candidates answered this question correctly.
b		Whilst many IIA candidates answered this question correctly, almost none of the IIB candidates gave a correct answer.

c	i	Many IIA candidates answered this question correctly.
	ii	Few candidates mentioned **both** reasons in their answer.
	iii	Many IIA candidates answered this question correctly.
d		Few candidates answered this question correctly. The majority of candidates stated that high levels of hormones are harmful to the body.

Question 3

a		The majority of candidates answered this question correctly.
b		Many candidates stated that since the volume/pressure of blood in the afferent arteriole is greater than the volume/pressure of blood in the efferent arteriole, the former should be wider to accommodate the larger volume and not to burst when conducting blood under pressure.
c		Few candidates linked the length of the PCT and DCT with increased time for selective reabsorption.
d	i	Many candidates answered this question correctly.
	ii	Few candidates linked the presence of mitochondria with the process of active transport.
e		Many candidates answered this question correctly.

Question 4

a		Few candidates answered this question correctly. Many gave 'slurry' or 'bacteria' for an answer.
b		Many candidates gave unspecific answers such as 'environmentally friendly', 'not harmful to the environment'. Several candidates stated that biogas is easy to produce.
c	i	The majority of candidates answered this question correctly.
	ii	The majority of candidates answered this question correctly.
d	i	Several candidates stated that the fermentation process speeds up. Several candidates referred to denaturation of the enzymes without referring to the fermentation process.
	ii	Many candidates stated that the process stops at such a low temperature.
e	i	Many candidates stated that this will make the wine taste sweeter.
	ii	Many candidates answered this question correctly.
f		Many candidates answered this question correctly.

Question 5

a		Many candidates answered this question correctly.
b		Many candidates answered this question correctly. Some candidates incorrectly placed the F1 genotype symbols in the gamete row. Some candidates stated that the condition is X linked.
c		Many candidates answered this question correctly. Some candidates incorrectly placed the F1 genotype symbols in the gamete row. Some candidates stated that the condition is X linked.

Question 6		
a	i	Majority of candidates answered this question correctly.
	ii	Majority of candidates answered this question correctly.
	ii	Majority of candidates answered this question correctly.
b		Majority of candidates did not refer to different genera/species name indicative to the jellyfish belonging to different species. Most of the scientific names were not underlined.
c		Majority of candidates answered this question correctly.
d		Majority of candidates answered this question correctly.
e	i	The majority of answers were incorrect; many stating that jellyfish do not need gaseous exchange. Most candidates ignored the relationship between surface area to volume ratio, arguing that there is no need of gaseous exchange in water once again. These answers showed a serious flaw in most of the candidates; an inability to link biological principles and theory to a simple situation. It is worrying that at the peak of their 'O' level formation candidates point out that a living organism does not require gaseous exchange, relegating the process of respiration to an optional reaction.
	ii	Generally answered well.
	iii	Generally answered well.

Question 7		
a		A significant portion of candidates applied biological knowledge sufficiently well when answering this question. However, a portion failed to grasp the difference between a result and an explanation in throughout the whole question. In addition, many candidates confused the use of the term *concentration*: many did not define the terms of concentration, i.e., whether they were referring to the solute concentration or the water/solvent 'concentration'. Indeed many used these two, interchangeably. A significant proportion still adopted a rather archaic form of expression, referring to a strong and a weak solution without ever defining these terms. It is suggested that candidates are made aware of the clear distinction between an observation and an explanation and that the former is followed by the latter. An observation like 'grow' is unacceptable as it indicates a process of life, which adds on more cells and tissues to a previous mass. The potato cylinders bend, shrink, swell, enlarged, decrease in size and similar but do not grow when placed in a sugar solution/pure water.
b	i	Although most candidates correctly named and described the Iodine test for starch, they omitted the necessary steps to test for starch in a leaf; i.e., boiling in water followed by immersion in alcohol.
	ii	Majority of candidates failed to link the process of photosynthesis to the presence of starch in a leaf (photosynthesis produces glucose which in turn is stored as starch). The answers to this part were often lengthy exceeding the space available; proper use of terms and a logical construction of the answer would have prevented this.

Question 8		
a		Answers were generally incomplete. Very few candidates used the graph to describe the change in the atmospheric level of carbon dioxide. Most answers referred to an increase but not to a constant increase, or a steep increase, etc… Candidates need to be made aware of other ways how to interpret graphical information and that an increase or a decrease is only the first reading.
b		Answers were generally correct. Many omitted the reference to combustion of fuels leading to carbon dioxide release; many simply referred to the use of cars or fuels. In this respect a significant portion of candidates did not realize that by using more cars, opening more factories and generating more electricity in the conventional way, they were still focusing, although indirectly on the same reason: combustion of fossil fuels.
c		Many candidates confused global warming and the science behind it with the problems related to the ozone layer. In addition, a significant portion of the candidates seems to have misunderstood the term consequences. The answers given prove this as most candidates tried explaining global warming rather than listing direct results/effects of this.
d		The majority of answers were correct. Sometimes candidates were unable to decipher properly the biological significance behind the poster. The idea of recycling was overstated and properly grasped but the other two Rs (reuse and reduce) have been, in most cases ignored. Even though the elaborated answers made reference to these, very few candidates used the terms.

Question 9		
a		Majority of candidates answered this question correctly.
b	i	Generally answered correctly, but in some cases candidates confused the spinal cord and the vertebral column. This needs to be addressed by tutors in class.
	ii	Answered correctly by the majority of candidates. Some failed to read the question properly and ignored the structural features part of the question; in fact these candidates gave behavioural features of mammals instead.
	iii	Majority of candidates answered this question correctly.

Question 10		
		Although thus question was mainly a recall question only a small percentage of candidates managed to score marks.
a	i	Answers were generally incorrect. Many candidates failed to recognise the basic names of processes involved in the Nitrogen Cycle.
	ii	Answers were generally incorrect.
	iii	Answers were generally incorrect.
b		Many candidates failed to link the need of nitrogen compounds with the synthesis of proteins and therefore growth. This link is often than not neglected and many opted for the less scientific answers about growing healthily. This needs to be addressed; candidates need to be able to link chemical elements to biological molecules and their significance to life

		forms.
c	i	Generally incorrect answers were presented. Very few candidates wrote the term *Mutualism.* , and the majority answered: *symbiotic* failing to realise that there are several forms of symbiotic interactions, some of which are openly in contrast with mutualism.
	ii	Generally incorrect answers were presented. Many candidates ignored the question and still focused their answer on soil fertility or on the supply of oxygen to the neighbouring community (implying that an area without plants equates to a lack of oxygen).
	iii	Majority of candidates answered this question correctly.

2.3 Comments regarding Paper IIA

Question 1		
a.		Candidates generally answered this question well.
b	i	Generally answered correctly but a number of candidates failed to draw a correct diagram of a fat molecule. Instead some drew a diagram of a blood vessel blocked with fat cholesterol.
	ii	Majority of candidates answered this question correctly.
c		Candidates generally failed to mention that during exercise the heart needs more oxygen and glucose to increase the rate of respiration.
d		The role of platelets was adequately described by the majority of candidates.
e		Most candidates simply copied the text word for word instead of summarizing the roles of the small balloon and stent
f		Candidates often answered this question correctly often citing correctly that a low fat diet and no smoking as two plausible ways to prevent atherosclerosis.
Question 2		
a		For another consecutive year a number of candidates lost marks allocated to the drawing of the bar chart. Notwithstanding that the instructions stated clearly that the two bar charts are to be drawn on graph paper, the same axes, next to each other and well labelled, a number of candidates still disregarded these guidelines. Indeed a number of candidates used squared paper instead of graph paper, drew histograms instead of bar-charts and failed to distinguish between the bars representing France and Spain.
b	i	Practically all candidates presented a correct calculation.
	ii	Practically all candidates presented a correct calculation.
c		Candidates compared the percentage measles cases in France and Spain generally by indicating the higher incidence of measles in infants up to age four in Spain, with a lower rate of percentage cases in adolescents. A number of candidates worked out the difference in percentage cases in both countries which was not necessary, rather than discussing the trend in incidence of measles in both countries.
d		The genetic material and protein coat of the virus structure were well

		mentioned by the vast majority of candidates. Some candidates also included a diagram to show the general structure of the virus.

Question 3

a		The majority of candidates failed to list two structural characteristics of prokaryotes.
b		Candidates also failed to distinguish clearly between heterotrophs and autotrophs. Most candidates defined heterotrophs as animals that eat *ready made food*. Most definitions did not include any reference to the notion that heterotrophs obtain nutrients from complex organic substances. Autotrophs were generally better defined – most candidates referred to the ability of autotrophs to *synthesize their own food by the process of photosynthesis*.
c	i	Candidates often cited the need to pasteurise milk in order to kill pathogenic bacteria in milk.
	ii	The lack of detail and high proportion of incorrect answers reflects that candidates are unfamiliar with the role of bacteria in yoghurt production.
d	i	Generally a correct answer was presented.
	ii	The need to reduce raw sewage in water was greatly linked to a general reduction in eutrophication and to avoid the death of marine organisms. Candidates also related the need to treat sewage to a reduction in pathogens and disease. Some candidates only mentioned a general reduction in sea pollution without qualifying the answer further.
	iii	Generally a correct answer was presented.
e		The answers to questions concerning genetic engineering, often lacked the necessary details, consequently a number of marks were lost in this part of the question.
	i	A substantial number of candidates did not define the term genetic engineering correctly.
	ii	Majority of candidates did not define recombinant DNA in appropriate biological terms.
	iii	Majority of candidates were unable to describe the role of plasmids in genetic engineering. Indeed it seems that most did not know what a plasmid is.
f		Answers clearly indicate that candidates are aware of the hygiene practices concerning food preparation.

Question 4

		Answers clearly indicate that most of the candidates who attempted this question had serious difficulties in discussing biological concepts. The lack of necessary biological details rendered most answers superfluous. The information given was often too generalized and thus irrelevant.
a		General misconceptions of mutations include the mutations are *negative reactions of the body towards some foreign substances body changes due to unstable internal environment, sudden changes that affect the physical outcome of a new-born*. Whenever mutagens were mentioned x-ray radiation

		was commonly cited. Gamma, radiation, UV and chemicals such as tar were only mentioned in isolated cases.
b		Candidates often discussed fish farms without referring to biological concepts. Candidates failed to mention the excessive use of antibiotics and pesticides as main disadvantages. Most candidates only referred to the higher probability of disease and pollution from fish waste. A number of candidates referred to the presence of cages next to shores. Answers indicate a clear misconception of fish farms – i.e. that fish farming is limited to a process where small fish are caught and bred until they are fully grown.
c		Candidates often referred to the need of classification to facilitate understanding among biologists and to avoid confusion. References to genus and species names were adequate too. However, the need of classification for easy identification of organisms and to highlight evolutionary links was often overlooked.
d		The need of transpiration to bring a cooling effect in plants was discussed extensively. However, only a minority of candidates linked transpiration to allow uptake of water and mineral irons.
e		The advantages of growing crops in glasshouses were often linked to the provision of optimal temperature and the growth of products out-of-season. The provision of extra lighting, enriched carbon dioxide and monitored water/nutrient supply were often omitted. A number of candidates referred to the ease of controlling pests and plant disease in a glasshouse. Some candidates confused the term glasshouse with that of greenhouse effect!
f		The vast majority of candidates did not distinguish between the exocrine salivary glands and the endocrine thyroid glands. Candidates often referred to saliva and to thyroxine but failed to indicate that the former is secreted in the mouth through the salivary ducts whilst the latter is directly secreted in the bloodstream for distribution to the target organs.
Question 5		
		Question 5 was a popular question with candidates probably their choice fell on this question due to the diagram.
a		Most definitions were incomplete as candidates either failed to mention the concept of interaction or else left out the abiotic factors.
b		Majority of candidates recognised that removing the tree would result in the death of all organisms, some even went so far as to mention that the animals would become extinct. The fact that the oak tree was a producer and so all other organisms in the food web depended on it was also mentioned correctly by a good number of candidates who attempted this question. However not all those who answered that the oak tree is a producer mentioned the fact that it carries out photosynthesis i.e how the oak tree gains energy.
c	**i**	Most of the answers were correct. Candidates related between the removal of a species from a food web and the resultant ecological pressure on the other organism.
	ii	Most of the answers were correct.
d		Most candidates defined the term *parasite* with varying degrees of detail, for example there were instances when the "host" was mentioned, others included a distinction between ecto and endo parasites with examples. Some

		candidates omitted the fact that parasites harm their host.
e	i	Most candidates failed in drawing a correct pyramid of numbers, with a substantial proportion failing to score full marks for this part. Some answers were just pyramid of numbers with a wide base and a pointed apex showing that candidates did not understand the relationships in the foodchain. Others seemed to understand the correct sequence in the food chain, but not the numbers involved.
	ii	Most candidates did not recognise that a large number of deer ticks are supported by a smaller population of deer mice.
f		Candidates generally mentioned excretion and egestion as ways how nutrients may be returned to the red oak. Those who mentioned the death of the blue jay did not always link to decomposers. There were some good answers which even included a description of the nitrogen cycle.
g		Few candidates listed the three reasons and instead most mentioned two, the most popular being *respiration* and *excretion*.
h		The two characteristscs of dicot leaves were not given by a majority of candidates. Indeed some mentioned other characteristics of dicots such as dicotyledon seeds, floral structure or roots. This could well mean that candidates misread the question. The most popular answer was narrow leaves, the parallel venation was not mentioned as much as the former charactersitic.

Question 6

a	i	Answers to this question varied from mainly correct answers missing some minor detail to completely wrong answers. Majority of answers reflect that candidates could not device an experiment even if this question reflects experiments carried out in class.
		In this question candidates showed knowledge of the theory of enzymes and how they are effected by temperature but left out some important steps when planning the experiment. Two main errors were that few candidates gave a complete range of temperature to investigate the change in the rate of reaction and some candidates added amylase to starch before adding iodine. In fact in many of these answers iodine was added after a certain time to the test-tube. Very few candidates mentioned that the two solutions should be acclimatised before mixing.
		It was noted that candidates rarely mentioned the need for a control experiment.
	ii	Majority of answers were incorrect due to one of the following reasons: • Suggesting correctly that equal volumes should be used throughout the experiment but failing to state that this was done to change only one variable i.e temperature. Indeed several candidates simply mentioned so that the experiment is fair and accurate. • Suggesting incorrect procedures to be used as precautions; e.g. heating testubes directly instead of using water baths. • Confusing precautions required e.g. mentioning that the exact time intervals are taken between one temperature reading and another.

		• Incorrectly stating standard procedures such as washing of apparatus as precautions.
	iii	Most candidates answered this question well.
b	**i**	Majority of candidates did not score full marks in this part of the question because few explained the initial part of the graph where the rate of reaction increased with temperature until optimum temperature was reached.
	ii	Most candidates failed to give two reasons why amylase does not act on starch in the stomach. They often referred to the acidic pH in the stomach but did not mention that amylase is broken down by pepsin.
c	**i**	The majority of candidates knew the function of bile and to a lesser extent the meaning of emulsification. Most candidates knew that lipase digests fats but less specified that fats are digested into fatty acids and glycerol.
	ii	Although most answers were correct, some candidates repeated the answer to question ci. They did not mention that emulsification increases the surface area of fat droplets.

Question 7

		As in previous years a question on human reproduction was attempted by a high percentage of candidates. Most scored a fair amount of marks.
a		Most candidates answered this question correctly.
b		Most candidates answered this question well. However some gave incorrect answers often stating that the uterus or the vagina is the site where meiosis takes place.
c	**i**	Some candidates lost marks as they gave partial answers. Few candidates stated that sperms are deposited in vagina or that it acts as a birth canal. Most suggested that the vagina is the duct from where the menstrual flow comes out of the female. The term *birth canal*. Was practically never used.
	ii	Although most candidates suggested that the oviduct allows the movement of the ovum from the ovary to the uterus, answers suggest that majority are not aware that this is the site where fertilisation takes place.
	iii	Most candidates correctly referred to the production and release of ova from the ovary but rarely referred to its hormone releasing function.
	iv	Most candidates correctly mentioned the function of the uterus as the site of implantation but few referred to its role during birth. Some candidates also mentioned that menstruation is linked to the collapse of the uterine wall and the menstrual flow.
d		Most candidates listed one physical sign of a pregnant female correct, often referring to "*the increase in the size of breasts*", the other changes were rarely mentioned except for morning sickness, vomiting and nausea. Referred to enlargement of the belly was not accepted as per marking scheme. Some wrong answers included production of milk, anxiety, moody, etc.
e		Majority of candidates answered this question correctly.
f		Most candidates answered this question well but several did not mention lutenising hormone.
g		Most marks were lost in this part of the question.
	i	The crab louse was incorrectly classified as a crustacean by the vast majority of candidates, indicating that they stuck to the popular name and completely

		disregarded the features in the diagram to classify it.
	ii	Candidates often gave one correct characteristic instead of two. The characteristics mentioned were jointed appendages, one pair of antennae and presence of claws. Some gave characteristics which could not be observed in the diagram
	iii	Most candidates defined *incomplete metamorphosis* well, but few mentioned moulting /ecdysis.
	iv	Few candidates answered this part correctly many mentioned the waterproof exoskelton but did not mention the epicuticle or cuticle.

Comments regarding Paper IIB

Question 1		
a.		A high percentage of candidates disregarded instructions and plotted the graph on square paper instead of graph paper. Axis were often labelled well and bars were plotted correctly, although in a few cases candidates drew a histogram instead of a bar graph. The scale on the y axis was generally correct.
b		Most answers were correct or partially correct as numbers were often rounded up incorrectly.
c		Most answers were correct or partially correct.
d	**i**	Sometimes candidates drew a bacterium instead of a virus. Although the protein coat and DNA were often included and labelled however, some candidates incorrectly labelled these structures as the cell membrane and cytoplasm. This indicated that candidates still did not understand that viruses do not have a proper cell structure.
	ii	Answers were often incorrect because candidates did not highlight structural differences between viruses and bacteria as stated in the question.
	iii	Practically all answers mentioned the presence of flagella in bacteria and their absence in palisade cells. Although this was accepted, one should note that not all bacteria have a flagellum. Comparison of cell shapes was also included. This was generally incorrect as all bacteria were described as 'spherical' whilst palisade cells were described as 'rectangular'.
e	**i**	Majority of candidates correctly referred to night blindness or blindness in dim light.
	ii	Sometimes candidates correctly described the symptoms of a deficiency disease but failed to name it as stated in the question. Therefore no marks were rewarded in this case. The examiners note that osteoporosis or kwashiorkor is not a deficiency disease.
Question 2		
a	**i**	Although answers were generally correct, sometimes candidates did not compare structural features of arteries and veins as stated in the question.
	ii	Often answered correctly.

b		Often answered incorrectly as candidates often drew fat deposits inside an artery instead of a fat molecule.
c		Most candidates correctly mentioned the interruption of blood flow but failed to mention that oxygen does not arrive to the organs. None of the candidates referred to the effect on respiration.
d		Though candidates often named the arteries correctly, they were generally unable to identify the chamber of the heart to which they are attached. Also, a common mistake included reference to the renal artery as being attached directly to the heart.
e		Candidates generally presented a correct answer.
f		Often answered correctly as they were taken directly from the given extract.

Question 3

a		A common mistake was mentioning types of gas exchange surfaces instead of their characteristic features.
b	i	A very common mistake included unspecific answers such as 'living in polluted areas', 'living in the main roads'.
	ii	Answers were often partially correct. Most candidates suggested that alveoli burst and referred to a lower surface area. Very often and not only in this case, candidates confused surface area with surface area to volume ratio and mixed up the 2 concepts in their explanations.
c	i	Correct answers where often presented.
	ii	Correct or partially correct answers were often presented.
	iii	Candidates very often gave incorrect answers or misspelt the term *medulla oblongata*.
d	i	Candidates often answered this question well.
	ii	Majority of candidates referred to the concept but failed to explain it thoroughly. Respiration was rarely mentioned here and more emphasis was given to the presence or absence of light.
	iii	Candidates answered incorrectly or incompletely.
	iv	Most answers were incomplete as they included no reference to trapping of light thus providing more energy for photosynthesis.
e		Often answered incorrectly as most candidates suggested that submerged leaves do not need oxygen so have no stomata.

Question 4

a		Majority of candidates answered this question well.
b		Answers were often correct though sometimes numbers were confused or generalised to haploid and diploid.
c		Although generally correct, candidates often incorrectly suggested that meiosis occurs in '*pollen*' and '*ova*'.
d	i -	Several candidates answered all the parts of this question well. A

	iv	significant number omitted it.
e		Although most candidates correctly referred to the release of the egg, very few candidates actually used the term ovulation.
f		Answers were generally correct.
g	i	Candidates often confused the name of the phylum Arthropoda with the name of a particular class, generally Crustacea or Insecta.
	ii	Answers were generally correct but sometimes lacked specific detail e.g. 'have legs' rather that '3 pairs of legs'. These answers were not accepted.
	iii	Answers were often incorrect. The terms *nymph* and *moulting* were never encountered.
	iv	Answers were generally incorrect.

Question 5

a		Candidates were generally unable to define the term prokaryote, often limiting their answer to '*prokaryotes are bacteria*'.
b		Correct answers were generally presented.
c		Answers were generally correct but sometimes definitions were confused or swapped.
d	i	Although the term '*pathogen*' was never encountered, candidates generally gave correct reasons for pasteurisation.
	ii	All candidates answered this question incorrectly. Breakdown of lactose into glucose and galactose was never encountered.
e	i	Although answers reflected correct concepts, biological terms like eutrophication, pathogens, algal blooms were not mentioned. Candidates gave generalised answers which do not meet the standards required at SEC level.
	ii	Answers were often incorrect.
f		Candidates often described GMOs and their effects. Others explained how people can determine eye color of a baby through genetic engineering. However a correct scientific explanation of the procedure was never encountered.
g		Candidates never mentioned spores in their answers.

Question 6

		This question was chosen by a small group of candidates.
a	i	The list of apparatus presented was often partially correct but never complete.
	ii	Very often the range of temperatures given was not correct because it was a narrow range e.g. from 20°C to 50°C only.
	iii	None of the candidates described a correct experimental procedure.
b		Candidates generally listed a precaution that was not specific to the experiment e.g. *wearing safety goggles; using tongs*.
c	i	Majority of candidates answered that the rate increased, but could not explain why this happened.
	ii	Majority of candidates answered that the rate decreased ad correctly

		referred to the denaturation of the enzyme.
d	**i**	Generally correct answers were presented.
	ii	Incorrect answers presented reflect that candidates often misunderstood this question.
e	**i**	Majority of candidates answered this question incorrectly.
	ii	Candidates often answered this question incorrectly. The term *emulsification* was never used.

Question 7

a		Candidates often presented an incomplete or an incorrect definition of an ecosystem. Incorrect definitions suggest that most candidates often confused the definition of an ecosystem with that of a habitat.
b	**i**	Majority of answers were correct.
	ii	Often candidates suggested that organisms would become extinct, unfortunately misusing the term.
c	**i**	Majority of answers were correct.
	ii	Majority of answers were correct.
d		Candidates often suggested that parasites feed on other animals but failed to state that the host is harmed. Two common misconceptions were identified: a) parasites attack animals only; b) parasites are 'insects that suck blood'.
e		Majority of candidates answered this question correctly.
f		Majority of pyramids drawn had an incorrect shape.
g		Although candidates often mentioned excretion in their answers, they rarely mentioned decomposers.
h		Majority of candidates answered this question correctly.

Question 8

		In this question marks were generally deducted as answers lacked detail and / or biological explanations for the given statements. Candidates wasted time, sometimes writing very long paragraphs based solely on common-day lay statements.
a		Candidates often referred to a universal naming system, but did not give at least one other point to system was the point most frequently encountered.
b		Candidates correctly suggested that greenhouses allows the growth of crops out of season but could not identify other advantages.
c		Often answered incorrectly, linking regurgitation to the ability to chew grasses better. Candidates never referred to mutualistic bacteria in the stomach and fermentation of cellulose.
d		Candidates often explained correctly how deforestation affects soil erosion but never explained the link to mineral leaching well.
e		Few candidates correctly mentioned wind and insect pollination but often failed to describe floral adaptations properly.

Chairperson
Board of Examiners
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