

2010 CHIEF MARKER PUBLICATION REPORT ON MARKING

INSTRUCTIONS FOR COMPLETION

- The report on marking is a comprehensive report that will serve the following three objectives:
 - Provide an evaluation of the question paper and marking guideline.
 - Provide an in-depth analysis of the nature of learner responses, which will facilitate feedback to teaching and learning.
- This report must be completed by the **CHIEF MARKER in conjunction with the senior markers.**
- The report must be completed in detail and single word responses will not be accepted.
- Where additional space may be required, use a separate page which must be appended to this report.
- The final report must be approved and signed by the Head of Examinations in the province.
- The report must be submitted to the responsible WCED official at the marking centre.

SUBJECT	LIFE SCIENCES	
PAPER	PAPER 1	
GRADE	12	DURATION OF PAPER : 2½ HOURS
PROVINCE	WESTERN CAPE	
CHIEF MARKER	NAME: DR L STRYDOM CONTACT DETAILS: 0829266967	

PART ONE: EVALUATION OF QUESTION PAPER AND MARKING GUIDELINE

QUESTION 1
<p>1. General comment on the performance of candidates . Was the question well answered or poorly answered? Generally speaking, Q1 was on one1 broad topic and this made it easier for candidates to tackle.</p> <p>1.2 Mostly well-answered.</p>
<p>2. Why question was poorly answered: Also provide specific examples</p> <p>1.2.2 The word 'disease' in the question led candidates to write a type of cancer in their answer. No credit was given for a type of cancer.</p> <p>1.4.2 It would have been better if the question specifically asked for the number, and possibly, how many were expected.</p> <p>1.5 This question was poorly answered. Candidates were unable to explain the purpose of the sequence of the codons in m-RNA. In 1.5.4 (b) many candidates described the role of t-RNA as forming amino acids.</p> <p>1.6 The graph dropped on Day 6. Not usually seen on graphs candidates are taught – may have confused them. Most graphs shown in schools indicate that ovulation occurs on Day 14, but this graph peaks on Day 24. This may have also confused candidates. Advice to teachers is that candidates must realize that graphs given in the exam could differ from the one they studied in class. Candidates must be able to apply knowledge in an unfamiliar situation.</p>
<p>1.7.2 The wording of the question led candidates to calculate the average, rather than comparing the onset of puberty.</p> <p>1.7.3 The question should have included the phrase 'with reference to the graph'. Candidates gave reasons that had nothing to do with the graph and therefore lost marks. Normally, questions that are accompanied by a graph imply that candidates must use the information on the graph as well as knowledge acquired to answer the questions.</p> <p>1.7.4 The wording of this question was not consistent in the Afrikaans and English versions. It was not clear that a statement AND reason was required in order to get 2 x 2 marks. Teachers should give guidance to candidates that they must be prepared for questions that are asked according to LO3. The candidates must read thoroughly to know what is expected of them. Candidates had to write about 'not having children at a young age' and not about 'how to prevent having children'.</p>

<p>3. Provide suggestion for improvement in relation to the following :</p> <p>(i) Learning and teaching More data-response with graphs could be done by teachers. The interpretation of application questions regarding LO 3 could be more emphasized as well.</p> <p>(ii) Support CAs must ensure that the teachers are equipped with the necessary skills by giving enough examples of such questions. Teachers must also use more learning material than just one textbook.</p>
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<p>QUESTION 2</p> <p>1. General comment on the performance of candidates . Was the question well answered or poorly answered? This question was very poorly answered by many candidates. 2.3. Was well answered by most candidates. Some candidates confused ribose sugar with ribosome, while ribonucleic acid was provided as a difference. Some candidates did not tabulate. Some candidates included differences other than structural differences. Teachers need to emphasize the importance of using correct terminology.</p> <p>2. Why question was poorly answered: Also provide specific examples 2.2.2 There were too few marks allocated to this question and the memo was restrictive in that candidates who provided perfect or almost perfect crosses lost marks for simply not including the labels e.g. genotype and phenotype A possible reason for this appeared to be that candidates had a very limited knowledge of cell division and genetics. . The memo differed from previous years as far as mark allocation was concerned.</p> <p>3. Provide suggestion for improvement in relation to the following :</p> <p>(i) Learning and teaching Teachers must emphasize the importance of using correct biology terminology e.g. "homologous chromosomes" instead of "chromosomes". It appeared that the process of cell division was not properly taught A standardized genetic crossing template must again be provided for candidates, based on this marking memo structure.</p> <p>(ii) Support Seeing that we are starting with a new syllabus, exemplars must be distributed to schools to help them prepare the candidates for the final exam. Candidates must read the introductory paragraph of a question very carefully. It often gives information that is needed to answer the questions that follow. Normally, information given in a table must be adapted with the necessary insight to get to the answer. When a candidate just explains what he or she sees on the table, it does not answer the higher- order question.</p> <p>4. Describe any observations relating to responses of candidates: e.g positive, negative, outstanding etc. In some questions, candidates would have done very well if they had known their work.</p> <p>5. Any other comments useful to teachers, subject advisors Normally, when diagrams are given, labels are required. Therefore candidates must remember that genetic crossings cannot just be indicated by giving the crossing. The labels indicating the genotype and phenotype, gametes, meiosis and fertilization, P1 and F1 must accompany the crossing. Candidates must be careful not to rewrite the question in an answer form. They will not be credited.</p>

<p>QUESTION 3</p> <p>1. General comment on the performance of candidates. Was the question well answered or poorly answered? Answered reasonably well.</p>
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2. Why question was poorly answered: Also provide specific examples

3.1.3 Many candidates could not distinguish between haploid (gametes) and diploid (zygotes) and the development thereof) and, as a result, answered the question incorrectly. Candidates confused the nuclei with chromosomes and wrote 4 chromosomes instead of 46.

3.1.4 Candidates at certain centres copied the whole diagram (sperm and egg cells) instead of an enlargement of the sperm cell. They did not follow the instructions.

3.1.6b) Many candidates did not write nitrogenous waste, but simply 'waste'. No credit was given for this.

3.1.5 'Assists in birth' is a reason given in textbooks, but was not credited in this paper. Many candidates wrote this as a reason. It may have been a good idea to include 'during pregnancy' when stating the question.

3.3.2 A large number of candidates did not know that bees are animals and therefore answered this question incorrectly.

3. Provide suggestion for improvement in relation to the following:

(i) Learning and teaching

CAs must emphasize to teachers that they must not be textbook-bound and that common names or dialect cannot replace scientific terminology.

Candidates must be given diagrams so as to practise drawing. The technical aspects of drawing, e.g. in pencil, size, heading, label lines, must be stressed. How marks are allocated in the exam must also be emphasized.

Teachers must ensure that plants are properly taught at school. It should be tested at school and not be disregarded because it is a 'small section'.

Candidates must remember when a term that indicates a process is asked for, they will not be given credit for explaining the term.

(ii) Support

Standard-setting meetings could be a good way of sharing information between schools.

Use past papers for practice – the more exam papers candidates work through, the better.

Teachers must not follow a textbook. Follow the information given by the WCED, e.g. exam guidelines, so that candidates are not disadvantaged at the end of the year because work was not taught as expected.

4. Describe any observations relating to responses of candidates: e.g positive, negative, outstanding etc.

Generally speaking, this question was answered well.

5. Any other comments useful to teachers, subject advisors

See learning and teaching.

QUESTION 4

1. General comment on the performance of candidates . Was the question well answered or poorly answered?

Candidates performed fairly well in questions 4.1 to 4.3. The performance of candidates in question 4.4 was either good or extremely poor.

2. Why question was poorly answered: Also provide specific examples

4.2.1 Candidates gave the percentages instead of the ratio, as stipulated in the question.

4.2.3 Candidates had problems getting the caption of the graph correct. Some candidates did not mark off the scale on the y-axis. The labeling of the x-axis also posed a problem since one can regard 'breeding pairs' as a unit being used as label for the axis. When units are independent variables, they could be on the x-axis. The candidates were being tested to see whether they knew where to place the variables.

4.3.1 – 4.3.2 It was quite evident that candidates did not read the question thoroughly. They confused blood donation with blood typing. More background information could have been given on blood typing.

4.4 This question took the majority of candidates by surprise. It was obvious that stem cells weren't taught at many centres. The reason could be that the exam guidelines said "mention only". It was clear that, at some centres, stem cells had been taught and those candidates received full credit. The rubric given for the marking of the essay will always focus on the content of the answer, and not on the layout of the question.

<p>3. Provide suggestion for improvement in relation to the following:</p> <p>(i) Learning and teaching To prevent confusion, standardized requirements for graphs, across subjects such as Mathematics, Math Lit, Physical Science and Life Sciences, are recommended. Teachers should use the examination guidelines to ensure that all the content is covered Skills and strategies acquired in the marking process should be taken back to schools and shared amongst the teachers, and across the grades Caption of graphs must always contain both dependent and independent variables. Teachers must practice examples with the candidates to help them understand this concept. The mini-essay will always assess writing skills. This will be credited for their synthesis. Teachers should explain what synthesis is to the candidates and why it will be given on the question paper.</p>
<p>(ii) Support WCED: The examination guidelines given to schools should guide teachers with regard to the content and the depth thereof. A list of approved textbooks that complement the guidelines will be of much assistance to teachers. Areas of development in the 2010 NCS examination can be discussed in cluster sessions in the various districts</p>
<p>4. Describe any observations relating to responses of candidates : e.g positive, negative, outstanding etc. Out of the sample of 100 scripts, the average for question 4.4 was 2 out of 15. This is a clear indication of confusion in relation to the teaching of the syllabus. It is clear that candidates did not expect a 15 mark mini-essay on this topic.</p>
<p>5. Any other comments useful to teachers, subject advisors</p> <ul style="list-style-type: none"> • Definitions generally poorly phrased. • Examination techniques of candidates need to improve. • The difference between “explain”, “describe” and “state” must be emphasized. • Lack of understanding of basic terminology was very disappointing. • No comments to be written on answer sheets. • Correct numbering of answers (candidates can lose marks) • Teachers need to be reminded that spacing between answers to subsections in scripts is vital.