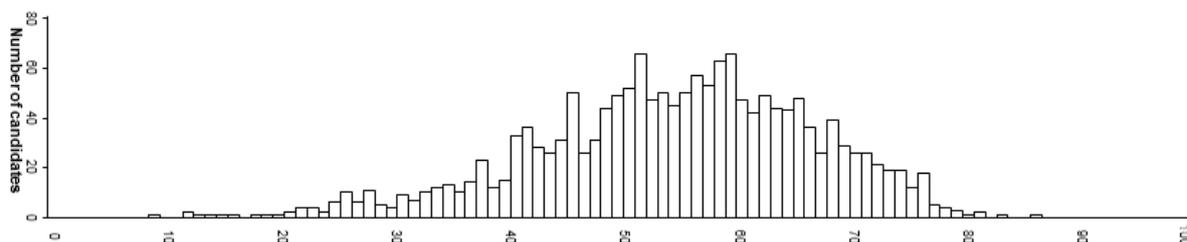




Summary report for candidates on the 2015 WACE examination in Biological Sciences Stage 3

Year	Number who sat	Number of absentees
2015	1653	21
2014	1080	9
2013	1604	18

Examination score distribution - Written



Summary

Attempted by 1653 Candidates: Mean 54.83% Max 87.25% Min 9.00%

The examination had three sections. Section One comprised 30 multiple-choice questions, Section Two comprised five short answer questions and Section Three comprised six extended answer questions in two parts, A and B. Candidates were required to answer all questions in Sections One and Two, and four questions in Section Three, two from Part A and two from Part B.

The mean score for the examination was 54.83%. The standard deviation was 12.29% and the marks ranged from 87.25% to 9%. The sectional mean scores, standard deviations and maximum and minimum marks were:

Section One: Multiple-choice (/30)

Mean 23.38, Standard Deviation 3.67, Max 30.00, Min 7.00.

Section Two: Short answer (/50)

Mean 23.30, Standard Deviation 6.93, Max 42.50, Min 1.00

Section Three: Extended answer (/20)

Mean 8.19, Standard Deviation 2.88, Max 16.50, Min 0.00

The scores for each section showed a strong positive correlation with the examination total, with the value of the correlation ranging from 0.96 for Section Two to 0.85 for Section Three.

General comments

All 1653 candidates attempted Sections One and Two and virtually all (1645) also attempted Section Three. The high proportion of genuine attempts across all sections suggests that the paper was the correct length. The broad range of marks indicates that the discrimination of the paper was good for each section and overall.

On average, candidates did best in Section One (77.93%). The mean scores for Sections Two and Three were below 50%, although these sections achieved better discrimination than Section One.

The overall mean of 54.83% was considerably lower than that of 61.13% in 2014. This was mainly due to lower scores in sections Two and Three. The maximum overall scores in 2015 and 2014 were very similar (~87%). This suggests that the top candidate(s) was able to perform equally well in both papers. The discrimination of the 2015 paper was slightly better than the one in 2014 (e.g. standard deviation of 12.29% versus 11.31%).

Candidates generally did well with the multiple-choice questions. Many candidates, however, appeared to lack an in-depth knowledge and/or understanding of many aspects of the syllabus and consequently struggled to obtain full marks in the short answer and extended answer questions. Candidates also appeared to struggle with questions that required the application of knowledge.

Sections Two and Three included questions on some areas of the syllabus that had not been heavily assessed in recent papers, e.g. temperature regulation in plants (Question 32, part (e)), ethical practices in the handling of animals (Question 33, part (a)), homeostasis and the need for maintenance of the internal environment within limits (Question 37)), and evidence for evolution (Question 41). These questions were generally answered poorly. It is important that candidates are prepared to answer questions from all areas of the syllabus.

Advice for candidates

- Use formal, precise language, and scientific terminology in answering questions.
- Read the question carefully and make sure that you answer the question asked.
- Select extended answer questions that best display the extent of your knowledge.
- Diagrams must be annotated and accompanied by written information that demonstrates the extent of your understanding.

Comments on specific sections and questions

Section One: Multiple-choice Attempted by 1653 Candidates

Mean 23.38%(/30) Max 30.00% Min 7.00%

All candidates attempted all 30 questions. The mean score as a percentage of the section total was 77.93%. The standard deviation was 12.24% and the marks ranged from 100% to 23%. The correlation with the examination total was 0.86.

Section Two: Short answer Attempted by 1653 Candidates

Mean 23.30%(/50) Max 42.50% Min 1.00%

All candidates attempted this section and the majority of candidates attempted all questions within the section. The overall mean score as a percentage of the section total was 46.60%. Candidates scores ranged from 88.5% to 2%. The standard deviation was 13.86%. The correlation with the exam total was high at 0.96, partly because this section contributed the most marks. Only Question 35, which mainly tested topics in the 'Working as a Biologist' area of the syllabus, had a mean score over 50%. The mean scores for the other four questions ranged from 47.39% (Question 31) to 42.50% (Question 33). On average, candidates appeared to struggle to provide in-depth answers to questions and to apply knowledge.

Section Three: Extended answer Attempted by 1645 Candidates

Mean 8.19%(/20) Max 16.50% Min 0.00%

Almost all candidates attempted this section. The mean score was 40.93%, which was the lowest for the three sections. The mean scores per question ranged from 51.88% (Question 36) to 30.84% (Question 41). Only Question 36 had a mean score above 50%. No candidate achieved full marks for any question - the maximum mark was either 95% or 85% depending on the question.