

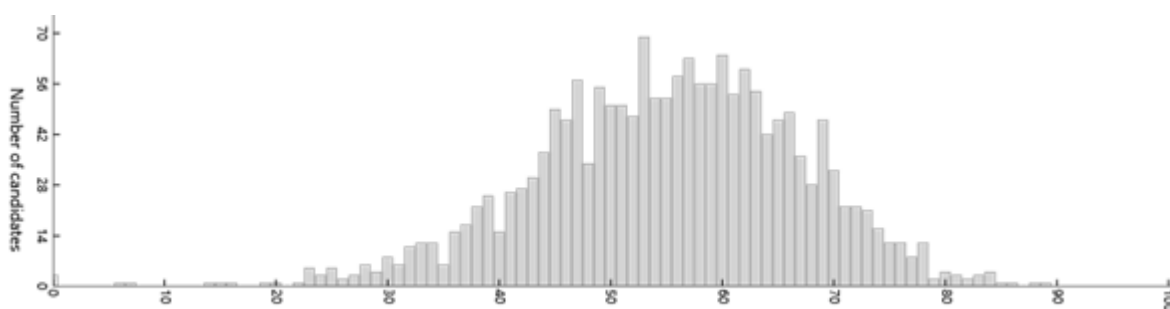


## Summary report of the 2020 ATAR course examination: Biology

Year	Number who sat	Number of absentees
2020	1758	23
2019	1769	21
2018	1835	29
2017	1810	20

The number of candidates sitting and the number attempting each section of the examination can differ as a result of non-attempts across sections of the examination.

### Examination score distribution–Written



### Summary

The examination paper had three sections. Section One comprised 30 multiple-choice questions, Section Two comprised five short answer questions and Section Three comprised two extended answer questions from Units 3 and 4. Candidates were required to answer all questions in sections one and two, and one question from each of Units 3 and 4 in Section Three. The examination was attempted by 1758 candidates and had a mean score of 54.86%. Scores ranged from a maximum of 88.50% to a minimum of 0%.

Attempted by 1758 candidates	Mean 54.86%	Max 88.50%	Min 0.00%
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Section means were:

Section One: Multiple-choice	Mean 77.14%		
Attempted by 1758 candidates	Mean 23.14(/30)	Max 30.00	Min 0.00
Section Two: Short answer	Mean 45.73%		
Attempted by 1754 candidates	Mean 22.87(/50)	Max 42.50	Min 0.00
Section Three: Extended answer Unit 3	Mean 46.78%		
Attempted by 1741 candidates	Mean 4.68(/10)	Max 9.75	Min 0.00
Section Three: Extended answer Unit 4	Mean 41.76%		
Attempted by 1724 candidates	Mean 4.18(/10)	Max 9.75	Min 0.00

### General comments

Generally, candidates were well prepared and most attempted all questions. The overall mean score was similar to the mean reported in the 2019 examination but lower than the overall means reported in 2018 and 2017. The mean score for Section One was high while those for sections two and three were below 50%. In general, candidates appeared to have a very good breadth of knowledge, but often did not have enough depth of knowledge or

understanding of concepts to obtain full marks for questions in sections two and three. The paper discriminated between candidates with a standard deviation of 11.95%.

#### *Advice for candidates*

- Use formal and precise language and scientific terminology in answering questions.
- Communicate clearly in your written answers.
- Read the question carefully and make sure that you answer the question asked. Be alert to subtle components that require attention.
- Spend some time planning your answers to extended response questions so that you do not miss crucial details and repeat points.
- Develop an in-depth knowledge of key topics and concepts so that you can provide full answers to short and extended answer questions.
- When including diagrams in your answers, text should refer to the diagram and the information in the diagram should be fully explained.

#### *Advice for teachers*

- Give more attention to those areas of the syllabus where candidates did poorly (e.g. structural features of protists, reliability versus validity in experiments, hypothesis versus prediction, applications population dynamics and biogeography in conservation planning).
- Prepare students to apply their knowledge and understanding of topics in a range of contexts.
- Instruct students how to answer questions according to the key verb in the question (e.g. state, define, discuss, explain, compare) and to include a systematic evaluation of similarities and differences when asked to compare.
- Give students practice at decoding questions.

#### **Comments on specific sections and questions**

Candidates typically answered the multiple-choice questions very well but had more difficulty with the short answer and extended answer questions. The level of discrimination was highest for Section Three and lowest for Section Two.

#### **Section One: Multiple-choice (30 Marks)**

Candidates performed very well in this section (mean score 77.14%). All candidates attempted every question. The maximum score for this section was 100% and the minimum score was zero. This section provided reasonable discrimination amongst candidates.

Questions 4, 6, 9, 11, 12, 15, 18, 20, and 28 had mean scores of 90% or above. There was no common theme to these questions. Some tested factual recall (Questions 4, 6, 15 and 18) but others required an application of knowledge (Questions 9, 11, 12 and 28) or a calculation (Question 20). Questions 1, 2, 3, 8, 17, 23, 24, 25 and 27 had mean scores between 80 and 90%.

Questions 19 and 29 had mean scores of less than 50% and Questions 7, 13, 14 and 21 had mean scores between 50 and 60%. Question 19 required candidates to identify a hypothesis. While 48.18% of candidates correctly identified the hypothesis, many (41.8%) incorrectly selected a prediction. Question 29 required candidates to calculate the number of surviving mice that were expected to be yellow in a genetic cross. Only 22.75% of candidates correctly answered this question. Far more candidates selected a particular incorrect answer (70.71%), which did not take into account that the fact that some offspring did not survive.

**Section Two: Short answer (100 Marks)**

This section was attempted by almost all candidates. The overall mean score was below 50%. The mean scores per question ranged from 51.22% (Question 32) to 33.88% (Question 33). The maximum score for this section was 85%, however the maximum scores for Questions 31 and 32 were 100% and for Questions 34 and 35 were 97.5% and 92.5% respectively.

**Section Three: Extended answer Unit 3 (20 Marks)**

Most candidates attempted this part of the paper. The mean scores for Questions 36 (45.38%) and 37 (47.51%) were similar. Question 37 was more popular, selected by 66.63% of candidates attempting this part of the paper.

**Section Three: Extended answer Unit 4 (20 Marks)**

Slightly fewer candidates attempted the extended answer questions in Unit 4 compared to Unit 3. The mean score for this section was the lowest for any section of the paper. The mean score for Question 38 (55.23%) was noticeably higher than for Question 39 (28.41%) with a similar number of candidates attempting each question