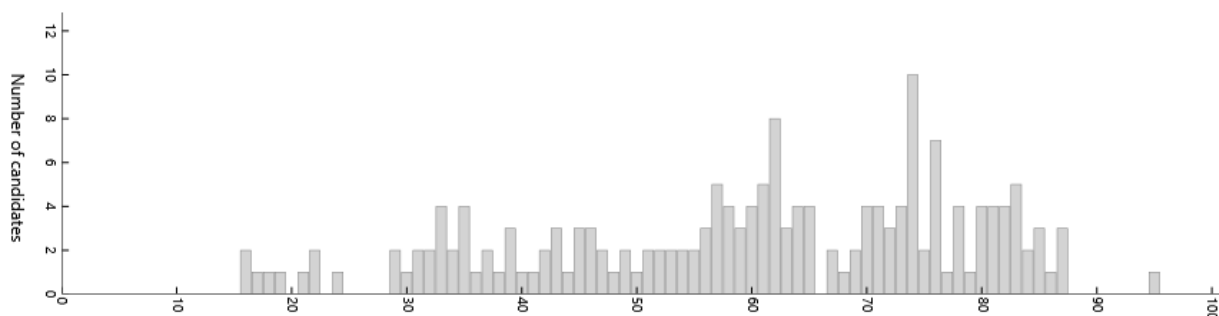




Summary report of the 2017 ATAR course examination: Engineering Studies

Year	Number who sat	Number of absentees
2017	178	3
2016	232	4

Examination score distribution



Summary

This was the second year the ATAR Engineering Studies course was examined with only two specialist fields, Mechanical and Mechatronics. There were 23.3% less candidates sitting this subject in 2017 than in 2016 (232), following the 10% fall in the previous year. Of the 178 candidates, 125 (70.2%) sat the Mechanical section and 53 (29.8%) sat the Mechatronics section. These figures are disconcerting given that one of the reasons to change the course from three fields to two was to attract more candidates.

The mean for the Core section this year was 62.4% with a standard deviation of 15.9%. The maximum mark this year was 94.75% and the minimum 16.00%. The Mechanical section had a mean of 59.55% and the Mechatronics section a mean of 59.67%. The closeness of the means for the two specialised sections and the scores obtained by the top candidates indicates this was again a fair paper regardless of which specialist field was studied.

From the figures below it can be seen that the mean of the Mechanical multiple-choice was only 4.74. The feedback from markers was not able to shed any light on this abnormality as the questions were all considered fair and on the syllabus.

Section means were:

Core content Part A: Multiple-choice	Mean 62.02%		
Attempted by 178 candidates	Mean 6.20(/10)	Max 10.00	Min 2.00
Core content Part B: Extended answer	Mean 62.50%		
Attempted by 178 candidates	Mean 18.75(/30)	Max 29.50	Min 4.00
Mechanical Part A: Multiple-choice	Mean 47.36%		
Attempted by 125 candidates	Mean 4.74(/10)	Max 9.00	Min 0.00
Mechanical Part B: Extended answer	Mean 60.99%		
Attempted by 125 candidates	Mean 30.49(/50)	Max 48.75	Min 3.25
Mechatronics Part A: Multiple-choice	Mean 60.75%		
Attempted by 53 candidates	Mean 6.08(/10)	Max 9.00	Min 2.00
Mechatronics Part B: Extended answer	Mean 59.55%		
Attempted by 53 candidates	Mean 29.77(/50)	Max 49.25	Min 0.00

General comments

The majority of candidates performed well in the Core section of the examination, with the mean and standard deviation making it a very good statistical comparison for the other two sections. Similar means in the two specialised sections indicates a good comparability between them and therefore a fair examination for all candidates.

Advice for candidates

- For multiple-choice questions, you need to read all choices carefully and use the space next to the question for working if necessary.
- For extended answers you need to read all questions carefully before attempting them.
- Show all equations and neatly set out your working in calculation questions as this allows for part marks if the final answer is incorrect.
- Be familiar with the set-up of the Data book so that information can be found quickly.

Advice for teachers

- Advise students to read all questions carefully before attempting them.
- Encourage students to show all working in their answers to questions requiring calculations and to set this working out in a way that it can be easily followed.
- Encourage students to write neatly in all written response answers.

Comments on specific sections and questions

Core content Part A: Multiple-choice (10 Marks)

Attempted by 178 candidates Mean 6.20(/10) Max 10.00 Min 2.00

All candidates attempted all questions in this section and results show that most questions were answered well.

Core content Part B: Extended answer (30 Marks)

Attempted by 178 candidates Mean 18.75(/30) Max 29.50 Min 4.00

Candidates were required to answer all three questions in this section. Their performance was relatively even in Questions 11 and 12; however, many had difficulty with Question 13.

Mechanical Part A: Multiple-choice (10 Marks)

Attempted by 125 candidates Mean 4.74(/10) Max 9.00 Min 0.00

This mean of the section was somewhat disappointing, given that the questions were closely aligned with the syllabus. Questions 15 and 21 challenged most candidates with both having a mean of only 0.26.

Mechanical Part B: Extended answer (50 Marks)

Attempted by 125 candidates Mean 30.49(/50) Max 48.75 Min 3.25

All six questions were well attempted by candidates, with Question 28 having a very good mean of 72.24%. Question 31 was the most challenging with a mean of 51.20%.

Mechatronics Part A: Multiple-choice (10 Marks)

Attempted by 53 candidates Mean 6.08(/10) Max 9.00 Min 2.00

This section was done well by candidates showing a good understanding of the concepts covered. Questions 32 and 37 were the most challenging.

Mechatronics Part B: Extended answer (50 Marks)

Attempted by 53 candidates Mean 29.77(/50) Max 49.25 Min 0.00

All six questions were well attempted by candidates, with Questions 40, 41 and 43 having very good means around 70%. Question 44 was the most challenging with a mean of only 41.00%.