

Aircraft Engineering – Pre-entry Assessment Guide

The pre-entry assessment will consist of a written examination and an interview. The duration of the assessment is two and a half hours and candidates should arrive half an hour beforehand to allow for parking and registration. Candidates will need a pen and calculator. Please note cell phones and translators will not be permitted during the examination.

Part 1 - Written Assessment

Section One

This section will test your understanding of Year 11 & 12 English. Candidates should revise and be familiar with the following:

- Reading, understanding & comprehension

Section Two

This section will test your understanding of Year 11 & 12 Maths & Physics. Candidates should revise and be familiar with the following subject areas:

- Transposition of formulas
- Areas of shapes
- Fractions
- Mathematical problem solving
- Basic trigonometry e.g. Sin / Cos etc.
- Temperature: Fahrenheit / Celsius
- Basic moments & torque
- Very basic hydraulic fundamentals
- Voltage, resistance, current relationship & calculation
- Basic technical drawing
- Ability to utilise conversion factors
- Tool recognition

Part 2 – Interview

There will be a short interview and candidates can prepare for this by thinking about examples or ideas for the following:

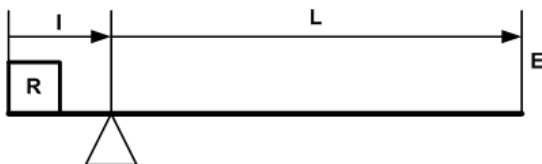
- Why does working on aircraft interest me?
- What skills or experience do I have that would be useful for aircraft engineering?
- What are my expectations of this course?

The interview stage is also your opportunity to find out more about the training, please feel free to ask your interviewer any questions.

Practise Questions

The following questions are intended to guide you in your revision for the pre entry assessment

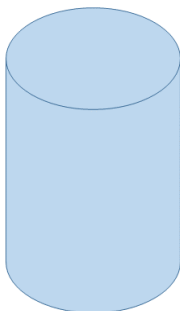
1. 532×24
2. $416 / 8$
3. $-216 - 48$
4. $1568 - 23.5$
5. $\frac{3}{8} \times \frac{3}{3}$
6. $25.78 + 5.4 + 0.237$
7. 26.575×0.32
8. $37.26 / 2.7$
9. An engine develops 85hp out of a possible 125hp.
What percentage of the total power available is being developed?
10. If 4,180rpm is 38% of the max rpm speed, what is the max rpm speed?
11. Determine the number of revolutions a gear completes in 30 seconds when the gear turns at 100 revolutions per min (RPM).
12. If a circle has a diameter of 10cm, what is its circumference?
13. What is the volume of a box 24 cm high, 18 cm long and 12 cm wide?
- 14.



If $R = 100\text{kg}$
 $L = 3.5\text{mtr}$
 $l = .5\text{ metre}$

What will the weight of E be to balance the beam?

- 15.



If the air inside this sealed container is heated, will the volume:

- Increase
- Decrease
- Remain the same

What will happen to the pressure? Will it:

- Increase
- Decrease
- Remain the same

Answers

1. 12,768 2. 52 3. -264 4. 1544.5
5. 9/24 or .375 6. 31.417 7. 8.504 8. 13.8
9. 68% 10. 11,000 11. 50 revolutions
12. $C = 31.416 \text{ cm}$ Area = 78. 54 sq cm
13. 5,184 Cubic cm 14. 14.28kg 15. Remain the same, increase

Any questions or queries can be directed by email to:

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