TMUA

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Plan for today

1. General test info
2. Paper Structure
3. Pre-exam prep
4. Exam day performance
5. Post-exam
6. Model problems (2019)

Why admissions assessments

- Differentiate between candidates:
  - Differentiate between well-qualified candidates
  - A common-basis data on performance under pressure
  - To test aptitude and subject knowledge where appropriate
- **Anyone can have a bad day**
  - **The test is not pass/fail**
  - It is judged in combination with the rest of your application
  - But it is still better to have a good day, than a bad one…
- The final registration deadline is **30 September.**
- The test date is **18 October.**
- TMUA will be a **pen-and-paper test** this year.

General Info

- The test will consist of two **75 minute papers, taken one after the other**.
- Each paper will consist of **20 multiple-choice questions**.
- Questions across the two papers carry **equal weight** and there will be **no penalty for incorrect answers**, so candidates are advised to attempt all questions.
- There is **no formulae booklet** for this test; students are expected to understand and recall all relevant formulae.
- Candidates **may not use calculators**.

General Info & Paper Structure

Cambridge: https://www.undergraduate.study.cam.ac.uk/applying/admissions-assessments/pre-registration-required

TMUA: https://www.admissionstesting.org/for-test-takers/test-of-mathematics-for-university-admission/preparation/

Test specs:

- https://www.admissionstesting.org/Images/314861-test-of-mathematics-for-university-admission-test-specification.pdf
- https://www.admissionstesting.org/Images/405848-test-of-mathematics-for-university-admission-notes-on-logic-and-proof-enhanced-test-specification-.pdf

Paper 1: Mathematical Knowledge and Application

Time: 75 minutes

Content: 20 multiple-choice questions

Requirements: Section 1 below

This paper will test the candidate’s ability to apply their mathematical knowledge in a variety of contexts. Candidates will be expected to know and use the mathematical content set out in Section 1 below.

Paper 1: Mathematical Knowledge and Application

Algebra and functions

Sequences and series

Coordinate geometry in the (x, y) plane

Trigonometry

Exponentials and Logarithms

Differentiation

Integration

Graphs of Functions

Paper 2: Advanced Mathematical Thinking

Time: 75 minutes

Content: 20 multiple-choice questions

Requirements: Sections 1 and 2 below

This paper will test the candidate’s ability to apply their conceptual knowledge to constructing and analysing mathematical arguments. For this paper candidates are expected to be familiar with the contents of Sections 1 and 2 below.

Paper 2: Advanced Mathematical Thinking

Knowledge:

Number

Algebra

Geometry

Measures

Statistics

Probability

Scope:

The Logic of Arguments

Mathematical Proof

Identifying Errors in Proofs

Pre-exam preparation

- **Train, train, and train some more**
  - Get the right set of **problem sets** – official exams & outside resources
  - Train to recognize problem type and apply **answer models**
  - Get to know yourself: **explain solutions & dissect errors**
  - Track your performance and identify your **strengths and weaknesses**
- **Copy the environment** in which you will perform
  - Use the same type of answer sheets and the same pencils
  - Wear the clothes you will wear on the day (especially the same shoes)
  - Time and pace yourself all the time
  - Stress-test yourself: simulate distractions & discomfort, cut your time
- **Team-up** with others (even if you or they are much better)

Exam day performance

- The night before:
  - Neatly prepare all you will need for the next day.
- **Get a lot of rest** & make sure you are comfortable
  - Never study the night before!
  - Eat healthy breakfast, but don’t overdo it.
- Remember: **you got this!**
  - You have trained for this, there is no reason to panic.
  - Show-offs and other nuisances are part of life, ignore them.
  - Good luck!

Taking the exam

- As soon as possible fill-in your answer sheet
  - Double check
- **When you open the exam:**
  - **Scan** through all the questions
  - **Budget** time for the topics you recognized
  - Start with the **easiest** (all are worth 1 point!)
  - Work your way **to the harder ones**
  - If time permits **re-visit** your answers with sanity checks
  - If short on time **GUESS (no negative marks!)**

There are no penalties for incorrect responses, only marks for correct answers, so you should attempt **all** 20 questions. Each question is worth one mark.

Answering each question

- Read the question **AND the answers provided**
- Check if the solution can be **deduced** from the possible answers
- **Recognize answer model** (if applicable)
- **Apply the answer model** or reason about what the solution could be
- **Consistency check**: plug your solution into the original problem to confirm that ALL conditions stated by the problem are met!

- When finished, or if your budgeted time ran out, **move on and don’t think about it.**

Post-exam

- **Don’t think about it! – move on and relax.**
- Take time off with your friends and family.
- The more physically active you will be, the better.
- Do not consume or take any mood altering substances.
- Then just trust your skill, and wait for the results to come out.

Model problems

2019 paper 1:

1, 4, 5, **9**, 10,**19**

2019 paper 2:

3, 5, 7, 17, **20**

Good Luck!

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