



MATHEMATICS ADMISSIONS TEST

For candidates applying for Mathematics, Computer Science or one of their joint degrees at OXFORD UNIVERSITY and/or IMPERIAL COLLEGE LONDON and/or UNIVERSITY OF WARWICK

November 2022

Time Allowed: 2 1/2 hours

* 2 8 4 7 9 4 0 5 3 4 *

Please complete the following details in BLOCK CAPITALS. You must use a pen.

Form with fields for Surname, Other names, and Candidate Number (with 'M' in the first box).

This paper contains 7 questions of which you should attempt 5. There are directions throughout the paper as to which questions are appropriate for your course.

A: Oxford Applicants: if you are applying to Oxford for the degree course:

- Mathematics or Mathematics & Philosophy or Mathematics & Statistics, you should attempt Questions 1,2,3,4,5.
• Mathematics & Computer Science, you should attempt Questions 1,2,3,5,6.
• Computer Science or Computer Science & Philosophy, you should attempt 1,2,5,6,7.

Directions under A take priority over any directions in B which are relevant to you.

B: Imperial or Warwick Applicants: if you are applying to the University of Warwick for Mathematics BSc, Master of Mathematics, or if you are applying to Imperial College for any of the Mathematics courses: Mathematics, Mathematics (Pure Mathematics), Mathematics with a Year Abroad, Mathematics with Applied Mathematics/Mathematical Physics, Mathematics with Mathematical Computation, Mathematics with Statistics, Mathematics with Statistics for Finance, you should attempt Questions 1,2,3,4,5.

Further credit cannot be obtained by attempting extra questions. Calculators are not permitted.

Question 1 is a multiple choice question with ten parts. Marks are given solely for correct answers but any rough working should be shown in the space between parts. Answer Question 1 on the grid on Page 2. Each part is worth 4 marks.

Answers to questions 2-7 should be written in the space provided, continuing on to the blank pages at the end of this booklet if necessary. Each of Questions 2-7 is worth 15 marks.

FOR OFFICE USE ONLY

Table with 7 columns labeled Q1 to Q7.

QUESTION 1.

A. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

B. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

Candidate number:

C. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

D. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

Candidate number:

E. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

F. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

Candidate number:

G. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

H. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

Candidate number:

I. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

J. Circle the correct answer

| | | | | |
|----------|----------|----------|----------|----------|
| A | B | C | D | E |
|----------|----------|----------|----------|----------|

Show your working here:

QUESTION 2.

(i) (ii) (iii) (iv) (v)

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Candidate number:

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Candidate number:

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QUESTION 3.

(i) (ii) (iii) (iv) (v) (vi)

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QUESTION 4.

(i) (ii) (iii) (iv) (v) (vi)

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QUESTION 5.

(i) (ii) (iii) (iv) (v) (a) (b) (vi) (vii) (viii)

Show your working here:

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Candidate number:

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QUESTION 6.

(i) (ii) (iii) (iv) (v) (a) (b)

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QUESTION 7.

(i) (ii) (iii) (iv) (v)

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Candidate number:

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End of question paper