OCR

Oxford Cambridge and RSA

Wednesday 14 June 2023 – Afternoon

A Level Further Mathematics B (MEI)

Y431/01 Mechanics Minor

Printed Answer Booklet

Time allowed: 1 hour 15 minutes

AB

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number ☐☐☐☐☐   Candidate number ☐☐☐☐

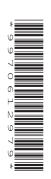First name(s) _____

Last name _____

INSTRUCTIONS
• Use black ink. You can use an HB pencil, but only for graphs and diagrams.
• Write your answer to each question in the space provided in the **Printed Answer Booklet**. If you need extra space, use the lined pages at the end of the Printed Answer Booklet. The question numbers must be clearly shown.
• Answer **all** the questions.
• Where appropriate, your answer should be supported with working. Marks might be given for using a correct method, even if your answer is wrong.
• Give your final answers to a degree of accuracy that is appropriate to the context.
• The acceleration due to gravity is denoted by $g\,\text{m}\,\text{s}^{-2}$. When a numerical value is needed use $g = 9.8$ unless a different value is specified in the question.

INFORMATION
• This document has **12** pages.

ADVICE
• Read each question carefully before you start your answer.

OCR is an exempt Charity

Turn over

1(a)

[Force] =

[Velocity] =

[Density] =

1(b)

1(c)

1(d)

α =

β =

γ =

2(a)

2(b)

2(a)

3(a)

3(b)

3(c)

Turn over

4(a)

4(b)

4(a)

4(c)

5(a)

$H =$

$\theta =$

Turn over

8

5(b)

5(c)

6(a)

6(b)

(answer space continued on next page)

Turn over

6(b) (continued)

6(c)

6(b) (continued)

6(d)

12

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).