



# OXFORD UNIVERSITY

## PHYSICS APTITUDE TEST

November 2022

Time Allowed: 2 hours

### Question Paper and Answer Booklet

Surname

Other names

School/College name\*

\*If you are an individual candidate, taking this test away from a school or college, please write the name of your examination centre in this box.

Centre Number

Candidate Number

P

UCAS Number (if known)

Date of Birth

Oxford College of Preference

### Total 23 questions [100 Marks]

Answers should be written on the question sheet in the spaces provided and you are encouraged to show your working.

You should attempt as many questions as you can. Please use black pen, or soft pencil for diagrams or sketches.

Answers should be given exactly and in simplest terms unless indicated otherwise. Indicate multiple-choice answers by circling the best answer. Partial credit may be given for correct workings in multiple choice questions.

The numbers in the margin indicate the marks expected to be assigned to each question. You are advised to divide your time according to the marks available.

**Only calculators meeting the specifications for PAT are allowed.**

**No tables or formula sheets may be used.**

Please tick the box to show which course you have applied for:

Physics

or Physics and Philosophy

☐

Engineering

☐

Materials

☐

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**PHYSICS ADMISSIONS TEST**  
**November 2022**

**Time allowed: 2 hours**

*For candidates applying to Physics, Physics and Philosophy,  
Engineering, or Materials Science*

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**Total 23 questions [100 Marks]**

Answers should be written on the question sheet in the spaces provided,  
and you are encouraged to show your working.  
You should attempt as many questions as you can.

**No tables, or formula sheets may be used.**

Answers should be given exactly and in simplest terms  
unless indicated otherwise.

Indicate multiple-choice answers by circling the best answer.  
Partial credit may be given for correct workings in multiple choice questions.

The numbers in the margin indicate the marks expected to be assigned  
to each question. You are advised to divide your time according to  
the marks available.

You may take the gravitational field strength  
on the surface of Earth to be  $g \approx 10 \text{ m s}^{-2}$

**Do NOT turn over until told that you may do so.**

**Question 1:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 2:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 3:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 4:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 5:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:



**Question 6:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 7:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 8:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 9:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 10:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 11:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 12:**

[2]

Circle the correct answer

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
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Show any working here:

**Question 13: (a) (b) (c)**

[3, 3, 2]

Show your working here:



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**Question 14: (a) (b) (c)**

[2, 3, 1]

Show your working here:

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**Question 15: (a) (b) (c) (d)**

[2, 2, 5, 1]

Show your working here:

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**Question 16:**

[4]

Show your working here:

**Question 17: (a) (b)**

[3, 3]

Show your working here:



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**Question 18: (a) (b) (c)**

[2, 3, 3]

Show your working here:

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**Question 19: (a) (b) (c) (d)**

[3, 3, 2, 2]

Show your working here:

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**Question 20: (a) (b) (c) (d) (e)**

[1, 1, 1, 2, 2]

Show your working here:

**Question 21: (a) (b)**

[5, 2]

Show your working here:

**Question 22:**

[5]

Show your working here:



**Question 23:**

[5]

Show your working here:

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**END OF THE TEST**