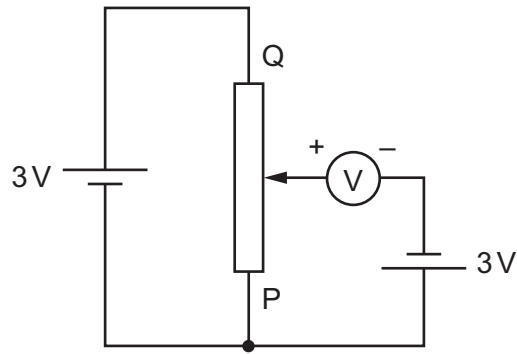


37 A voltmeter is connected into a circuit with the polarity shown.



The sliding contact is moved to end P of the potentiometer and then to end Q.

What are the two readings of the voltmeter?

	sliding contact at end P	sliding contact at end Q
A	0V	3V
B	0V	6V
C	3V	3V
D	3V	6V

38 A proton has mass m_p and charge $+e$.

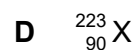
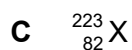
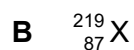
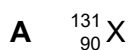
What are the mass and charge of an antiproton?

	mass	charge
A	$-m_p$	$+e$
B	$-m_p$	$-e$
C	m_p	$+e$
D	m_p	$-e$

39 A uranium nucleus has 92 protons and 143 neutrons.

The nucleus emits a total of 3 α -particles and 4 β^- particles to form nucleus X.

How can nucleus X be represented?



- 40 Which statement about a proton is correct?
- A A proton is a baryon but not a meson.
 - B A proton is a meson but not a hadron.
 - C A proton is both a hadron and a meson.
 - D A proton is both a meson and a baryon.





BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

