FREE REVISION PACK

Charge, Current & Potential Difference

Pearson Edexcel International Advanced Level Physics · Unit 2 (WPH12) · Specification points 64–65

Easy | Multiple choice · past-paper questions

5	5	≈ 10 min
QUESTIONS	TOTAL MARKS	SUGGESTED TIME*

Contents

Q	LEVEL	FOCUS	SOURCE	MARKS
1	Easy	Charge from current and time	Edexcel IAL June 2022 · Unit 2 · Q6	1 mark
2	Easy	Number of electrons passing a point	Edexcel IAL January 2025 · Unit 2 · Q2	1 mark
3	Easy	Charge that flows from a cell	Edexcel IAL June 2025 · Unit 2 · Q8	1 mark
4	Easy	Number of electrons from current and time	Edexcel IAL October 2022 · Unit 2 · Q7	1 mark
5	Easy	Current from a number of electrons	Edexcel IAL January 2021 · Unit 2 · Q10	1 mark

Key ideas to have ready

- Current $I = \Delta Q/\Delta t$; charge $Q = It$ (C).
- Number of electrons = Q/e, with $e = 1.60 \times 10^{-19}$ C.
- Potential difference $V = W/Q$: energy transferred per unit charge.
- e.m.f. is also energy per unit charge (given to the charge by the source).

How to use this pack

1. The questions are grouped into levels (Easy). Work through them in order, and check your answers at the end of each level before moving on.
2. Every question is multiple choice with one correct answer. Write down your working anyway; that is how you find mistakes.
3. The separate mark scheme uses the same numbers and explains every answer.

Levels are based on how students did in Pearson's examiner reports where that information exists, plus our own difficulty rating. *About 1.5 minutes per question.

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Easy

Definitions and one-step ideas. Most students get these right.

Questions 1–5

Choose **one** answer for each question and put a cross in the box next to it.

Edexcel IAL June 2022 · Unit 2 · Q6

1 At a point in a circuit there is a current of 3.0 A.

Which of the following gives the total charge passing this point in 2.0 minutes?

- ☒ **A** 0.025 C
- ☒ **B** 1.5 C
- ☒ **C** 6.0 C
- ☒ **D** 360 C

Edexcel IAL January 2025 · Unit 2 · Q2

2 There is a current I in a wire. The charge on an electron is e.

Which of the following gives the number of electrons passing a point on the wire in time t?

- ☒ **A** Ite
- ☒ **B** $\frac{I}{te}$
- ☒ **C** $\frac{Ie}{t}$
- ☒ **D** $\frac{It}{e}$

Edexcel IAL June 2025 · Unit 2 · Q8

3 The cell in a solar-powered lamp stores 6.0 kJ of energy.
The lamp is switched on and the cell discharges fully.
The cell has a constant e.m.f. of 1.5 V.

Which of the following is the charge that passes through the lamp?

- ☒ **A** 0.25 C
- ☒ **B** 4.0 C
- ☒ **C** 4000 C
- ☒ **D** 9000 C

Edexcel IAL October 2022 · Unit 2 · Q7

4 The current at a point in a circuit is 1.25 A.

Which of the following expressions gives the number of electrons passing the point in 45 seconds?

☐ **A** $\frac{1.25 \times 45}{1.60 \times 10^{-19}}$

☐ **B** $\frac{1.25 \times 1.60 \times 10^{-19}}{45}$

☐ **C** $\frac{1.60 \times 10^{-19}}{1.25 \times 45}$

☐ **D** $\frac{45}{1.25 \times 1.60 \times 10^{-19}}$

Edexcel IAL January 2021 · Unit 2 · Q10

5 In a series circuit, 3.1×10^{19} electrons pass a particular point in a time of 30 seconds.

Which of the following gives the magnitude of the current in amperes in this circuit?

☐ **A** $\frac{(3.1 \times 10^{19}) \times (1.6 \times 10^{-19})}{30}$

☐ **B** $\frac{3.1 \times 10^{19}}{(1.6 \times 10^{-19}) \times 30}$

☐ **C** $(3.1 \times 10^{19}) \times (1.6 \times 10^{-19}) \times 30$

☐ **D** $\frac{(3.1 \times 10^{19}) \times 30}{1.6 \times 10^{-19}}$

End of questions. Check your answers with the matching mark scheme. More free packs and 1-to-1 tuition:
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