GET BETTER AT PHYSICS · MARK SCHEME

Charge, Current & Potential Difference: tiered multiple choice

Edexcel IAL Physics · Unit 2 (WPH12) · Specification points 64–65 · 5 questions · 5 marks

1 mark per correct letter

Worked reasoning for every question

How students did = from Pearson examiner reports, where available

Answer key

Q1	Q2	Q3	Q4	Q5
D	D	C	A	A

Easy

Questions 1–5

1 **D**

Charge from current and time · Edexcel IAL June 2022 · Unit 2 · Q6

Q = It. Convert minutes to seconds first: t = 2.0 × 60 = 120 s. Q = 3.0 × 120 = 360 C.

How students did: Examiners reported that at least three-quarters of students got this right in June 2022.

2 **D**

Number of electrons passing a point · Edexcel IAL January 2025 · Unit 2 · Q2

Total charge passing in time t is Q = It. Each electron carries charge e, so the number of electrons is It/e.

3 **C**

Charge that flows from a cell · Edexcel IAL June 2025 · Unit 2 · Q8

The e.m.f. is the energy transferred per unit charge: E = W/Q. So Q = W/E = 6000 J ÷ 1.5 V = 4000 C.

4 **A**

Number of electrons from current and time · Edexcel IAL October 2022 · Unit 2 · Q7

Charge Q = It = 1.25 × 45 C. Each electron carries 1.60×10^{-19} C, so the number of electrons = $(1.25 \times 45) \div (1.60 \times 10^{-19})$.

5 **A**

Current from a number of electrons · Edexcel IAL January 2021 · Unit 2 · Q10

Total charge = number of electrons × charge on each = $(3.1 \times 10^{19}) \times (1.6 \times 10^{-19})$ C. Current = charge ÷ time, so divide by 30 s.

End of mark scheme. Answers from Pearson's published mark schemes; explanations written for this pack. Pearson Edexcel material is © Pearson Education Ltd. More free packs and 1-to-1 tuition: **www.getbetteratphysics.co.uk**

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