GET BETTER AT PHYSICS · MARK SCHEME

Resistivity: tiered multiple choice

Edexcel IAL Physics · Unit 2 (WPH12) · Specification points 71–72 · 4 questions · 4 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
C	D	A	C

Easy

Questions 1–4

1 **C**

p.d. along a uniform wire · Edexcel IAL June 2023 · Unit 2 · Q4

With a constant current, V = IR and R ∝ length for a uniform wire. So the p.d. is directly proportional to length: a straight line through the origin.

2 **D**

Resistance of a whole wire from part of it · Edexcel IAL January 2025 · Unit 2 · Q8

For a uniform wire, R ∝ length (R = ρl/A). Length d has resistance R, so the whole length L has resistance (L/d) × R.

3 **A**

Resistivity of a metal cube · Edexcel IAL October 2020 · Unit 2 · Q7

R = V/I and ρ = RA/l. For a cube of side x, A = x^2 and l = x, so ρ = (V/I) × x^2/x = Vx/I.

4 **C**

Resistance of a wire with changed dimensions · Edexcel IAL October 2017 · Unit 2 · Q6

R = ρl/A. Doubling ρ and l multiplies R by 4; doubling A divides it by 2. Overall R is multiplied by 2: 2 × 8 Ω = 16 Ω.

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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