GET BETTER AT PHYSICS · MARK SCHEME

Classifying Particles: tiered multiple choice

Edexcel IAL Physics · Unit 4 (WPH14) · Specification points 121 · 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
B	B	C	B

Easy

Questions 1–4

1 **B**

Recognising a meson · Edexcel IAL January 2025 · Unit 4 · Q2

A meson is a hadron made of a quark and an antiquark. The pion is a meson. The photon is an exchange particle, the positron is a lepton and the proton is a baryon (three quarks).

2 **B**

Which particle is fundamental · Edexcel IAL June 2021 · Unit 4 · Q1

The muon is a lepton, so it is fundamental. Antiprotons and neutrons are baryons and pions are mesons; all of these are made of quarks.

3 **C**

Which particle is fundamental · Edexcel IAL June 2022 · Unit 4 · Q1

A neutrino is a lepton, so it is fundamental. The pion is a meson (a quark–antiquark pair) and the proton and neutron are baryons (three quarks), so they are not fundamental.

How students did: 77% of students got this right in June 2022.

4 **B**

Fundamental and non-fundamental particles · Edexcel IAL October 2024 · Unit 4 · Q3

Leptons (such as electrons, muons and neutrinos) and quarks are fundamental. Hadrons, including mesons, protons, neutrons and alpha particles, are made of quarks, so they are not fundamental. Only row B has a fundamental particle and then a non-fundamental one.

How students did: 76% of students got this right in October 2024.

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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