

A Level • OCR • Physics

🕒 9 mins

❓ 2 questions

Structured Questions

# Ultrasound

Ultrasound / The Piezoelectric Effect & the Ultrasound Transducer / Acoustic Impedance / Reflection of Ultrasound / Doppler Effect in Ultrasound

Scan here to return to the course  
or visit [savemyexams.com](https://www.savemyexams.com)



---

Total Marks

/9

**1 (a)** This question is about the medical use of ultrasound.

a)

In ultrasound scanning, explain what is meant by **impedance (acoustic) matching** and how it may be achieved.

[2]

(2 marks)

**(b)** b)

There are several different types of ultrasound scanning techniques.

Explain how an A-scan could be used to measure the thickness of a patient's eye lens. You may draw a diagram to help with your answer.

[3]

(2 marks)

**2 (a) a)**

Explain how an ultrasound transducer can **emit** ultrasound. You do **not** need to describe the design of the transducer.

[2]

(2 marks)

**(b) b)**

Explain how the reflection of ultrasound at a boundary between two tissues depends on the physical properties of the tissues.

[3]

(3 marks)