

A-Level Edexcel

PHYSICS

UNIT 2(IAL)

2019 — 2023

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1 - (WPH11/2(IAL)_Summer_2019_Q2) - *Waves And Particle Nature Of Light*

A filament lamp is a source of unpolarised light.

A polarising filter is placed between a filament lamp and an observer. The filter is rotated in the plane perpendicular to the direction of travel of the light.

Which of the following is observed as the filter is rotated through an angle of 90° ?

- A The light intensity changes from maximum to minimum.
- B The light intensity changes from minimum to maximum.
- C The light intensity does not change.
- D The light intensity is zero throughout the rotation.

2 - (WPH11/2(IAL)_Summer_2019_Q3) - *Waves And Particle Nature Of Light*

When a guitar string is plucked, a sound of constant frequency is heard.

The wave produced on the vibrating guitar string is

- A longitudinal and progressive.
- B longitudinal and stationary.
- C transverse and progressive.
- D transverse and stationary.

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3 - (WPH11/2(IAL)_Summer_2019_Q4) - *Waves And Particle Nature Of Light*

Which of the following has the largest de Broglie wavelength?

- A an electron travelling at $3.0 \times 10^5 \text{ m s}^{-1}$
- B an electron travelling at $4.0 \times 10^5 \text{ m s}^{-1}$
- C a neutron travelling at $3.0 \times 10^5 \text{ m s}^{-1}$
- D a neutron travelling at $4.0 \times 10^5 \text{ m s}^{-1}$

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4 - (WPH11/2(IAL)_Summer_2019_Q6) - *Waves And Particle Nature Of Light*

A string is stretched between two fixed points and set into oscillation.

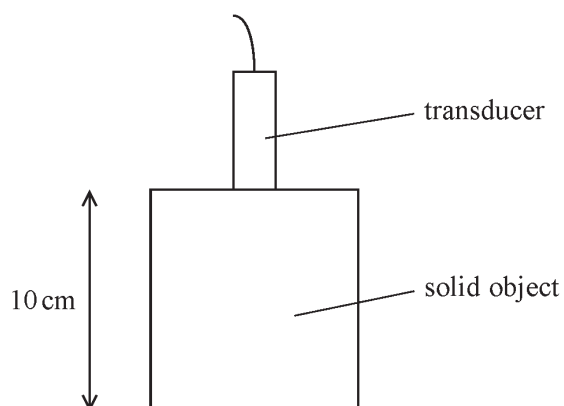
The frequency of the vibrating string is **not** dependent on

- A the amplitude of the string's vibration.
- B the length of the string.
- C the mass per unit length of the string.
- D the tension in the string.

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5 - (WPH11/2(IAL)_Summer_2019_Q7) - Waves And Particle Nature Of Light

An ultrasound transducer is placed on the surface of a solid object as shown.



A pulse of ultrasound is transmitted into the object. The pulse is received at the transducer $50 \mu\text{s}$ after it is emitted.

Which of the following can be used to calculate the speed of sound in this object?

- A $\frac{0.10}{50 \times 10^{-6}}$
- B $\frac{0.10}{25 \times 10^{-6}}$
- C $\frac{0.10}{100 \times 10^{-6}}$
- D $\frac{0.20}{25 \times 10^{-6}}$

ANSWERS

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1 - (WPH11/2(IAL)_Summer_2019_Q2) - *Waves And Particle Nature Of Light*

C

2 - (WPH11/2(IAL)_Summer_2019_Q3) - *Waves And Particle Nature Of Light*

D

3 - (WPH11/2(IAL)_Summer_2019_Q4) - *Waves And Particle Nature Of Light*

A

4 - (WPH11/2(IAL)_Summer_2019_Q6) - *Waves And Particle Nature Of Light*

A

5 - (WPH11/2(IAL)_Summer_2019_Q7) - *Waves And Particle Nature Of Light*

B

6 - (WPH11/2(IAL)_Summer_2019_Q10) - *Waves And Particle Nature Of Light*

B