

- 25** An electromagnetic wave in free space has a frequency of 2.5×10^{14} Hz.

Which region of the electromagnetic spectrum includes this frequency?

- A** infrared
- B** microwave
- C** ultraviolet
- D** X-ray

- 26** Two polarising filters are placed next to each other so that their planes are parallel.

The first polarising filter has its transmission axis at an angle of 50° to the vertical.

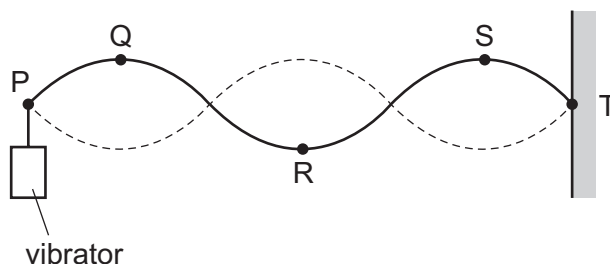
The second polarising filter has its transmission axis at an angle of 20° to the vertical. The angle between the transmission axes of the two polarising filters is 30° .

A beam of vertically polarised light of intensity 8.0 W m^{-2} is incident normally on the first polarising filter.

What is the intensity of the light that is transmitted from the second polarising filter?

- A** zero **B** 2.5 W m^{-2} **C** 2.9 W m^{-2} **D** 6.0 W m^{-2}

- 27** A stationary wave on a stretched string is set up between two points P and T.



Which statement about the stationary wave is correct?

- A** Point R is at a node.
- B** Points Q and S vibrate in phase.
- C** The distance between P and T is three wavelengths.
- D** The wave transfers energy from P to T.