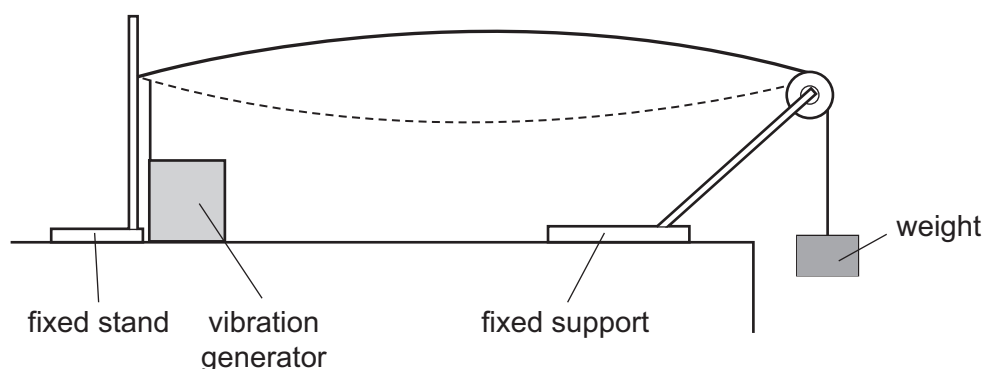


- 23 Electromagnetic waves from an unknown source in space were found to be significantly diffracted when passing through gaps of the order of  $10^{-5}$  m.

Which type of wave are they most likely to be?

- A radio waves
- B microwaves
- C infra-red waves
- D ultraviolet waves

- 24 The diagram shows a steel wire clamped at one end and tensioned at the other by a weight hung over a pulley.



A vibration generator is attached to the wire near the clamped end. A stationary wave with one loop is produced. The frequency of the vibration generator is  $f$ .

Which frequency should be used to produce a stationary wave with two loops?

- A  $\frac{f}{4}$
- B  $\frac{f}{2}$
- C  $2f$
- D  $4f$

**Space for working**