

**25** Which region of the electromagnetic spectrum has waves of wavelength 1000 times smaller than the wavelength of visible light?

- A** infra-red
- B** microwaves
- C** ultraviolet
- D** X-rays

**26** The diagram shows apparatus for the measurement of the frequency of a sound wave.



Sound of the unknown frequency is reflected back from a metal plate. A microphone placed at a distance  $D$  from the metal plate detects the sound intensity. A minimum intensity is detected with  $D = 12.0\text{ cm}$ . The plate is moved further away from the microphone until the next minimum is detected with  $D = 15.0\text{ cm}$ .

The speed of sound in air is  $336\text{ m s}^{-1}$ .

What is the frequency of the sound?

- A** 56 Hz                      **B** 112 Hz                      **C** 5600 Hz                      **D** 11 200 Hz

**27** An astronomer observes the light from a star that is moving away from the Earth.

For the observed light, what has been increased due to the star's motion?

- A** amplitude
- B** frequency
- C** speed
- D** wavelength