

- 21** A spring is stretched over a range within which elastic deformation occurs. Its spring constant is  $3.0 \text{ N cm}^{-1}$ .

Which row, for the stated applied force, gives the correct extension and strain energy?

	force / N	extension / cm	strain energy / mJ
<b>A</b>	3.0	1.0	1.5
<b>B</b>	6.0	2.0	120
<b>C</b>	12.0	3.0	180
<b>D</b>	24.0	8.0	960

- 22** Which statement about different types of electromagnetic wave is correct?

- A** The frequency of infra-red waves is less than the frequency of blue light.
- B** The frequency of radio waves is greater than the frequency of gamma rays.
- C** The wavelength of red light is less than the wavelength of ultraviolet waves.
- D** The wavelength of X-rays is greater than the wavelength of microwaves.

- 23** Orange light has a wavelength of 600 nm.

What is the frequency of this light?

- A** 180 GHz      **B** 180 Hz      **C** 500 THz      **D** 500 kHz

**Space for working**