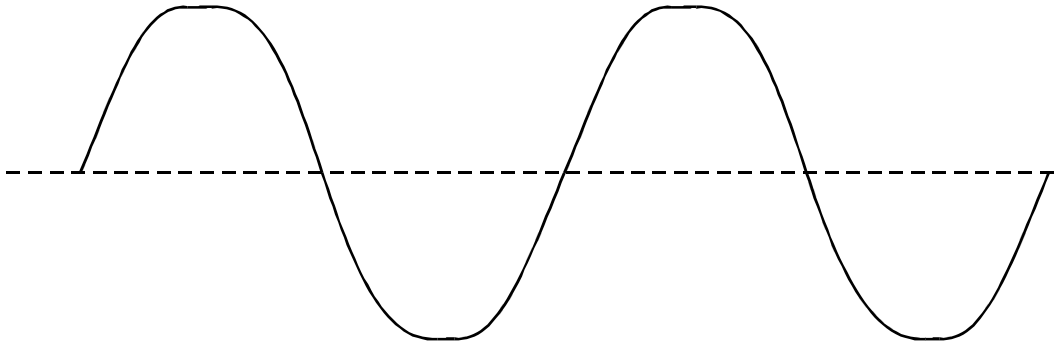# Waves Revision Questions

1.   The diagram represents part of an electromagnetic wave.

(a)   Mark on the wave:

　　　(i)   a wavelength;

(1)

　　　(ii)   the amplitude of the wave.

(1)

(b)   The frequency of a wave is the number of waves produced each second.

　　　What are the units of frequency?

　　　..

(1)

(c)   Complete the three missing names from the electromagnetic spectrum.

gamma rays		ultraviolet	visible light			radio waves

(3)

(d)   What part of the electromagnetic spectrum:

　　　(i)   harms your skin unless it is protected by sun-screen creams;

　　　..

(1)

　　　(ii)   is used to destroy cancer cells?

　　　..

(1)
(Total 8 marks)

2. The diagram shows oscilloscope traces of four waves, **A**, **B**, **C** and **D**. All four waves are drawn to the same scale.

A ︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿

B ︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿︿

C ︿︿︿︿︿︿︿︿︿︿︿︿︿︿

D ︿︿︿︿︿︿︿
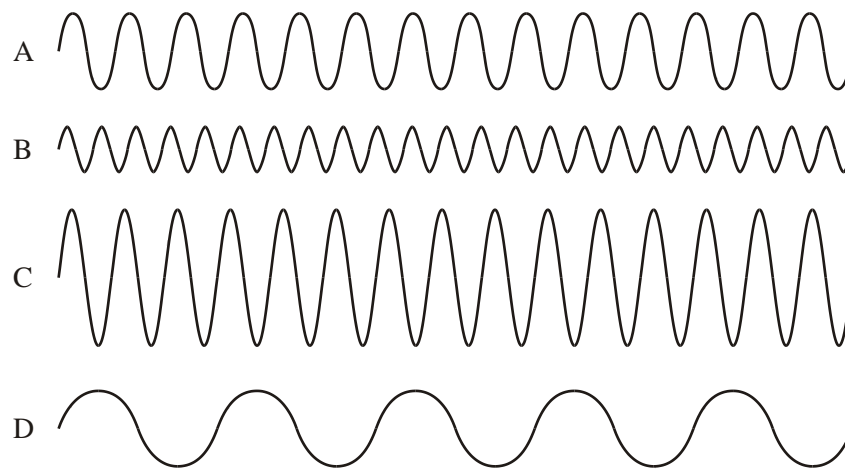
Which wave has:

(a)   the longest wavelength; ....

(b)   the greatest amplitude; ....

(c)   the highest frequency? ....

(Total 3 marks)

3.   (a)   Different types of electromagnetic radiation are used for different jobs.

Choose words from this list to complete the table below.

gamma rays   light   microwaves   radio waves   ultraviolet rays

TYPE OF RADIATION	WHAT THE RADIATION IS USED FOR
	to send along optical fibres in an endoscope
	to give skin a tan (but can cause cancer in cells)
	to sterilise surgical instruments
	to send information to and from satellites

(4)

(b)   The diagram shows the electromagnetic spectrum.

Shortest wavelength   - - - - - - - - - →   Longest wavelength

gamma rays	**A**	ultraviolet rays	light	**B**	micro waves	radio waves
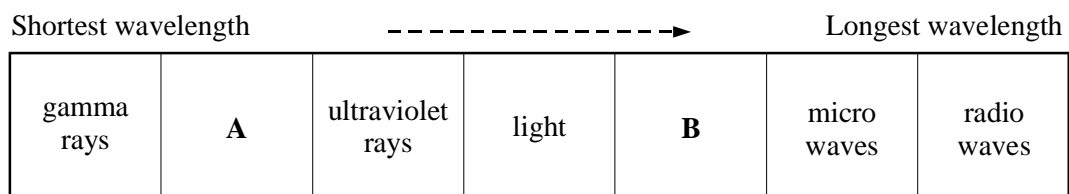
Complete the following.

A = ...   B = ...

(2)

(c)   Our bodies are exposed to gamma radiation all the time.   Write down two sources of this gamma
       radiation.

1   2   ....

(2)
(Total 8 marks)

4.   The diagram shows a water wave drawn to scale.

Horizontal distance in cm
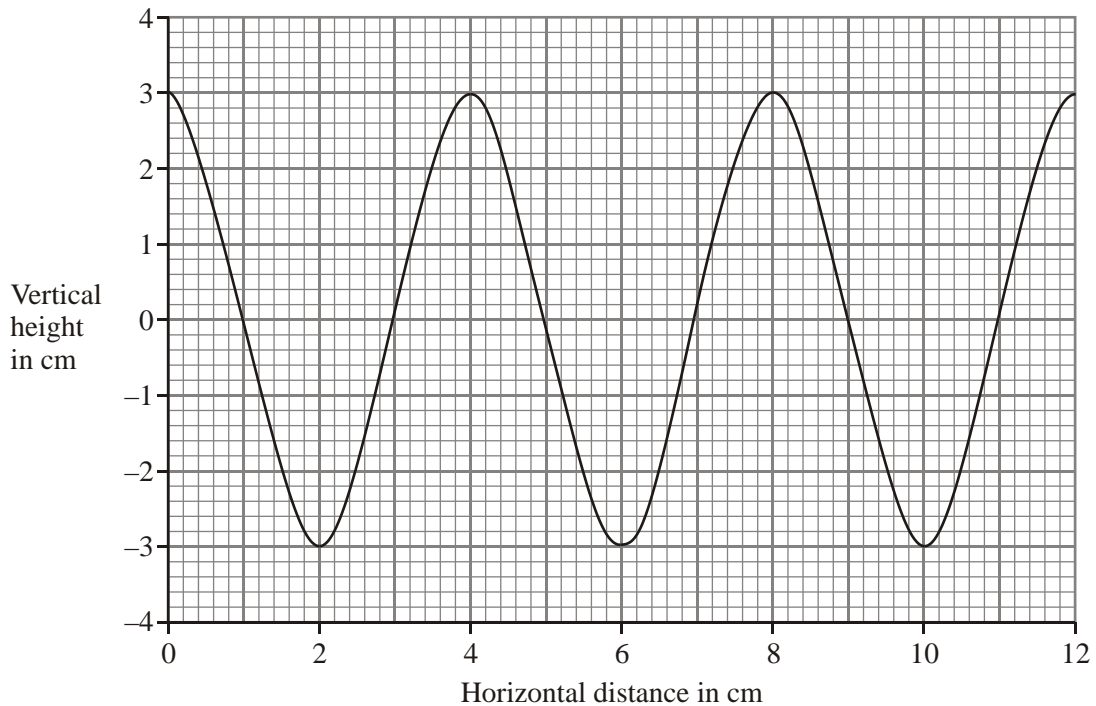
(a)   What is the wavelength of this water wave? .... cm

(1)

(b)   What is the amplitude? .... cm

(1)

(c)   Twelve waves pass an observer in four seconds.

       What is the frequency of the waves? Show clearly how you work out your answer and give the
       unit.

       ....

       ....

                                      Frequency = ...

(3)
(Total 5 marks)