

Practice Question Set For GCSE  
**Subject : Physics**  
**Paper-1 Topic : 6\_ Radioactivity**

**Name of the Student:** \_\_\_\_\_

**Max. Marks : 20 Marks**

**Time : 20 Minutes**

**Q1.**

(a) The table shows most of the waves in the electromagnetic spectrum.  
 One type of wave is missing.

gamma rays
.....
ultraviolet
visible light
infrared
microwaves
radio waves

(i) Write the missing wave in the space in the table.

(1)

(ii) State which type of wave can be split into different colours.

(1)

.....

(iii) State which type of wave has the longest wavelength.

(1)

.....

(iv) State **one** type of wave that is ionising.

(1)

.....

(b) The Sun emits all the waves in the electromagnetic spectrum.  
 Explain why all these waves take the same time to travel to Earth from the Sun.

(2)

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\*(c) Infrared and ultraviolet waves have different frequencies.

Both types of wave can have harmful effects on human beings.

Describe the harmful effects of infrared and ultraviolet waves, relating them to the frequencies of the waves.

(6)

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(Total for Question = 12 marks)

**Q2.**

(a) Microwaves and X-rays are both electromagnetic waves.

(i) Which row of the table is correct for microwaves and X-rays in a vacuum?

Put a cross (X) in the box next to your answer.

(1)

	their speeds are	their frequencies are
<input type="checkbox"/> <b>A</b>	different	different
<input type="checkbox"/> <b>B</b>	different	the same
<input type="checkbox"/> <b>C</b>	the same	different
<input type="checkbox"/> <b>D</b>	the same	the same

(ii) State **one** harmful effect of X-rays on living matter.

(1)

.....

.....

(b) X-rays are ionising radiation.

(i) State **one** other ionising radiation in the electromagnetic spectrum.

(1)

.....

.....

(ii) State **one** use of an ionising radiation.

(1)

.....

.....

(c) (i) State **one** way in which microwave radiation can be harmful to people.

(1)

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The microwaves used in ovens have a frequency of about 2450 MHz.  
Mobile phones emit microwaves with a frequency of about 2000 MHz.



Microwave ovens have shielding to protect people from the microwave radiation.  
(ii) Suggest why the same shielding is **not** necessary for mobile phones.

(3)

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(Total for Question = 8 marks)