

0 4

Figure 5 shows types of waves within the electromagnetic spectrum.

Some of the types of waves are represented by letters.

Figure 5

P	microwaves	Q	visible light	R	S	gamma rays
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0 4 . 1

Which letter shows the position of ultraviolet (UV) radiation within the electromagnetic spectrum?

[1 mark]

Tick **one** box.

P	<input type="checkbox"/>	Q	<input type="checkbox"/>	R	<input type="checkbox"/>	S	<input type="checkbox"/>
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0 4 . 2

A special lamp can produce UV radiation.

Which **two** statements describe the electromagnetic waves emitted by a UV lamp?

[2 marks]

Tick **two** boxes.

They have a higher frequency than X-rays.

They have the same wave speed as visible light.

They have a longer wavelength than microwaves.

They have a lower frequency than gamma rays.

They have a greater wave speed than radio waves.



0 4 . 3 UV radiation is used to treat a vitamin D deficiency.

People should **not** use a UV lamp for long periods of time.

State **two** risks of exposure to high levels of UV radiation.

[2 marks]

1 _____

2 _____

0 4 . 4 Ionising radiation is used for some medical imaging.

Name **two** types of electromagnetic waves that are used.

[2 marks]

1 _____

2 _____

7

Turn over for the next question

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.
04.1	R		1	AO1 6.6.2.1
04.2	they have the same wave speed as visible light		1	AO1 6.6.2.1
	they have a lower frequency than gamma rays		1	
04.3	any two from: <ul style="list-style-type: none"> • ageing of the skin • skin cancer • eye damage 	allow sunburn burn unqualified is insufficient cancer is insufficient allow mutation of genes in skin cells allow blindness	2	AO1 6.6.2.3
04.4	any two from: <ul style="list-style-type: none"> • gamma (rays) • X-rays • ultraviolet 		2	AO1 6.6.2.4
Total			7	