



Interactive Example Candidate Responses

Paper 3 (May / June 2016), Question 9

Cambridge IGCSE™
Physics 0625



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9 Fig. 9.1 represents the regions of the electromagnetic spectrum.

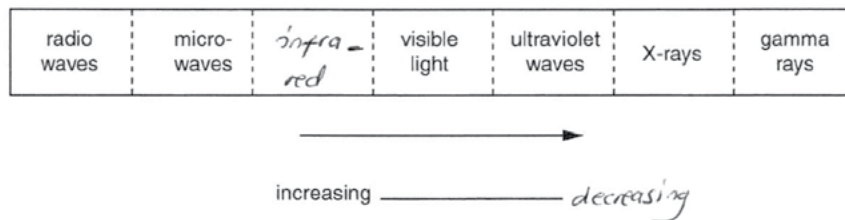


Fig. 9.1

(a) Complete Fig. 9.1:

(i) Add the label of the missing region. [1]

(ii) Complete the label under the arrow. [1]

(b) (i) State **two** uses of X-rays.

1. *They are used to kill cancer cells.*
2. *They are used for scanning human body in hospitals.*

[2]

(ii) Describe **two** safety precautions taken by people using X-rays.

1. *They should not be used for a long time.*
2. *People using X-rays should wear protective clothes.*

[2]

(iii) X-rays and light waves can both travel through a vacuum.

Identify the correct statement. Tick **one** box.

- ☐ X-rays travel at a slower speed than light waves.
- ☐ X-rays travel at the same speed as light waves.
- ☒ X-rays travel at a faster speed than light waves.

[1]

[Total: 7]

Select
page

Your
Mark

9(a)(i)

9(a)(ii)

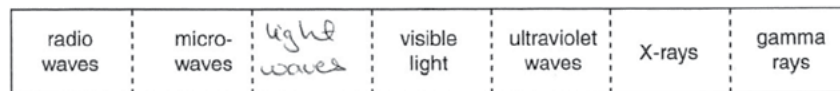
9(b)(i)

9(b)(ii)

9(b)(iii)

Q9	Mark scheme
(a)(i)	<u>infra-red</u>
(a)(ii)	frequency
(b)(i)	any two different applications from: <ul style="list-style-type: none"> (medical) imaging OR detecting fractures in bone OR specific example e.g. CT scan/imaging teeth at dentist detecting faults in metal security imaging e.g. airport security checks of bags cancer treatment
(b)(ii)	any two from: <ul style="list-style-type: none"> behind a screen OR lead apron large distance from X-ray beam monitoring of OR restricting exposure low dosage OR limit exposure time monitor frequency of x-ray sessions other people not allowed in room when X-ray being taken avoid when pregnant
(b)(iii)	same speed

9 Fig. 9.1 represents the regions of the electromagnetic spectrum.



increasing Speed

Fig. 9.1

(a) Complete Fig. 9.1:

(i) Add the label of the missing region. [1]

(ii) Complete the label under the arrow. [1]

(b) (i) State **two** uses of X-rays.

1. To check your skeleton (Medical Hospital use)
2. [2]

(ii) Describe **two** safety precautions taken by people using X-rays.

1. Safety goggles
2. gloves

(iii) X-rays and light waves can both travel through a vacuum.

Identify the correct statement. Tick **one** box.

- ☐ X-rays travel at a slower speed than light waves.
- ☒ X-rays travel at the same speed as light waves.
- ☐ X-rays travel at a faster speed than light waves.

[1]

[Total: 7]

Select page

Your Mark

9(a)(i)

9(a)(ii)

9(b)(i)

9(b)(ii)

9(b)(iii)

Q9	Mark scheme
(a)(i)	<u>infra-red</u>
(a)(ii)	frequency
(b)(i)	any two different applications from: <ul style="list-style-type: none"> • (medical) imaging OR detecting fractures in bone OR specific example e.g. CT scan/imaging teeth at dentist • detecting faults in metal • security imaging e.g. airport security checks of bags • cancer treatment
(b)(ii)	any two from: <ul style="list-style-type: none"> • behind a screen OR lead apron • large distance from X-ray beam • monitoring of OR restricting exposure • low dosage OR limit exposure time • monitor frequency of x-ray sessions • other people not allowed in room when X-ray being taken • avoid when pregnant
(b)(iii)	same speed

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