

Electromagnetic Spectrum – 2020 IGCSE 0625

1. March/2020/Paper_22/No.27

The wavelength of blue light changes from 4.7×10^{-7} m to 3.5×10^{-7} m as it passes from air to water.

What is the speed of this light in water?

- A 7.4×10^7 m/s
- B 1.3×10^8 m/s
- C 2.2×10^8 m/s
- D 3.0×10^8 m/s

2. March/2020/Paper_32/No.8(b)

(b) Fig. 8.2 shows the main regions of the electromagnetic spectrum.

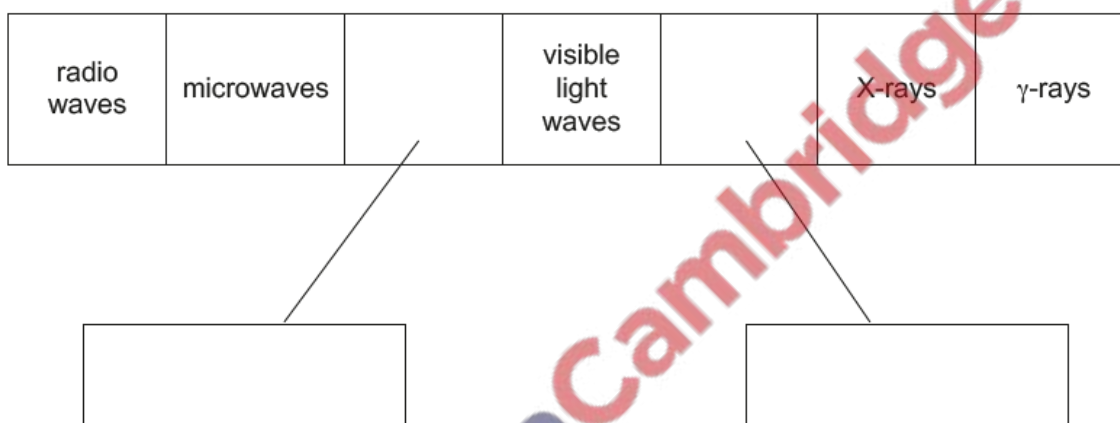


Fig. 8.2

(i) Two of the regions are not labelled.

Add the correct label to each of the unlabelled regions by writing in each box. [2]

(ii) Describe one use of γ -rays.

.....
..... [1]

3. June/2020/Paper_11/No.25

An intruder alarm sensor detects that a person is warmer than his surroundings.

Which type of electromagnetic wave does the sensor detect?

- A infrared
- B radio
- C ultraviolet
- D visible light

4. June/2020/Paper_12/No.25

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6. June/2020/Paper_21/No.24

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7. June/2020/Paper_22/No.21

The frequency of the microwaves used in a microwave oven is 2400 MHz.

What is the wavelength of these microwaves?

- A 0.125 m B 8.00 m C 125 m D 7200 m

8. June/2020/Paper_22/No.24

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Which type of electromagnetic wave does the sensor detect?

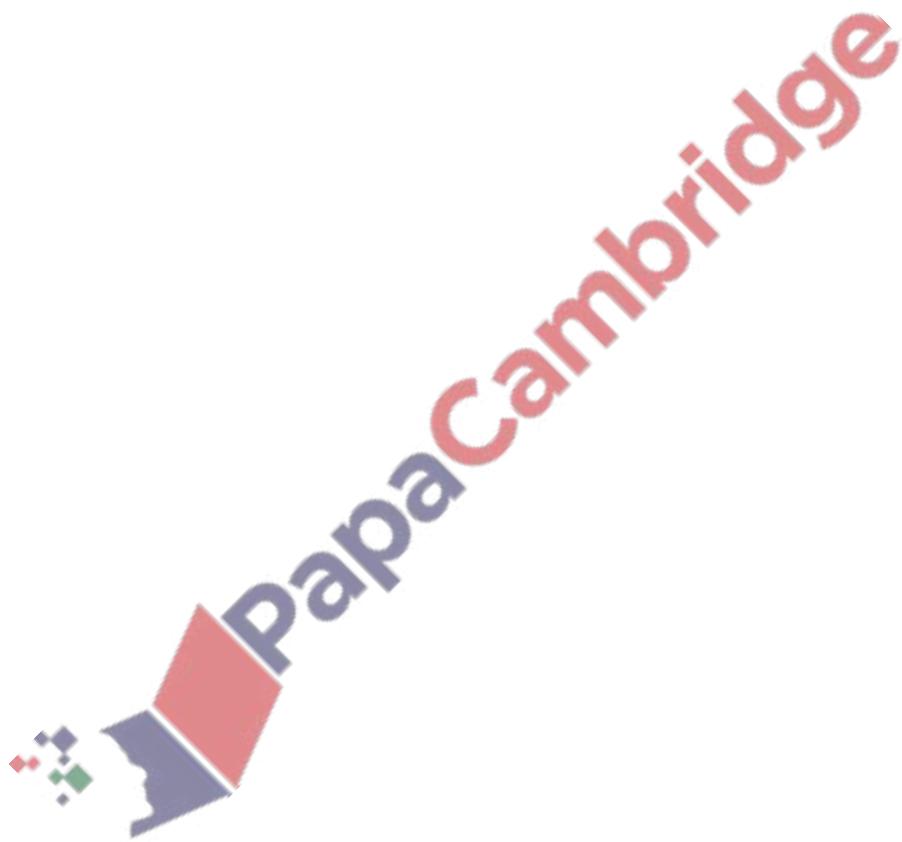
- A infrared
- B radio
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- D visible light

9. June/2020/Paper_23/No.24

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Which type of electromagnetic wave does the sensor detect?

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10. June/2020/Paper_32/No.7

Fig. 7.1 shows a diagram of the main regions of the electromagnetic spectrum. Two labels are missing.

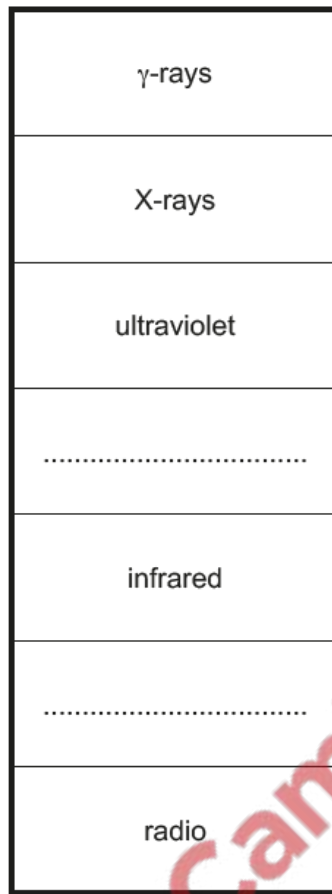


Fig. 7.1

(a) (i) Complete the labels on Fig. 7.1. [2]

(ii) State **two** properties that are the same for all waves in the electromagnetic spectrum.

1.

2.

[2]

(b) State which region of the electromagnetic spectrum is used in each situation.

(i) detecting objects without opening baggage at a security check

..... [1]

(ii) television remote control

..... [1]

(iii) satellite television transmissions

..... [1]

[Total: 7]