AQA - Electromagnetic waves – GCSE Physics

1. June/2021/Paper_2F/No.3(3.1)

0 3 There are different groups of waves in the electromagnetic spectrum.

0 3 . 1 **Figure 8** shows the position of three groups of the waves.

Figure 8

A	Microwaves	**B**	Visible light	**C**	**D**	Gamma rays

Which letter shows the position of infrared?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

2. June/2021/Paper_2H/No.5

0 5 Ultraviolet is a type of electromagnetic wave.

0 5 . 1 Give **one** use of ultraviolet.

[1 mark]

_____

0 5 . 2 An ultraviolet wave has a wavelength of 300 nanometres.

Which of the following is equal to 300 nanometres?

[1 mark]

Tick (✓) **one** box.

3×10^{7} m ☐

3×10^{-7} m ☐

3×10^{9} m ☐

3×10^{-9} m ☐

0 5 . 3 The speed of ultraviolet waves is 3×10^{8} m/s.

Calculate the frequency of the ultraviolet wave.

Use your answer to Question **05.2**

[3 marks]

_____

_____

_____

_____

_____

Frequency = _____ Hz

0 5 . 4 **Table 1** gives the wavelength of an ultraviolet wave and three other electromagnetic waves.

Table 1

	Ultraviolet	Wave E	Wave F	Wave G
Wavelength in nanometres	300	0.1	600	100 000

Draw **one** line from each wave to the name of the wave.

[1 mark]

Wave	Name
Wave E	Infrared
Wave F	Visible light
Wave G	X-rays

0 5 . 5 Electromagnetic waves are transverse.

Some other types of wave are longitudinal.

Describe the difference between transverse and longitudinal waves.

[2 marks]