

NAME	INDEX NUMBER
SCHOOL	DATE

ELECTROMAGNETIC SPECTRUM

1. 1995 Q26 P1

The table below shows the type of radiation, detection methods and uses of electromagnetic radiations. Complete the table.

2. Type of radiation	Detector	Uses
Ultra violet	Photographic paper fluorescence material	
	Phototransistor blackened thermometer	Warmth sensation
Radio waves		Communication

1998 Q20 P1

Table 1 carries information on the type of radiation, detector and use for some of the electromagnetic radiations. Fill in the blanks.

Type of radiation	Detector	Used
Microwave	Microwave receiver	
Visible light		Seeing / vision

3. 2000 Q34 P1

An atom changes from an excited state to an unexcited state releasing energy. State one factor that affects the frequency of the radiation released.

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4. 2001 Q27 P1

State the reason why radio waves signals are easier to receive than TV (television) signals in a place surrounded by hills.

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5. 2001 Q4b P2

In an excited hydrogen atom. An electron moves from an energy level of $-1.36 \times 10^{-19} \text{J}$. Determine the wavelength of the radiation emitted. (Planks constant $h = 6.63 \times 10^{-34} \text{Js}$ and speed of light $c = 3.0 \times 10^8 \text{ms}^{-1}$).

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6. 2002 Q16 P1

The chart below shows an arrangement of different parts of the electromagnetic spectrum.

RADIO	INFRARED	VISIBLE	A	X - RAYS	GAMMA RAYS
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Name the radiation represented by A.

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7. 2003 Q31 P1

Arrange the following in order of increasing frequency:
Visible light, infrared radiation, X – rays, u. v. radiation, radio waves.

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8. 2005 Q31 P1

Explain how an “excited’ hydrogen atom is able to emit radiations of different wavelengths.

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9. 2011 Q12 P2

Table 1 shows radiations and their respective frequencies.

Table 1

Type of radiation	Yellow light	Gamma rays	Rasio waves	Micro waves
Frequency (Hz)	1×10^{15}	1×10^{22}	1×10^6	1×10^{11}

Arrange the radiations in order of increasing energy. (1mark)

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