

Q1. (2018)

04.1	R		1	AO1 6.6.2.1
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Q2. (2019)

05.1	velocity		1	AO1 6.6.2.3	G
	frequency		1		
	wavelength		1		

Q3. (2020)

03.1	skin		1	AO1 6.6.2.4
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Q4. (2022)

01.1	energy		1	AO1 6.6.2.1
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Q5. (2022)

01.3	A = visible light	allow visible allow light	1	AO1 6.6.2.1
	B = gamma (rays / waves / radiation)		1	

Q6. (2023)

a)

06.1	A radio waves		2	AO1 6.6.2.1
	B microwaves			
	C X-rays	allow 1 mark if 2 correct		

b)

06.2	Similarity any one from: • same speed (in a vacuum) • both transfer energy • both transverse	allow both can travel through a vacuum allow both are ionising allow both can harm living tissue allow both can be used for medical treatment / imaging	1	AO1 6.6.2.2
	Difference any one from: • gamma has a higher frequency • gamma has a shorter wavelength • gamma is more ionising • gamma is more penetrating	allow gamma has more energy	1	