

# **Mark Scheme for June 2010**

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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Question		Expected Answers	Marks	Additional Guidance
1	a	A C E (1)	[1]	any order
	b	E (1)	[1]	
	c	A (1)	[1]	
	d	C (1)	[1]	<b>allow</b> B as ecf, if B given as answer to part a
		<b>Total</b>	[4]	
2	a	top – crust (1) middle – core (1) bottom – mantle (1)	[3]	
	b	CAB (1)	[1]	
	c	star (1) galaxy (1)	[2]	
		<b>Total</b>	[6]	
3	a	A (1) C (1) E (1)	[3]	any order
	b	B (1)	[1]	
		<b>Total</b>	[4]	
4	a	emits (1) reflects (1) absorbs (1)	[3]	
	b	infrared (1)	[1]	<b>allow</b> IR
		<b>Total</b>	[4]	
5	a	identifies both variables i.e. risk AND area; gives direction e.g. risk <i>decreases</i> with area	[2]	one mark for just saying negative correlation 'the more you wear the less chance of getting cancer' scores one only because area not clearly implied
	b	example has two variables (1) correlation between variables explicitly stated (1)	[2]	
		<b>Total</b>	[4]	

Question		Expected Answers	Marks	Additional Guidance
6		carbon dioxide (1) global warming (1) ultraviolet (1) cancer (1)	[4]	
		<b>Total</b>	[4]	
7	a	Microwaves heat by... <input checked="" type="checkbox"/> (1) Microwaves are ionising... <input type="checkbox"/> The screen on a... <input checked="" type="checkbox"/> (1) Mobile phones produce... <input checked="" type="checkbox"/> (1) Microwaves are blocked... <input type="checkbox"/> The higher the intensity... <input type="checkbox"/>	[3]	
	b	...skin from getting hot <input type="checkbox"/> ...reflect or absorb... <input checked="" type="checkbox"/> (1) ...transmit... <input type="checkbox"/> ...skin from getting cold <input type="checkbox"/>	[1]	
		<b>Total</b>	[4]	

Question		Expected Answers	Marks	Additional Guidance
8	a	government officials (1)	[1]	
	b	benefit – e.g. cures cancer (1) risk – e.g. causes more cancer/protects cancerous cells (1)	[2]	
	c	<p>cells being damaged <input type="checkbox"/></p> <p>cells becoming cancer cells <input type="checkbox"/></p> <p>cells killing themselves <input checked="" type="checkbox"/> (1)</p> <p>cells becoming radioactive <input type="checkbox"/></p>	[1]	
		<b>Total</b>	<b>[4]</b>	
9	a	beta (1) gamma (1) alpha (1)	[3]	
	b	gamma (1)	[1]	accept ecf as middle answer in table in part (a)
		<b>Total</b>	<b>[4]</b>	

Question		Expected Answers	Marks	Additional Guidance
10	a	<p>sensible comparison consistent with choice on efficiency (1)</p> <p>sensible comparison consistent with choice on cost (1)</p> <p>sensible comment consistent with choice on environmental factors (1)</p>	[3]	<p>marks may only be awarded for points based on information from the table..</p> <p>e.g. coal most efficient (1) relatively cheap (1) and does not produce radioactive waste (1)</p> <p>a sensible comment may be explaining why a feature is less important than another. e.g. wind is not the most efficient, but is still quite efficient.</p>
	b	idea that it is produced/made from another energy source (1)	[1]	<b>allow</b> named energy sources or 'primary source'.
		<b>Total</b>	[4]	

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