



GCSE

**Science A (4461) /
Physics (4451)**

Specification A

PHY1BP, PH1BSF & PH1BSH

Mark Scheme

2012 Examination – March Series

**The blank answer sheet for this component can be
found at the end of this document.**

This component is an objective test for which the following list indicates the correct answers used in marking the students' responses.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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GCSE
SCIENCE A (4461)/PHYSICS (4451)
 Objective Test Answer Key
PHY1BP (Radiation and the Universe)
March 2012
 Foundation Tier

Question	Key			
One	A	infra red waves	2	
	B	microwaves	1	
	C	radio waves	3	
	D	visible light	4	
Two	A	bones	4	
	B	film	2	
	C	soft tissue	3	
	D	X-ray tube	1	
Three	A	electron	1	
	B	neutron	4	
	C	nucleus	3	
	D	proton	2	
Four	A	2	4	
	B	6	3	
	C	150	2	
	D	600	1	
Five	A	alpha	4	
	B	beta	1	
	C	gamma	2	
	D	X-ray	3	
	A	B	C	D
Six	4	2	3	4
Seven	3	4	3	3
Eight	2	3	1	4
Nine	3	1	2	4

GCSE
SCIENCE A (4461)/PHYSICS (4451)
 Objective Test Answer Key
PHY1BP (Radiation and the Universe)
March 2012
 Higher Tier

Question	Key			
One	A	alpha		4
	B	beta		1
	C	gamma		2
	D	X-ray		3
Two	A	alpha particles		4
	B	beta particles		2
	C	gamma rays		3
	D	alpha, beta and gamma radiation		1
	A	B	C	D
Three	2	3	1	4
Four	3	1	2	4
Five	2	4	2	3
Six	1	3	4	3
Seven	1	3	1	4
Eight	4	2	2	4
Nine	1	3	2	4

Unit : PHY1BP PHYSICS UNIT 1B

Centre :

Candidate Number :

UCI :

Series : 3G12

Candidate Name :

01-MAR-12

For completion by the Examination Invigilator. Please fill this circle if the candidate is absent:

HIGHER TIER

Instructions on how to complete this answer sheet are given on the question paper. Please make sure you follow them carefully.

Questions ONE to NINE Choose one response 1 - 4 for each of the parts A - D

QUESTION ONE		1	2	3	4
1A	alpha	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	beta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	gamma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	X-ray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	alpha particles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	beta particles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	gamma rays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	alpha, beta and gamma radiation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FOUR		1	2	3	4
4A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SIX		1	2	3	4
6A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SEVEN		1	2	3	4
7A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION EIGHT		1	2	3	4
8A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION NINE		1	2	3	4
9A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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FOUNDATION TIER

Instructions on how to complete this answer sheet are given on the question paper. Please make sure you follow them carefully.

Questions **ONE** to **NINE** Choose one response **1 - 4** for each of the parts **A - D**

QUESTION ONE		1	2	3	4
1A	infra red waves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	microwaves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	radio waves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	visible light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	bones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	film	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	soft tissue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	X-ray tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A	electron	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B	neutron	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C	nucleus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D	proton	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FOUR		1	2	3	4
4A	2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B	6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C	150	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D	600	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A	alpha	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	beta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	gamma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	X-ray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SIX		1	2	3	4
6A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SEVEN		1	2	3	4
7A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION EIGHT		1	2	3	4
8A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION NINE		1	2	3	4
9A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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