



GCSE

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

Specification A

PHY1AP, PH1ASF & PH1ASH

Mark Scheme

2012 Examination – June 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

PHY1AP (Energy and Electricity)

June 2012

Foundation Tier

Question	Key			
One	A	conduction	1	
	B	convection	3	
	C	insulation	4	
	D	radiation	2	
Two	A	kinetic	1	
	B	light	4	
	C	sound	2	
	D	thermal	3	
Three	A	boiler	1	
	B	generator	3	
	C	transformer	4	
	D	turbine	2	
Four	A	5	1	
	B	27	4	
	C	340	3	
	D	540	2	
Five	A	coal-fired	1	
	B	geothermal	3	
	C	hydroelectric	2	
	D	wind farm	4	
	A	B	C	D
Six	4	3	1	3
Seven	4	1	2	2
Eight	3	3	3	1
Nine	4	2	1	3

GCSE

SCIENCE A (4461)/PHYSICS (4451)

Objective Test Answer Key

PHY1AP (Energy and Electricity)

June 2012

Higher Tier

Question		Key			
One	A	coal-fired	1		
	B	geothermal	3		
	C	hydroelectric	2		
	D	wind farm	4		
Two	A	coal	3		
	B	nuclear	2		
	C	tides	4		
	D	wind	1		
	A	B	C	D	
Three	3	3	3	1	
Four	4	2	1	3	
Five	2	4	4	3	
Six	1	4	3	1	
Seven	1	3	4	3	
Eight	1	2	4	4	
Nine	3	4	3	3	

Unit : PHY1AP PHYSICS UNIT 1A

Centre :

Candidate Number :

UCI :

Series : 6M12

Candidate Name :

22-JUN-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	coal-fired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	geothermal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	hydroelectric	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	wind farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	coal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	nuclear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	tides	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	wind	<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"/>

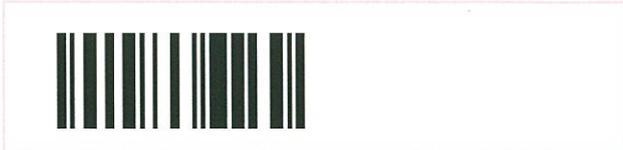
QUESTION SEVEN		1	2	3	4
7A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7D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

QUESTION TWO		1	2	3	4
2A	kinetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	thermal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

QUESTION FOUR		1	2	3	4
4A	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B	27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C	340	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D	540	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A	coal-fired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	geothermal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	hydroelectric	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	wind farm	<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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