



**General Certificate of Secondary Education**

**Science Double Award Modular 3468**

**Physics A 3453**

**Module 09: Energy**

*Module Test Answer Keys*

*November 2006 examination series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

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**Energy : Foundation Tier**

<b>Question No.</b>	<b>KEY</b>
One	1 – Kettle 2 – Torch 3 – Food mixer 4 – Radio
Two	1 – radiation 2 – reflection 3 – conduction 4 – currents
Three	1 – wind farms 2 – hydroelectric schemes 3 – geothermal schemes 4 – solar cells
Four	1 – fossil fuels 2 – hydroelectric schemes 3 – wind farms 4 – nuclear fuels
Five	1 – water flows through the sluice gates 2 – water is trapped behind the barrage 3 – water flows through the turbines 4 – electricity is generated
Six	No fuel is used No sulphur dioxide is produced
Seven	They are usually built in mountainous areas They can be used in reverse to store energy from surplus electricity
Eight	8.1 – D, 8.2 – D, 8.3 – B, 8.4 – B
Nine	9.1 – C, 9.2 – A, 9.3 – B, 9.4 – A
Ten	10.1 – D, 10.2 – A, 10.3 – B, 10.4 – D

**Energy : Higher Tier**

<b>Question No.</b>	<b>KEY</b>
One	1 – water flows through the sluice gates 2 – water is trapped behind the barrage 3 – water flows through the turbines 4 – electricity is generated
Two	1 – increases 2 – decreases 3 – rises 4 – is unchanged
Three	They are usually built in mountainous areas They can be used in reverse to store energy from surplus electricity
Four	P R
Five	5.1 – D, 5.2 – D, 5.3 – B, 5.4 – B
Six	6.1 – C, 6.2 – A, 6.3 – B, 6.4 – A
Seven	7.1 – D, 7.2 – A, 7.3 – B, 7.4 – D
Eight	8.1 – D, 8.2 – A, 8.3 – B, 8.4 – C
Nine	9.1 – B, 9.2 – B, 9.3 – D, 9.4 – C
Ten	10.1 – B, 10.2 – C, 10.3, – D, 10.4 – C