Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 3_ Conservation of Energy

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

		Indicative Content	Mark
		A discussion including some of the following points • Both HEP and Solar power are renewable • Both HEP and Solar power would save fossil fuels • HEP only possible in some locations • HEP requires reservoirs and damming of rivers • This can damage environment /takes a lot of land out of use • Energy from solar power installation is currently much less than energy from fossil fuel powered station • Solar power only suitable in certain locations • Solar power reliability dependent on constant sunshine • Neither of them cause atmospheric pollution	**(6)**
Level	**0**	No rewardable content	
1	**1 - 2**	• a limited description such as at least	

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		one relevant detail of each resource eg: Solar power doesn't give off atmospheric pollution. HEP generates more power than solar power. • the answer communicates ideas using simple language and uses limited scientific terminology • spelling, punctuation and grammar are used with limited accuracy
2	**3 - 4**	• a simple discussion such as one which gives comparisons between the two or at least an advantage and disadvantage of both. eg: HEP does not use fossil fuels but it can damage the environment where is it located. Solar power will never run out but it requires lots of light/land. • the answer communicates ideas showing some evidence of clarity and organisation and uses scientific terminology appropriately • spelling, punctuation and grammar are used with some accuracy
3	**5 - 6**	• a detailed comparison such as one which relates advantages and disadvantages of **both** HEP and solar power to a particular situation for possible large scale use e.g.: Solar power uses a renewable energy source but it currently does not produce as much energy as fossil fuel station where there is little sunlight. HEP can produce a lot more energy where there are hills and water but only possible in certain geographical locations. • the answer communicates ideas clearly and coherently uses a range of scientific terminology accurately • spelling, punctuation and grammar are used with few errors

Q2.

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Question Number	Answer	Additional guidance	Mark
	any two sources from: • oil • (natural) gas • coal • nuclear/uranium	accept petrol /diesel for oil accept fossil fuel(s) for any of the first three i.e. fossil fuel and oil or coal or gas scores 1 mark but fossil fuel and nuclear scores 2 marks	**(2)** AO 1 1

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Q3.

Question Number	Answer	Additional guidance	Mark
	discussion to involve two points each giving change and effect (max 4 marks) some examples: change: biomass-solar-geothermal (fraction) increases (1) effect: e.g. reduces greenhouse gas / CO_2 emissions (1) change: 'wind' (fraction) increases (1) effect: e.g. visual/noise pollution arguments (1) change: 'natural gas' (fraction) increases (1) effect: e.g. contributes to global warming (1) change: 'uranium' (fraction) decreases (1) effect: e.g. less radioactive waste (1)	ignore vague responses such as 'environmentally friendly', less pollution etc. candidates may give positive or negative effects for this change (and for oil) allow decreases (with a correct accompanying effect for 2 marks) accept conserves non-renewables but not just 'more renewable'	**(4)** AO 3 2a AO 3 2b

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Q4.

Question Number	Answer	Additional guidance	Mark
(i)	bioenergy	biofuel / biomass	(1) AO 3 1b

Question Number	Answer	Additional guidance	Mark
(ii)	largest area / fraction / percentage (idea)	**must be referring to the chart**, not just repeating 4bi stem- can't have greatest/ largest amount by itself	(1) AO 3 1b

Question Number	Answer	Additional guidance	Mark
(iii)	wind		(1) AO 3 1b

Q5.

	Answer	Acceptable answers	Mark
	light → electrical → **chemical** energy energy energy (1) (1)	These answers must be in the correct order	**(2)**

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