

Conservation of Energy and Power and Energy Forms 1 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	kinetic	accept movement	1
b)i)	3 (kWh)	allow 1 mark for selecting the correct information	2
b)ii)	transfers more energy	accept transform or use for transfer accept electricity for energy allow higher (average) power and switched on for more time	1
b)iii)	any one from: <input type="checkbox"/> use the internet <input type="checkbox"/> brochures <input type="checkbox"/> reading adverts <input type="checkbox"/> visiting shops <input type="checkbox"/> recommendation from friends / plumbers		1
Total marks			5

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	electric drill C MP3 player E toaster B		1 1 1
b)i)	2100	no unit required / ignore units accept 2.1 kW must have units for this	1
b)ii)	Y		1
b)iii)	bar drawn with any height greater	ignore width of bar	1

	than Y		
c)i)	any one from: ☑ holds more water ☑ works in other countries ☑ boils faster ☑ has a more powerful element ☑ can filter water	answers must be a comparison do not accept 1 litre of water on its own accept a named country accept works at 2 voltages do not accept 1 kW element on its own ignore can wash filter	1
c)ii)	any one from: ☑ it weighs less ☑ smaller to pack ☑ cheaper to use	answers must be a comparison or state why the chosen feature is an advantage accept boils enough for one drink	1
Total marks			8

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	9	allow 1 mark for correct substitution (1.8 × 5) an answer of 9000 gains 1 mark an answer of 2 or 15 gains 1 mark	2
b)	(3 kW) fan heater	accept 3 kW accept the middle one	1
c)	<u>oil-filled</u> low level heat cannot be knocked over / space saving / no trailing wires or more control over heat output <u>fan</u> warms (office) rapidly or can be used to cool air (in summer) <u>ceramic</u> can be switched on for set periods of time or	do not accept just wall-mounted do not accept just 3 heat settings accept can be used as a fan accept cool air fan (setting) accept 'it has a cool air setting in case it gets too hot' do not accept a specific reference to cooling the heater do not accept just has a timer	1 1 1

	can be switched on before office is used / switched off automatically at night		
Total marks			6

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	kinetic	do not accept movement	1
a)ii)	thermal sound	accept heat for thermal do not accept noise for sound both answers required in either order	1
b)	transferred to surroundings / surrounding molecules / atmosphere or becomes dissipated / spread out	'it escapes' is insufficient accept warms the surroundings accept degraded / diluted accept a correct description for surroundings eg to the washing machine do not accept transformed into heat on its own	1
c)	a smaller proportion / percentage of the energy supplied is wasted	owtte accept a statement such as 'less energy is wasted' for 1 mark do not accept costs less to run ignore references to uses less energy	2
Total marks			5

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	kinetic		1
b)	Z		1
c)i)	generates a lot more	need fewer conventional	1

	energy / electricity / power or can supply (energy / electricity / power) to more homes	large-scale hydroelectric power stations is neutral	
c)ii)	Large areas of land are flooded.		1
d)i)	National Grid	this answer only	1
d)ii)	less energy / heat loss (from the cables)	accept wasted for loss accept answers in terms of fewer transformers needed do not accept less electricity lost / wasted do not accept no energy lost	
e)	any one from: <input checked="" type="checkbox"/> fewer rivers (suitable for generators) <input checked="" type="checkbox"/> less mountainous (so rivers fall smaller distances)	accept answers in terms of difficulty linking villages and towns to grid (in Nepal) accept answers in terms of more isolated communities accept answers in terms of UK having more resources for large-scale power stations	1
Total marks			7