

Conservation of Energy and Power and Energy Forms 2 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	TV		1
a)ii)	hairdryer and sandwich toaster	both required either order but no others	1
b)	1.2	allow 1 mark for correct substitution ie 0.4×3 provided that no subsequent step is shown	2
c)i)	precise	accept any correct indication	1
c)ii)	any two from: less electricity needs to be generated less fuels needed less air / atmospheric pollution (non-renewable) energy sources last longer slows global warming / greenhouse effect	accept a named fuel used in any type of power station accept named pollutant eg CO ₂ accept reduces carbon / carbon dioxide emissions accept reduces radioactive waste accept running out of fossil fuels / a named fossil fuel do not accept stops global warming environmentally friendly is insufficient less pollution is insufficient	2
Total marks			7

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	electrical chemical light		1 1 1
b)	25 % or 0.25	allow 1 mark for correct	2

		substitution, ie $50 \div 200$ provided no subsequent step shown or answers of 25 with a unit or 0.25 with a unit gain 1 mark answers of 25 without a unit or 0.25% gain 1 mark	
c)	the information board can be used anywhere it is needed		1
Total marks			6

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	5(.0)		1
a)ii)	35 or their (a)(i) \times 7 correctly calculated	allow 1 mark for correct substitution, ie 5 or their (a)(i) \times 7 provided no subsequent step shown	2
a)iii)	decreases temperature difference (between inside and outside) decreases	do not accept air traps heat foam has air pockets is insufficient air is a good insulator is insufficient no convection current is insufficient answers in term of warm air from the room being trapped are incorrect and score no marks	1 1
Total marks			5

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	iron hairdryer kettle	answers can be in any order	1 1 1
Total marks			3

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	fan drill washing machine	four circled including correct three scores 1 mark five circled scores zero	1 1 1
b)	Appliances only transfer part of the energy usefully The energy transferred by appliances makes the surroundings warmer		1 1
Total marks			5

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	A		1
a)ii)	bar drawn with correct height	ignore width of bar	1
b)i)	2.4	$E = P \times t$ allow 1 mark for correct substitution ie 1.2×2 provided no subsequent step shown	2
Total marks			4

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	Chemical 1 Electrical 2 kinetic 3 thermal 4		
Total marks			4

QUESTION 8

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
	electrical energy	1	

	gravitational potential energy 2 sound energy 4 thermal energy 3		
Total marks			4