Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 5_ Light And Electromagnetic Spectrum

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Acceptable answers	Mark
(i)	**C** The Earth is radiating heat to space		**(1)**

Question Number	Answer	Acceptable answers	Mark
(ii)	An explanation linking any 2 of: • Hot material rises/cold material falls (1) • (causes) material under the plate to move sideways (1) • (because of) uneven heating (1)	convection current in the {mantle/magma/under plates} heat from core warms mantle near core IGNORE temperature difference (in stem)	**(2)**

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Q2.

	Answer	Acceptable answers	Mark
	An explanation linking • dissipating heat (1) • at same (rate)/as quickly as energy is being supplied (1)	gives out/radiates/conducts/ convects /loses /produces heat/thermal/ energy gives out as much energy/power as it takes in(each second) Gains both marks If no other marks scored: There is a constant current/ steady flow of energy into the heater gains one mark Ignore refs to thermostat	**(2)**

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Q3.

	Answer	Acceptable answers	Mark
(ai)	(Bow and arrow:) kinetic (1) (Electric kettle:) heat (thermal) (1) (Microphone:) sound (1)	Heat/thermal	**(3)**
(a)(ii)	Any **one** from (transferred into) thermal/heat/sound(energy) (1) (Energy) is dissipated (1)	Do not accept light energy or it disappears goes into surroundings/air (energy) is wasted/lost	**(1)**
(b)(i)	12 (J) Ignore any unit given by candidate.	20 - 8 (J)	**(1)**
(b)(ii)	An explanation linking any **two** of • (For the) same amount of electrical/supplied (energy/power) (1) • (CFL/it) has a greater output (of light energy) (1) • (CFL/it) wastes less (electrical energy) (1)	Same input (energy) gives out/produces more light/useful (energy) Do not accept more energy is used in the (CFL/it) Ignore brightness. (CFL/it) produces less thermal/heat (energy) Accept explanations using data from the energy transfer diagrams as comparisons eg (CFL/it) is four times as efficient gains both marks	**(2)**
(c)	An explanation linking • dissipating heat (1) • at same (rate)/as quickly as energy is being supplied (1)	gives out/radiates/conducts/ convects /loses /produces heat/thermal/ energy gives out as much energy/power as it takes in(each second) Gains both marks If no other marks scored: There is a constant current/ steady flow of energy into the heater gains one mark Ignore refs to thermostat	**(2)**

Total for Question = 9 marks

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Q4.

Question Number	Answer	Acceptable answers	Mark
(a)	A transverse and electromagnetic		**(1)**

Question Number	Answer	Acceptable answers	Mark
(b)	Evaluation 171.5 (1) Substitution (34.3/171.5) x 100 (1) Evaluation 20 (%) (1)	award full marks for correct answer with no working 34.3 x 5 [34.3 /(34.3 x 5)] x 100 [34.3 /(34.3 x 5)] [34.3 /171.5] Allow 0.2 or 1/5 for 3 marks	**(3)**

Question Number	Answer	Acceptable answers	Mark
(c)	rate of {energy/heat} (from the Sun){absorbed/taken in} (1) equals rate of {energy/heat} {radiated/emitted/given out}(1)	Allow 'energy in = energy out' for 1 mark 'power in = power out' for 2 marks	**(2)**

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