Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 3_Conservation Of Energy

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

Mark Schemes

Q1.

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)**

Q2.

Question Number	Answer	Acceptable answers	Mark
(a)(i)	B (50 m)		**(1)**

Question Number	Answer	Acceptable answers	Mark
(a)(ii)	kinetic (1) electrical (1) in this order.	movement electric, electricity poor spellings of electrical electronic Reject 2 forms of energy in one answer	 **(2)**

Question Number	Answer	Acceptable answers	Mark
(b)(i)	140 (J)	200 – 60 140 in words	 **(1)**

Question Number	Answer	Acceptable answers	**Mark**
(b)(ii)	• substitution (1) $\frac{60}{200} \times 100$ % • evaluation (1) 30 %	$\frac{60}{200}$ 0.3 ignore units Award full marks for correct answer with no working	 **(2)**

Question Number	Answer	Acceptable answers	Mark
(b)(iii)	explanation linking: • energy supplied and radiated (1) • (at) equal (rate) (1)	allow used for radiated heat gained = heat lost 2 marks input energy = output energy 2 marks input power = output power 2 marks input = output 1 mark	**(2)**

Question Number	Answer	Acceptable answers	Mark
(c)	• substitution (1) $\frac{6000}{250}$ • evaluation (1) 24 (years)	Award full marks for correct answer with no working ignore units	**(2)**

Q3.

Question Number:	Answer	Mark
(i)	☒ C a neutron **The only correct answer is C (neutron causes U-235 fission)** **A** is not correct – incorrect particle **B** is not correct – incorrect particle **D** is not correct – incorrect particle	(1)

Question Number	Answer	Additional guidance	Mark
(ii)	recall and substitution (1) $1.2 \times 10^{-11} = ½ \times 1.4 \times 10^{-25} \times v^2$ rearrangement (1) $v^2 = \frac{2 \times 1.2 \times 10^{-11}}{1.4 \times 10^{-25}}$ evaluation (1) (v=) 1.3×10^7 (m/s)	accept rearrangement and substitution in either order ignore POT until evaluation $v^2 = 1.71 \times 10^{14}$ allow numbers that round to 1.3×10^7 (m/s) 1.3 to any other power of ten scores 2 marks award full marks for the correct answer without working	(3)