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

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes
Q1.

	Answer	**Acceptable answers**	**Mark**
(a)	kinetic (energy)	Movement (energy) KE	**(1)**
(b)	substitution: 0.6 × 20 (1) evaluation 12 (1) J (1)	give 2 marks for correct answer no working unit is an independent mark joules, Nm, kgm^2/s^2, Ws	**(3)**
(c)	substitution: 0.5 × 18 (1) evaluation 9.0 (1)	9 give full marks for correct answer no working	**(2)**

		Indicative Content	**Mark**
QWC	***(d)**	a description including some of the following points: • chemical to kinetic while in his hand • kinetic (gradually) to potential while rising / from 0-10 m • eventually all potential at 10 m with a little thermal (heat) energy • some mention of conservation of energy • potential (gradually) to kinetic as falls / 10 m-0 • with a little more thermal (heat) energy	**(6)**

		• at 0 m sound energy • at 0 m thermal (heat) energy	
Level	**0**	No rewardable content	
1	**1 - 2**	• a limited description which identifies a change in one relevant type energy or a transfer of energy from one form to another e.g. kinetic energy increases OR kinetic energy changes to sound. • 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 description giving detail of a relevant energy change/transfer e.g. kinetic energy changes into potential energy as it moves upwards OR kinetic energy increases as it falls. • 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 description of a sequence of relevant energy changes /transfers e.g. kinetic energy is transferred into potential energy as it rises. This then changes back into kinetic energy as it falls back down. • the answer communicates ideas clearly and coherently uses a range of scientific terminology accurately • spelling, punctuation and grammar are used with few errors	

Q2.

Question number	Answer	Additional guidance	Mark
(a)(i)	0.45 (s) (1)	Allow any value ≥ 0.4 and ≤ 0.5	**(1)**

Question number	Answer	Additional guidance	Mark
(a)(ii)	An explanation that combines improvement of the experimental procedure (1 mark) and justification/reasoning which must be linked to the improvement (1 mark) • take pictures more frequently (1) • in order to determine exact time of the release. (1)	other responses may be acceptable	(2)

Question number	Answer	Additional guidance	Mark
(a)(iii)	Substitution (1) F = 7.26 x 20.6 Evaluation (1) 150 (N)	Accept 149.6 (N) full marks will be awarded for correct numerical answer without working	(2)

Question number	Answer	Additional guidance	Mark
(a)(iv)	Rearrangement (1) v = a x t Substitution (1) v = 23 x 0.48 Evaluation (1) 11 m/s	Accept 11.04(m/s) full marks will be awarded for correct numerical answer without working	(3)

Question number	Answer	Additional guidance	Mark
(b)	Substitution (1) PE = 7.26 x 10 x 1.3 Evaluation (1) 94.4 (J)		(2)