Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 2_Motion and Forces

Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Mark Schemes

Q1.

	Answer	Acceptable answers	Mark
	A 600 kg m/s		**(1)**

Q2.

	Answer	Acceptable answers	Mark
(a)	**C** when the bungee cord is stretched the most		**(1)**
(b)	**A** 600 kg m/s		**(1)**
(c)(i)	Substitution: (1) 60 × 10 × 50 or 600 × 50 Evaluation: (1) 30 000 Unit: (1) J / Nm	give two marks for correct answer no working j / joule 30 kJ for full marks	**(3)**
(c)(ii)	After falling 50 m / when the cord becomes straight/when cord starts to stretch	tension starting to increase at terminal velocity ignore maximum velocity/speed	**(1)**
(c)(iii)	An explanation linking any two of not all GPE is transferred to KE (1) some of the GPE transfers to thermal energy /work is done (1) due to drag (1)	not all GPE goes to KE maximum energy is same (value) as GPE before falling /speed does not reach the speed at which he should fall some lost as heat/sound (of rope or movement through air) (air) resistance / friction ignore wind	**(2)**

Q3.

Question	Answer	Additional guidance	Mark
(i)	x represents **time** OR **t** y represents **velocity** OR **v**	both correct in correct place for 1 mark ignore units	**1 AO1.1**

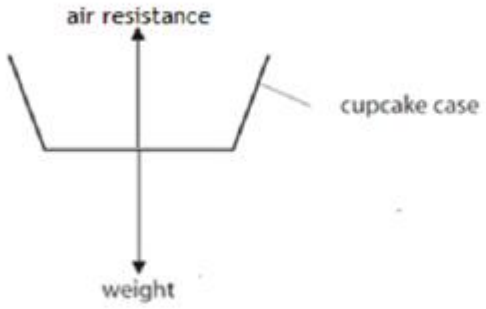
Question	Answer	Additional guidance	Mark
(ii)	attempt to find a gradient of the line that would give an answer between 0.18 and 0.24 (1) evaluation(1) 0.21 (m/s^2)	e.g. $\frac{12.5}{60}$ or $\frac{10}{42}$ values that are between 0.20 and 0.22 (m/s^2) e.g. 0.2083 do not allow fractions in the answer line for evaluation mark award full marks for the correct answer without working	**2 AO2.1**

Question	Answer	Additional guidance	Mark
(iii)	0	zero	**1 AO2.1**

Q4.

Question number	Answer	Additional guidance	Mark
(i)	A description to include any 4 from: measure height (1) measure time of fall (1) use (average) speed=distance ÷ time (1) repeat with different number of cupcake cases in the stack/more cupcake cases (1) repeat **and** average time (of fall for each stack of cupcake cases) (1) plot a graph (speed of fall against number of cupcake cases dropped) (1)	 allow 'keep same height' allow in this context hold against (fixed point on) metre rule allow 'time it' accept cupcakes for cupcake cases	**(4) AO1**

Question Number	Answer	Additional guidance	Mark
(ii)	substitution (1) (W=)0.005 x 10 evaluation (1) 0.05 (N)	 5×10^{-2} (N) do not allow power of ten error award full marks for the correct answer with no working give full credit for use of g=9.8 or 9.81 N/kg	(2) AO2

Question number	Answer	Additional guidance	Mark
(iii)	 air resistance arrow (1)	Judge by eye any vertical upward arrow outside or inside the cupcake case ignore length of arrow arrow need not touch cupcake holder ignore label on arrow	(1) AO2

Question number	Answer	Additional guidance	Mark
(iv)	zero / there is none / 0 / it has no acceleration	ignore 'constant' ignore units	(1) AO2