Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : Motion And Forces

Name of the Student:_____
Max. Marks : 12 Marks **Time : 12 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Additional guidance	Mark
(i)	a description to include: add weight / mass (1) to the weight hanger (1)	ignore references to friction here by inclining runway allow (component of) gravity to act on trolley	(2) AO 1 2

Question Number	Answer	Additional guidance	Mark
(ii)	a description to include: transfer mass (1) between trolley and hanger (1)	allow weight(s) for mass mass removed from trolley = mass added to hanger for 2 marks	(2) AO 1 2

Question Number	Answer	Additional guidance	Mark
(iii)	an explanation that links: raise one end of the runway (1) (so that) trolley (not attached to weight hanger) rolls at constant speed / just starts to move / (force of) gravity (on the trolley) balances forces of friction (1)	 credit methods for reducing friction directly (e.g. oil wheels, runway etc.) to reduce (effects of) friction allow credit for identifying magnitude of frictional forces and subtracting or using graph	**(2)** AO 3 3b

Q2.

	Answer	Acceptable answers	Mark
(i)	substitution (1) 0.65 = 80 / t transposition (1) t = 80 / 0.65 (123 seconds)	transposition and substitution can be in either order . Allow reverse calculations eg speed = 80/120 (1) = 0.67 (about 0.65) (1) or distance = 0.65 × 120 (1) = 78 km (about 80) (1).	**(2)**
(ii)	A description linking any three detection of arrival of P and S waves (1) measurement of difference in arrival times (1) calculation of distance (from epicentre to station) (1) triangulation/using three / several stations (1)	Reward suitable labelled diagram	**(3)**
(iii)	A suggestion including any two of the following Infrasound (1) some animals can hear waves below human frequency range / 20 Hz (1) they could hear P waves arriving before the (stronger) S waves arrive (1)	Some animals have greater audio / tactile sensitivity than humans	**(2)**