Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 4_ Waves

Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

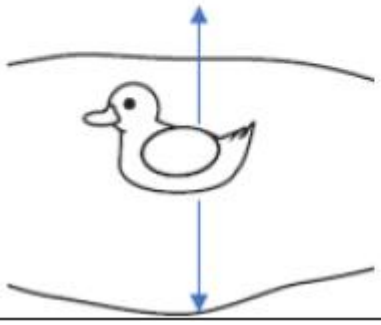
Mark Schemes

Q1.

Question number	Answer	Mark
	An answer that combines the following points of understanding to provide a logical description: • use a stopwatch (1) • start timing when flash is seen and stop when bang is heard (1)	(2)

Q2.

Question number	Answer	Additional guidance	Mark
(i)	a description to include: use (wave) speed = $\frac{\text{distance}}{\text{time}}$ (1) find relevant time (1) measure specified distance (1)	 use $v = f \times \lambda$ count number of waves in specified time width / radius / circumference of pond do not accept wavelength	3 AO2.2

Question number	Answer	Additional guidance	Mark
(ii)	arrow(s) up and/or down (1) 	judge by eye need not be on duck do not credit answers that imply duck (also) moves horizontally	**1** **AO1.1**

Q3.

Question Number	Answer	Additional guidance	Mark
(i)	a description including count the number of waves/ripples (1) (that pass a point) in a certain time (1) OR measure the time for a certain number of waves/ripples (1) use of f = 1/T (1)	accept use of numerical values calculate the number of waves that pass the point in a second scores 2 marks	(2) AO1

Question Number	Answer	Additional guidance	Mark
(ii)	a description including any two from the waves/ripples are made to look stationary (1) measure the distance across a number of waves/wave fronts/ripples (1) calculate the wavelength from the measurements (1)	 using camera, video, strobe light, stroboscope, mobile, phone, photo(graph) accept measure the distance across a number of lines divide distance by the number of waves/ripples accept the idea of measuring the distance between one wave/ripple/line and another (successive) wave/ripple/line for 2 marks	(2) AO1

Q4.

Question number	Answer	Additional guidance	Mark
	An answer that combines the following points to provide a method: • use a stop watch (1) • count number of waves that reach the bank in a given time (1)		(2)

Q5.

Question Number	Answer	Additional guidance	Mark
	a description to include: • longitudinal – (vibrations) parallel to (direction of travel) (1) • transverse – (vibrations) at right angles to (direction of travel) (1) • (connection between) direction of travel with (direction of) vibrations (1)	back and forth (oscillations)/ compressions or rarefactions up and down (oscillations)	**(3)** AO 1 1

Q6.

Question Number	Answer	Acceptable answers	Mark
(a)	**A** longitudinal : yes		**(1)**

Question Number	Answer	Acceptable answers	Mark
(b)	An explanation linking any two of:		**(2)**
	1. A cause or description of earthquakes (1)	The release of {energy / pressure/friction force} (in Earth's surface) (caused when tectonic) plates slide past each other any idea of relative movement of plates e.g. move over each other, collide
	2. why timing of earthquake is uncertain / complex (1)	(movement of plates is) {sudden / random / jerky} it is too difficult to {work out / measure} when release of energy will happen
	3. we cannot see {what is happening deep inside the Earth / where the plates are rubbing} (1)	"it is difficult to measure when the plates will collide" = 2 marks