Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 9_Forces and their effect

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

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
	substitution (1) (moment) = 200 x 3(.0) evaluation (1) 600 (Nm) unit (1) Nm	award full marks for correct answer without working independent mark ignore J / Joules	**(3)** **AO2**

Q2.

Question number	Answer	Additional guidance	Mark
	substitution (1) (moment =) 4(.0) x 5(.0) (/100) evaluation (1) (moment =) 0.2(0) (Nm)	 2 to any incorrect power of ten scores 1 mark e.g. 20 or 2000 etc award full marks for the correct answer without working	**(2)** **AO2**

Q3.

Question number	Answer	Additional guidance	Mark
	rearrangement (1) force up = (force down × distance of force down from pivot)/distance of force up from pivot substitution into correct equation (1) $F = \frac{120 \times 1.3}{0.40}$ answer (1) 390 (N)	award full marks for correct numerical answer without working	**(3)**

Q4.

Question Number	Answer	Additional guidance	Mark
(i)	(In every second), distance moved by chain around large gear = distance moved by chain around small gear (1) 2 x 48 = turns x 12 rearrangement and evaluation (1) 8 (turns each second)	accept use of gear ratio seen or implied e.g. 4:1 or 4/1 or 48:12 or 48/12 or converse e.g. 1:4 award full marks for the correct answer without working	(2)

Question Number	Answer	Additional guidance	Mark
(ii)	An explanation linking reduces friction/amount of thermal energy transferred (1) extra useful energy is available/less input energy is required (1) efficiency = useful energy transferred (by the bicycle) ÷ total energy supplied (to the bicycle) (1)	 (oil provides) lubrication less energy wasted allow for the last **two** mark points; **either** less input energy is required to produce the same output for **2** marks **or** more output energy is available for the same input energy for **2** marks	(3)

Q5.

Question number	Answer	Mark
	(i) gravitational (1) (ii) friction (1) (iii) electrostatic (1)	**(3) AO1**

Q6.

Question number	Answer	Additional guidance	Mark
	An answer that combines the following points of understanding to provide a logical description: named force (acting at a distance) (1) situation (1)	 e.g. magnetic force between two (magnetic) poles	**(2)**