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

Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

Question Number:	Answer	Mark
(i)	C gravitational **The only correct answer is C** ***A*** *is not correct as the moon does not touch the Earth* ***B*** *is not correct as the Earth does not carry a charge* ***D*** *is not correct as the Earth has a magnetic field but it does not extend far enough to have any effect on the moon*	**(1)** AO 2 1

Question Number:	Answer	Mark
(ii)	C energy **The only correct answer is C** ***A*** *is not correct as velocity is a vector quantity* ***B*** *is not correct as momentum is a vector quantity* ***D*** *is not correct as acceleration is a vector quantity*	**(1)** AO 1 1

Q2.

Question Number:	Answer	Mark
(i)	C gravitational **The only correct answer is C** ***A*** *is not correct as the moon does not touch the Earth* ***B*** *is not correct as the Earth does not carry a charge* ***D*** *is not correct as the Earth has a magnetic field but it does not extend far enough to have any effect on the moon*	**(1)** AO 2 1

Question Number:	Answer	Mark
(ii)	C energy **The only correct answer is C** ***A*** *is not correct as velocity is a vector quantity* ***B*** *is not correct as momentum is a vector quantity* ***D*** *is not correct as acceleration is a vector quantity*	**(1)** AO 1 1

Q3.

Question number	Answer	Mark
(i)	B	(1)

Question number	Answer	Mark
(ii)	vertical arrow, acting downward through the suitcase	(1)

Q4.

Question number	Answer	Mark
	D makes 2 complete anticlockwise turns	**(1)**

Q5.

Question Number	Answer	Mark
	The only correct answer is B: force Q **A is incorrect** because the moment of force P about the axle is zero. **C is incorrect** because moment of force R about the axle is zero. **D is incorrect** because moment of force S about the axle is zero.	**(1)**

Q6.

Question number	Answer	Mark
	B force A, C and D are all scalars; B is the only vector	**(1)** **AO1**

Q7.

Question number	Answer	Mark
	C It has direction and size Option C is the only correct combination for a vector quantity	(1) AO1

Q8.

Question number	Answer	Mark
	B plotting compass A is incorrect because a force causes a linear movement. C is incorrect because the liquid column expands or contracts linearly. D is incorrect because the slider is moved linearly	**(1)** **AO1**

Q9.

Question number	Answer	Additional guidance	Mark
	(speed of R is) same (as speed of) P (1) (sense/direction of R is) same (as sense/direction of P) (1)	 clockwise / to the right mark may be awarded by arrow on diagram (provided it is not contradicted by a statement)	**(2)** **AO1**

Q10.

Question Number:	Answer	Additional guidance	Mark
(i)	substitution(1) (moment) =650 x 0.75 evaluation(1) 490 unit (1) Nm	 accept any value that rounds to 490 e.g. 487.5 allow a maximum of 1 mark out of the first two marking points for a power of ten error independent mark award full marks for the correct answer without any working	(3) AO 1 1 AO 2 1

Question Number:	Answer	Additional guidance	Mark
(ii)	(sum of the) clockwise moments (about a point) = (sum of the) anticlockwise moments (about that point) (1)	idea that moments on each side of a pivot can be balanced	(1) AO 1 1

Question Number:	Answer	Additional guidance	Mark
(iii)	substitution(1) 160 x distance of effort from pivot = 490 rearrangement (1) distance of effort from pivot = $\frac{490}{160}$ evaluation (1) 3.1(m)	substitution and rearrangement in either order accept 160 x distance of effort from pivot = 487.5 160 x distance from pivot =650 x 0.75 accept $\frac{650 \times 0.75}{160}$ $\frac{487.5}{160}$ accept any value which rounds to 3 maximum of two marks for a power of ten error award full marks for the correct answer without working	**(1)** AO 2 1