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 |
|---|---|---|
| | An answer that combines points of interpretation/evaluation to provide a logical description:<br>Use of lubrication / oil (1)<br>To reduce friction (between parts) (1) | **(2)** |

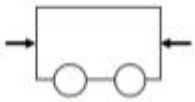
Q2.

| Question number | Answer | Mark |
|---|---|---|
| | An explanation identifying the fact that the forces shown are acting on two different bodies / they are not acting on the same body (1) | **(1)** |

Q3.

| Question number | Answer | Mark |
|---|---|---|
| | C a javelin moves through the air after leaving an athlete's hand | **(1)** |

Q4.

| Question number | Answer | Mark |
|---|---|---|
| | B<br>  <br>A, C and D are incorrect because they all show a resultant force which would cause the trolley to accelerate | **(1)** |

Q5.

| Question number | Answer | Additional guidance | Mark |
|---|---|---|---|
| | D 6 N up<br><br>A and C are incorrect because the force is upwards<br>B is incorrect because the force is the sum of the two weights given. | | **(1)**<br>**AO3** |

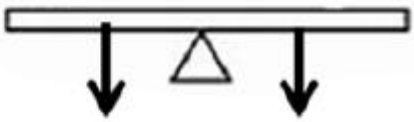
Q6.

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

Q7.

| Question number | Answer | Additional guidance | Mark |
|---|---|---|---|
| | B<br>arms provide an upward force and feet act as a pivot<br><br>A and C are incorrect because the rotation is not around the hands. D is incorrect because the legs are not providing an upward force that causes rotation | | **(1)**<br>**AO3** |

Q8.

| Question number | Answer | Mark |
|---|---|---|
| | B<br>  <br>A,C and D are incorrect as the forces would cause the seesaw to turn | (1) |

Q9.

| Question number | Answer | Additional guidance | Mark |
|---|---|---|---|
| | Any three from:<br>• use a higher current as the force depends on the current (1)<br>• use more/stronger/larger range of magnets (1)<br>• use a force meter with smaller range, e.g. 0.00 to 0.01 (1)<br>• use a longer distance from pivot to increase the moment of the force on the wire (1) | accept voltage for current<br><br>add variable resistor (in series) with power supply<br><br>accept use more sensitive force meter | **(3)** |

Q10.

| | Answer | Acceptable answers | Mark |
|---|---|---|---|
| **(a)(i)** | B to the left ← | | **(1)** |
| **(a)(ii)** | A accelerating | | **(1)** |
| **(a)(iii)** | substitution<br>625x 10<br>(1)<br>Evaluation<br>6250 (N)<br>(1) | 625 x 9.8 6125 (N) give full marks for correct answer, no working | **(2)** |
| **(b)(i)** |  <br>(1) <u>air</u> resistance<br>(1) | upward arrow on any part of line vertical line from any point on the diagram <u>air</u> friction, upthrust, drag Ignore any downward arrow labelled weight or gravity | **(2)** |
| **(b)(ii)** | Balanced (1) Zero (1) | | **(2)** |

Total for marks for question = 8