Practice Question Set For GCSE
**Subject : Physics**
**Paper-2 Topic: Forces (Low Demand Questions)**

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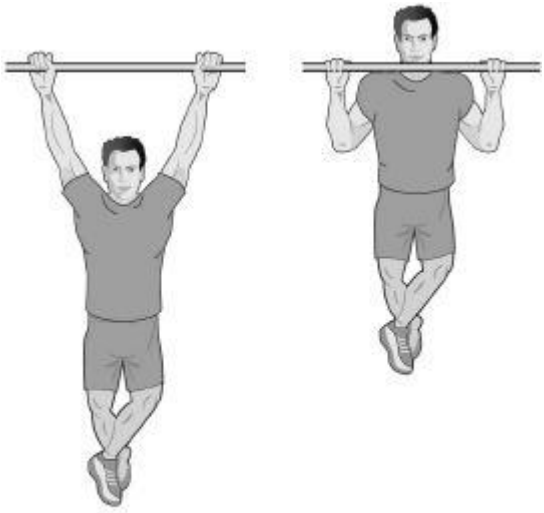
**Name of the Student**:_____
**Max. Marks : 19 Marks** **Time : 19 Minutes**

## Q1.

The diagram below shows a man doing two stages of a pull up. In both diagrams the man is stationary.



Stage 1 Stage 2

(a) Complete the sentence.

Choose the answers from the box.

| | | |
|---|---|---|
| **equal to** | **less than** | **more than** |

In stage 1 the downwards force of the man on the bar is _____

the upwards force of the bar on the man.

**(1)**

(b) The man has a mass of 85 kg

Gravitational field strength = 9.8 N/kg

Calculate the weight of the man.

Use the equation:

weight = mass × gravitational field strength

_____

_____

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Weight = _____ N

**(2)**

(c) The man raises his body a vertical distance of 0.63 m to go from stage 1 to stage 2

Calculate the work done by the man.

Use your answer to part **(b)**

Use the equation:

work done = force × distance

_____

_____

Work done = _____ J

**(2)**

(d) The man was **not** moving at stage 2

How much work is done by the man at stage 2?

Work done = _____ J

**(1)**

(e) A woman uses the bar to do a pull up.

The woman has a mass of 62 kg

She accelerates at 11 $m/s^2$

Calculate the resultant force on the woman.

Use the equation:

force = mass × acceleration

_____

_____

Force = _____ N

**(2)**

**(Total 8 marks)**

## Q2.

**Figure 1** shows a man using a resistance band when exercising.

The resistance band behaves elastically.

**Figure 1**

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(a) What happens to the store of elastic potential energy of the resistance band when the band is stretched?

_____

**(1)**

(b) Explain what happens to the resistance band as it is released.

_____

_____

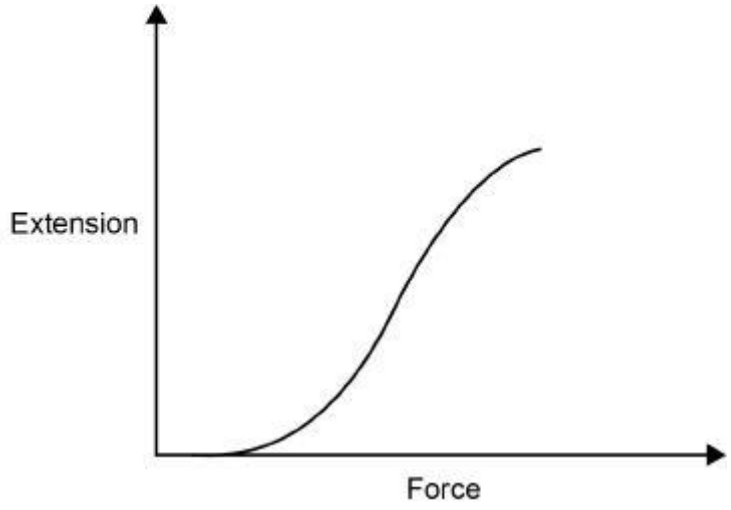
_____

_____

**(2)**

(c) **Figure 2** shows how the extension of the resistance band changes as the force applied changes.

**Figure 2**

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Describe the trend shown in the graph.

_____

_____

_____

_____

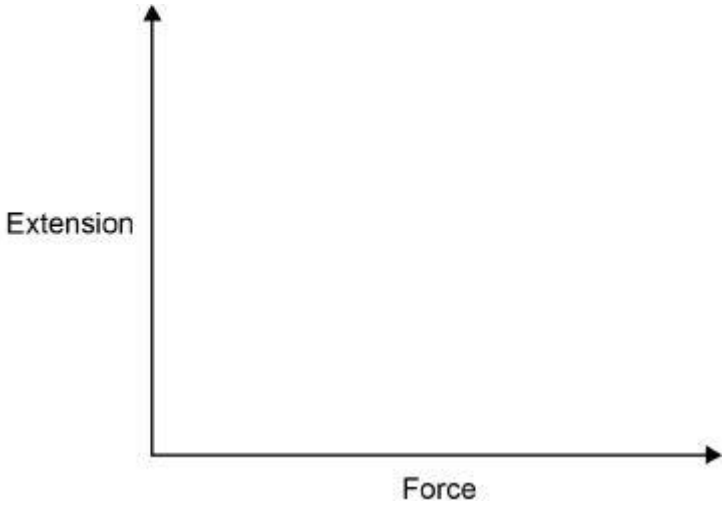
**(2)**

**Figure 3** shows a chest expander.

**Figure 3**

(d) Sketch a graph on **Figure 4** to show how the extension of a spring in the chest expander changes as the force applied changes.

**Figure 4**




**(2)**

When a force is applied to a spring, the spring extends by 7.5 cm

(e) Write down the equation that links extension, force and spring constant.

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_____

**(1)**

(f) Calculate the force applied to the spring.

The spring has a spring constant of 1 600 N/m

Use your equation from part **(e)**

_____

_____

_____

Force = _____ N

**(3)**

**(Total 11 marks)**

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