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

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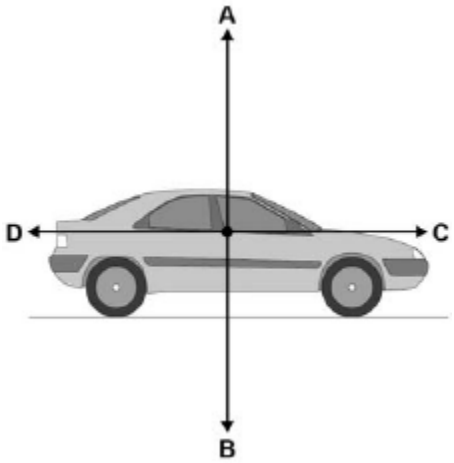
Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

Figure 1 shows the forces acting on a car moving at a constant speed.

Figure 1



(a) Which force would have to increase to make the car accelerate?

Tick **one** box.

A ☐

B ☐

C ☐

D ☐

(1)

(b) The car travels a distance of 2040 metres in 2 minutes.

Use the following equation to calculate the mean speed of the car.

$$\text{mean speed} = \frac{\text{distance}}{\text{time}}$$

_____

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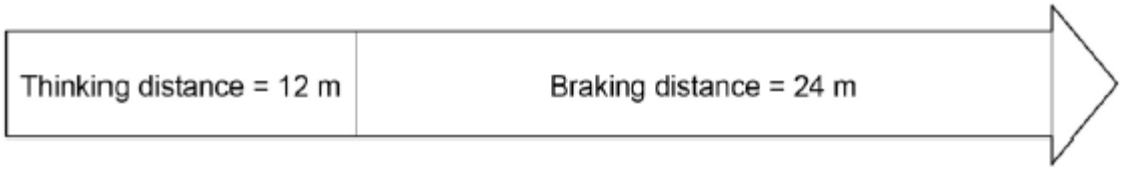
Mean speed = _____ m / s

(2)

(c) The car makes an emergency stop.

Figure 2 shows the thinking distance and braking distance of the car.

Figure 2



What is the stopping distance?

_____

(1)

(d) The person driving the car is tired.

What effect will this have on the thinking distance and braking distance?

Tick **one** box for thinking distance.

Tick **one** box for braking distance.

	decreases	increases	stays the same
thinking distance	☐	☐	☐
braking distance	☐	☐	☐

(2)

(Total 6 marks)

Q2.

A newtonmeter measures the weight of objects.

Look at **Figure 1**.

Figure 1

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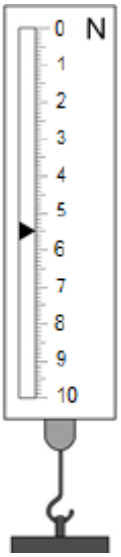

(a) What is the weight of the object in **Figure 1**?

Weight = _____ N

(1)

(b) The spring inside the newtonmeter behaves elastically.

What happens to the length of the spring when the object is removed from the newtonmeter?

Tick **one** box.

The spring gets longer	☐
The spring gets shorter	☐
The spring stays the same length	☐

(1)

(c) A student carried out a practical to investigate the extension of a spring.

Write a method the student could have used.

_____

_____

_____

_____

_____

_____

_____

_____

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(4)

(d) What could be done to improve the accuracy in this investigation?

Tick **two** boxes.

Use a pointer from the spring to measure the length. ☐

Use a stronger spring in the practical. ☐

Use a new spring between each reading. ☐

Make sure the spring is stationary before measuring length. ☐

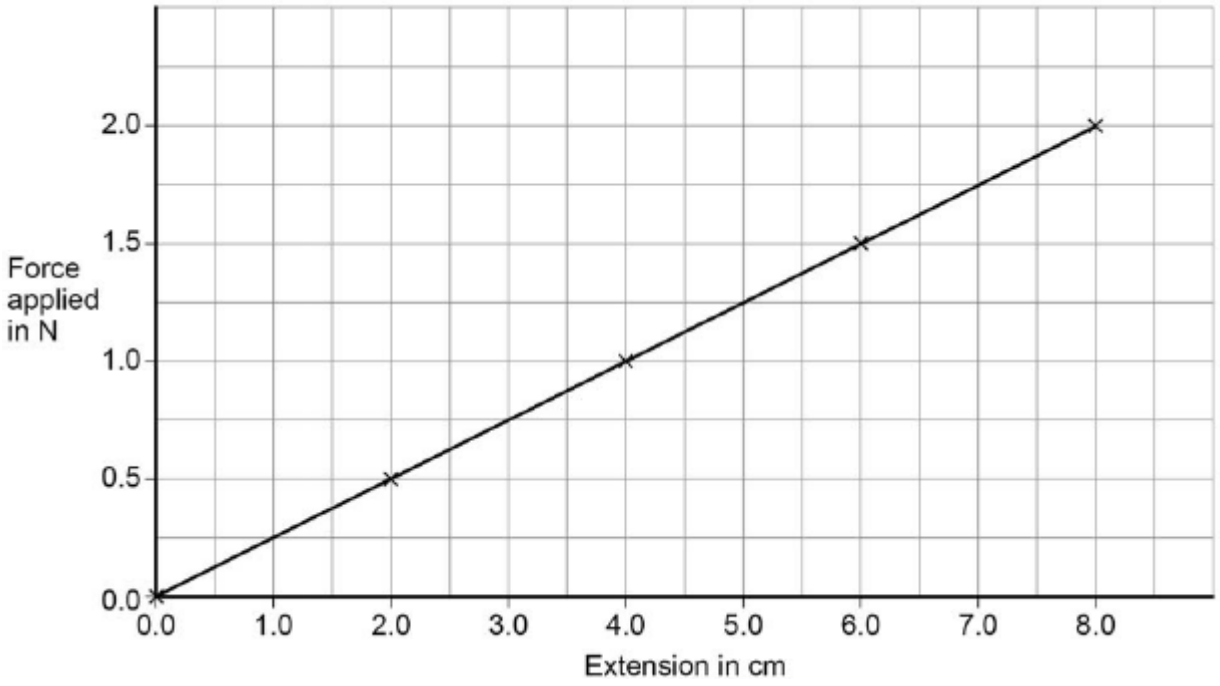
Use a longer rule when measuring length. ☐

(2)

(e) The student added weights to a spring and measured the extension of the spring.

Figure 2 shows his results.

Figure 2



What is the relationship between force applied and extension?

Tick **one** box.

Extension is inversely proportional to force ☐

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Extension increases by smaller values as force increases ☐

Extension is directly proportional to force ☐

(1)

(f) Use **Figure 2** to determine the additional force needed to increase the extension in the spring from 5.0 cm to 7.0 cm.

Force needed = _____ N

(1)

(g) The table below shows some results with a different spring.

Force applied in N	**Extension in m**
0.0	0.000
0.5	0.025
1.0	0.050
1.5	0.075

What would the extension be with a force of 2.0 N?

Tick **one** box.

0.080 m ☐

0.080 m ☐

0.095 m ☐

0.100 m ☐

(1)

(h) The spring constant for the spring in above **Table** is 20 N / m.

Calculate the work done in stretching the spring until the extension of the spring is 0.050m

Use the correct equation from the Physics Equation Sheet.

_____

_____

Work done = _____ J

(2)

(Total 13 marks)

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