Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic :15_Forces and their matter

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

Mark Schemes

Q1.

Question Number	Answer	Additional guidance	Mark
	An explanation to include the following MP1: (as the balloon rises) it gets bigger (1) Any **two** from: MP2: (because) density of air decreases / fewer (air) particles (in the atmosphere) (1) MP3: pressure (outside the balloon) decreases (1) MP4: pressure inside (balloon) is greater than pressure outside (1)	 accept balloon bursts air gets thinner accept a named component of air Two from MP2, MP3 and MP4 can still be awarded even if MP1 is not.	**(3)**

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Q2.

Question number	Answer	Additional guidance	Mark
i	data points correctly identified (1) 50 ±2 80 ±2 evaluation (1) (-)30 ±4 kPa	award 1 mark if 80 and 50 seen ignore the lack of minus sign allow ecf from incorrect reading of either pressure at 2000m or pressure at 6000m for one mark	**(2)** **AO3**

Question number	Answer	Additional guidance	Mark
ii	any **one** suggestion of greater density of atmosphere (1) greater depth of atmosphere (above the aeroplane) (1) greater temperature (of the atmosphere) (1)	accept reverse argument more particles (per cubic metre) the air gets thicker greater weight of the atmosphere	**(1)** **AO1**

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Q3.

Question Number	Answer	Mark
	C 3 **C** is the only correct answer. **A** is incorrect because it does not include the pressure of the water above the diver. **B** is incorrect because it only includes the pressure of 10m of water above the diver. **D** is incorrect because it includes the pressure 0r 30m of water above the diver.	**(1)**

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Q4.

Question number	Answer	Additional guidance	Mark
	two similarities such as: (2) • both use the same loads • both start/end with same extension • both return to original length **two differences such as:** (2) • extensions for spring and rubber band differ • spring - loading and unloading are the same – rubber band different • extension- spring linear, rubber band non-linear	go up evenly/even steps steps uneven	**(4)**

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Q5.

Question number	Answer	Additional guidance	Mark
	two similarities such as: (2) • both use the same loads • both start/end with same extension • both return to original length **two differences such as:** (2) • extensions for spring and rubber band differ • spring - loading and unloading are the same – rubber band different • extension- spring linear, rubber band non-linear	go up evenly/even steps steps uneven	**(4)**

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Q6.

Question	Answer	Mark
	 This shows the **only** direction normal to surface, acting towards surface	**(1)** **AO3.1**

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Q7.

Question number	Answer	Additional guidance	Mark
i	 D A and B are incorrect because they only show one force C is incorrect because the forces are in the wrong direction		(1)

Question number	Answer	Additional guidance	Mark
ii	substitution (1) (F =) 20 x (0.0)7 evaluation (1) 1.4 (N)	award full marks for the correct answer without working allow 1 mark max for POT error	(2)

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