

Name of the Student: _____

Max. Marks : 15 Marks

Time : 15 Minutes

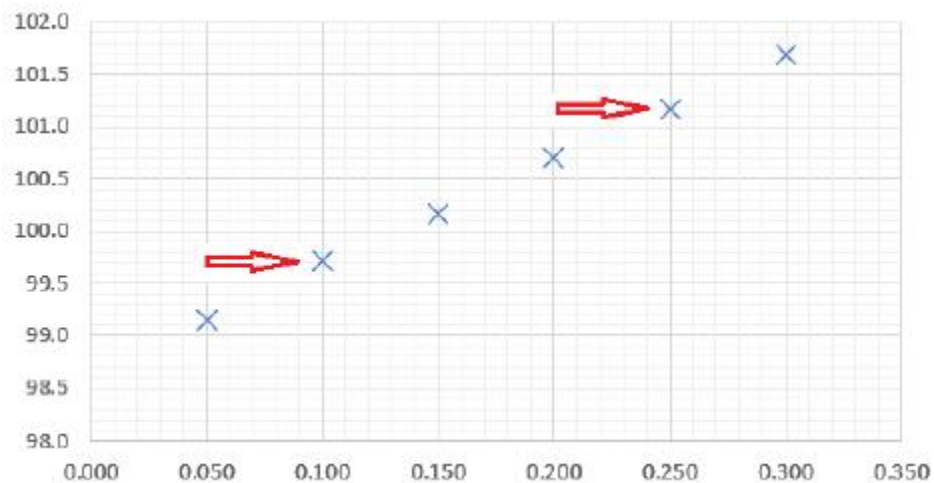
Mark Schemes

Q1.

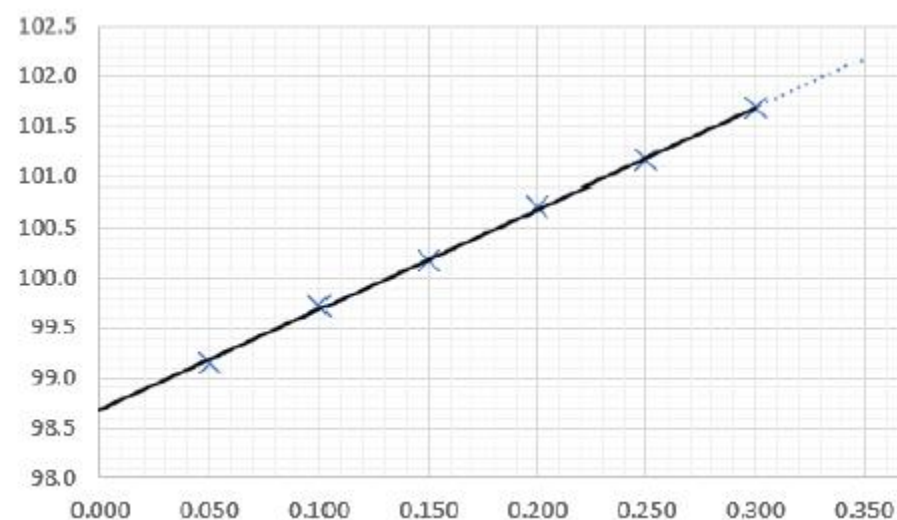
	Answer	Acceptable answers	Mark
(a)(i)	B to the left ←		(1)
(a)(ii)	A accelerating		(1)
(a)(iii)	substitution 625x 10 (1) Evaluation 6250 (N) (1)	625 x 9.8 6125 (N) give full marks for correct answer, no working	(2)
(b)(i)	 (1) <u>air</u> resistance (1)	upward arrow on any part of line vertical line from 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

Question number	Answer	Additional guidance	Mark
(i)	points plotted to within ± 1 small square (0.100, 99.7) (1) (0.250, 101.15) (1)		(2) A02.1



Question number	Answer	Additional guidance	Mark
(ii)	best fit straight line passing through at least four of the points (1)	do not accept tramlining (multiple lines / curves) ignore slight shakiness in drawing	(1) A02.1



Question number	Answer	Mark
(iii)	D $y = mx + c$ Figure 10 shows a linear graph with a positive gradient and intercept	(1) A01.1

Question number	Answer	Additional guidance	Mark
(iv)	answer between 98.6 and 98.8 (kPa)	allow ecf from their line of best fit in b(ii)	(1) A03.2

Q3.

Question number	Answer	Mark
	An answer that combines the following points to provide a logical description of the plan: EITHER • (determine upthrust) by adding weights until the block of wood is fully immersed and recording the load required (1) • calculate upthrust by adding load and weight of block (1) OR • (determine the weight of water displaced) by using a ruler to measure the dimensions of the block and multiplying them together to find the volume (1) • calculate the weight of water from $\text{volume} \times \text{density} \times g$ (1)	(2)