

Question Number	Answer	Mark
12(a)	It's the force / stress beyond which the cable does not return to its original length when the force / stress is removed (1)	1
12(b)(i)	Use of $\varepsilon = \Delta x/x$ $\varepsilon = 0.021$ (1) (1) <u>Example of calculation</u> $\varepsilon = 0.126 \text{ m} \div 6 \text{ m} = 0.021$	2
12(b)(ii)	Use of $\sigma = F/A$ $\sigma = 1.4 \times 10^9 \text{ Pa}$ (1) (1) <u>Example of calculation</u> $\sigma = 1.34 \times 10^6 \text{ N} \div 9.6 \times 10^{-3} \text{ m}^2 = 1.40 \times 10^9 \text{ Pa}$	2
Total for question 12		5