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IGCSE PHYSICS 0625 · TOPICAL PAST PAPERS

Forces & Elastic Deformation

Paper 1 — Multiple-Choice Questions (topical compilation)

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DEFORMATION
PAPER 1 QUESTIONS

Elastic Deformation

QUESTION # 1: M/J 16 P11

8 A force acts on a body.

Which list contains only quantities that can be changed by the force?

A mass, shape, velocity

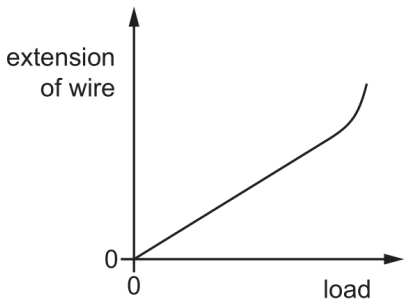
B mass, shape, volume

C mass, velocity, volume

D shape, velocity, volume

QUESTION # 2: M/J 17 P11

11 The graph shows the extension of a piece of copper wire as the load on it is increased.



What does the graph show?

A At a certain load, the wire becomes easier to extend.

B At a certain load, the wire becomes harder to extend.

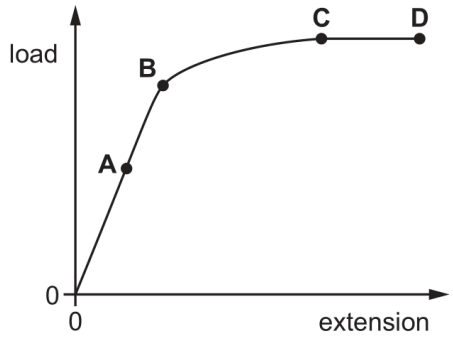
C The load and the extension are directly proportional for all loads.

D The load and the extension are inversely proportional for all loads.

QUESTION # 3: M/J 17 P12

13 The diagram shows a load-extension graph for a wire.

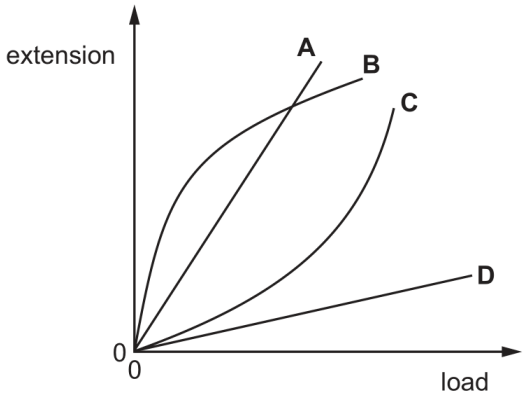
Which point is the limit of proportionality?



QUESTION # 4: M/J 18 P11

8 The graph shows extension-load curves for four fibres.

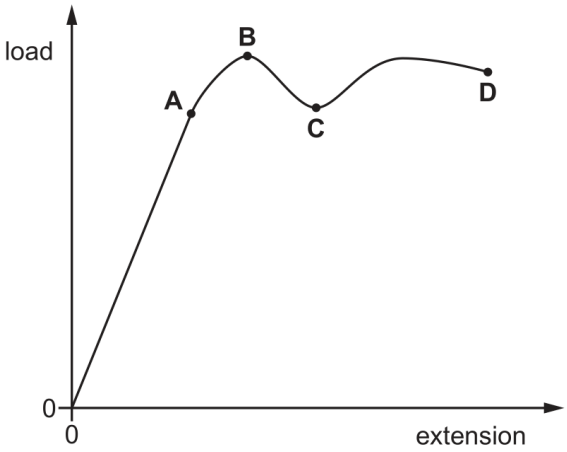
Which fibre is the most difficult to stretch over the range of loads shown?



QUESTION # 5: M/J 19 P12

12 The diagram shows a graph of load against extension for a material.

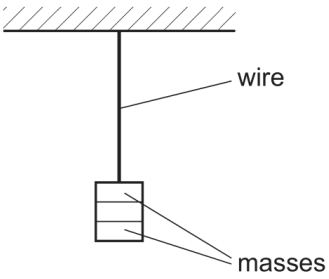
At which point is the limit of proportionality?



QUESTION # 6: M/J 19 P12

13 A length of metal wire is made from a radioactive isotope of the metal.

The diagram shows masses suspended from the end of the wire.



The masses are removed from the wire.

Which property changes?

A half-life of the isotope

B length of the wire

C mass of the wire

D melting point of the metal

QUESTION # 7: M/J 20 P12

13 An unstretched elastic cord of length 15.0 cm stretches by 4.0 cm when a weight of 6.0 N is suspended from it. The cord does not exceed the limit of proportionality.

What is the total length of the cord when the weight is 3.0 N?

A 2.0 cm **B** 7.5 cm **C** 9.5 cm **D** 17.0 cm

QUESTION # 8: O/N 17 P11

7 A metal wire is suspended from a support and loads of different mass are attached to the lower end.

The table shows how the extension of the wire depends on the mass of the load.

mass / kg	0	2.0	4.0	6.0	8.0	10.0
extension / mm	0	0.35	0.70	1.05	1.50	2.05

Between which values of mass does the limit of proportionality lie?

A 0 and 2.0 kg

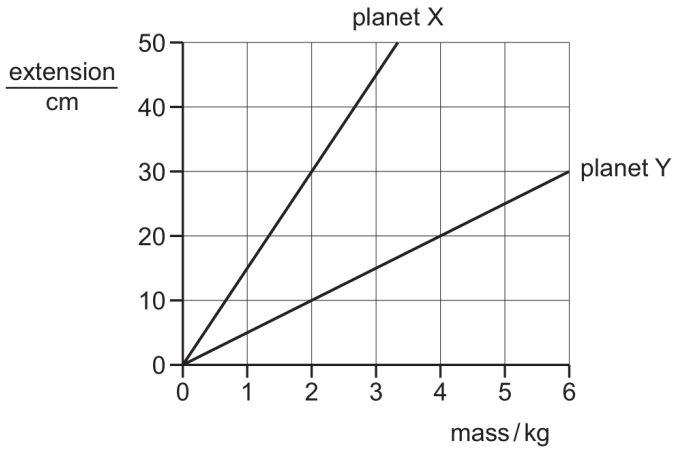
B 4.0 kg and 6.0 kg

C 6.0 kg and 8.0 kg

D 8.0 kg and 10.0 kg

QUESTION # 9: O/N 18 P12

6 The graph shows how the extension of a spring changes with the masses suspended from it when the spring is on planet X and when the spring is on planet Y.



Which conclusion can be drawn from these graphs?

A It is not possible to compare the gravitational field strengths on planets X and Y.

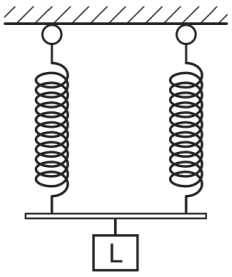
B The gravitational field strength on planet X is equal to the gravitational field strength on planet Y.

C The gravitational field strength on planet X is one third of the gravitational field strength on planet Y.

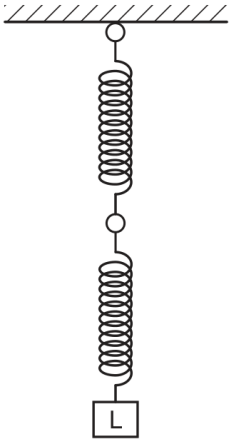
D The gravitational field strength on planet X is three times the gravitational field strength on planet Y.

QUESTION # 10: O/N 19 P11

13 A load L is suspended from two springs that are in parallel. The extension of each spring is x.



The springs are then arranged to hang vertically, one below the other.



In this new arrangement, what is the total extension of the two springs?

A $\frac{1}{2}x$ **B** x **C** $2x$ **D** $4x$

QUESTION # 11: O/N 20 P11

12 An extension–load graph is plotted for a spring.

Which point marks the limit of proportionality for this spring?