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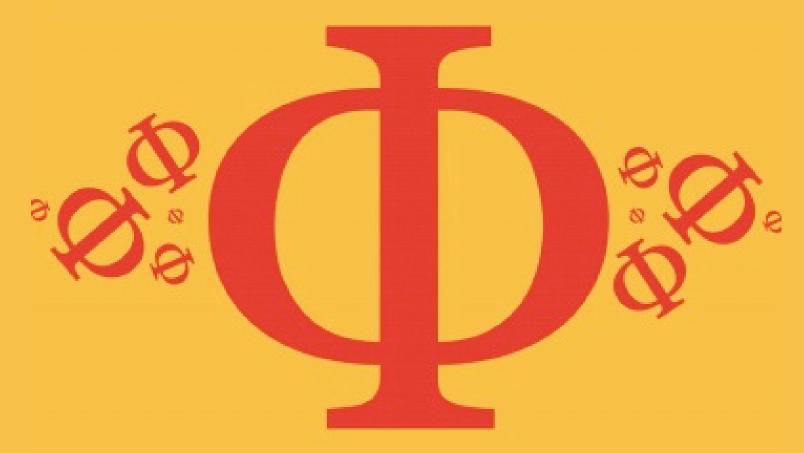
Detailed mark scheme

Suitable for all boards

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2.3 Work, Energy & Power

Easy



PHYSICS

IB HL



2.3 Work, Energy & Power

Question Paper

Course	DP IB Physics
Section	2. Mechanics
Topic	2.3 Work, Energy & Power
Difficulty	Easy

EXAM PAPERS PRACTICE

Time allowed: 20

Score: /10

Percentage: /100



Which feature of a force-	extension graph rep	presents the work done or	n a material under tensile stress?

- A. Gradient
- B. Area
- C.y-intercept
- D. x-intercept

[1 mark]

Question 2

What is a material with a high breaking stress described as?

- A. Strong
- B. Brittle
- C. Ductile
- D. Elastic



[1 mark]

Question 3

Which one of the following situations does not describe the work done on an object?

- A. Lifting a bar above the head
- B. Pushing a supermarket trolley across a car park
- C. Walking up stairs
- D. Holding a box at a height of 1.5 m above the floor



What is the equation for kinetic energy?

- $A.E_k = mgh$
- B. $E_{k} = \frac{1}{2}kx^{2}$
- $C. E_k = \frac{1}{2} mv^2$
- $D.E_k = Fs$

[1 mark]

Question 5

Which of the following statements about gravitational potential energy is correct?

- A. If a mass falls it will lose gravitational potential energy
- B. If a mass is lifted up it will lose gravitational potential energy
- C. If a mass falls it gains gravitational potential energy
- D. If a mass travels horizontally then gravitational potential energy is lost

[1 mark]

EXAM PAPERS PRACTICE

Question 6

Which of the following is the correct definition for elastic potential energy?

- A. Elastic potential energy is a measure of how much a material can be stretched or compressed
- B. Elastic potential energy is the maximum amount that can be stretched or compressed
- C. Elastic potential energy is a measure of the stiffness of a material
- D. Elastic potential energy is the energy stored within a material (e.g. in a spring) when it is stretched or compressed



What are the correct units for	power?
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- A. Joules
- B. Watts
- C. Newton meters
- D. Newtons

[1 mark]

Question 8

Which row describes an energy transfer?

- A. Elastically
- B. Chemically
- C. Gravitational Potentially
- D. Electrically



[1 mark]

Question 9

What is another way of saying that energy is wasted?

- A. Energy has been transferred
- B. Energy has been dissipated
- C. Energy has been conserved
- D. Energy has been destroyed



Which is the correct equation for the efficiency of a system?

A. Efficiency =
$$\frac{\text{useful energy in}}{\text{total energy out}} \times 100$$

B. Efficiency =
$$\frac{\text{wasted energy out}}{\text{total energy out}} \times 100$$

C. Efficiency =
$$\frac{\text{useful energy out}}{\text{total energy in}} \times 100$$

D. Efficiency =
$$\frac{\text{energy transferred}}{\text{time}} \times 100$$

