

6.3 Power

Question Paper

Course	CIE A Level Physics (9702) 2019-2021
Section	6. Work, Energy & Power
Topic	6.3 Power
Difficulty	Easy

Time allowed: 10

Score: /4

Percentage: /100

Question 1

Which operation involves the greatest mean power?

- A** a car moving against a resistive force of 0.4 kN at a constant speed of 20 m s⁻¹
- B** a crane lifting a weight of 3 kN at a speed of 2 m s⁻¹
- C** a crane lifting a weight of 5 kN at a speed of 1 m s⁻¹
- D** a weight being pulled across a horizontal surface at a speed of 6 m s⁻¹ against a frictional force of 1.5 kN

[1 mark]

Question 2

What is the average power output of a laser that can deliver 0.20 J of energy in 10ns?

- A** 2 nW
- B** 20 mW
- C** 200 kW
- D** 20 MW

[1 mark]

Question 3

A boat moving at constant speed v through still water experiences a total frictional drag F

What is the power developed by the boat?

- A** $\frac{1}{2}Fv$
- B** Fv
- C** $\frac{1}{2}Fv^2$
- D** Fv^2

[1 mark]

Question 4

Which expression **defines** power?

- A force \times distance moved in the direction of the force
- B force \times velocity
- C work done \div time taken
- D work done \times time taken

[1 mark]

