

- 1 The maximum theoretical power P of a wind turbine is given by the equation

$$P = k\rho Av^n$$

where ρ is the density of air, A is the area swept by the turbine blades, v is the speed of the air and k is a constant with no units.

What is the value of n ?

- A** 1 **B** 2 **C** 3 **D** 4
- 2 What is the unit of resistance when expressed in SI base units?

- A** $\text{kg m}^2 \text{s}^{-2} \text{A}^{-1}$
B $\text{kg m}^2 \text{s}^{-3} \text{A}^{-2}$
C $\text{kg m s}^{-2} \text{A}^{-1}$
D $\text{kg m s}^{-3} \text{A}^{-1}$

Space for working