# Answer all the questions in the spaces provided.

(a) Distinguish between vector and scalar quantities.

Scalar quantities have magnitude and horseles duestion (12)

(b) The electric field strength E at a distance x from an isolated point charge Q is given by the equation

$$E = \frac{O}{x^2 b}$$

where b is a constant.

(i) Use the definition of electric field strength to show that E has SI base units of kg m A<sup>-1</sup> s<sup>-3</sup>.

(ii) Use the units for E given in (b)(i) to determine the SI base units of b.

AS -> K9-m-3A254

[Total: 6]

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