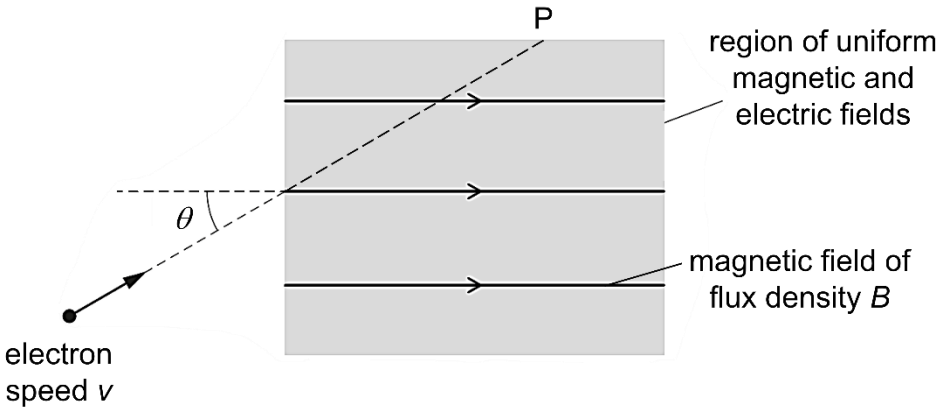
25 An electron is travelling in a vacuum at speed v. The electron enters a region of uniform magnetic field of flux density B. A uniform electric field also exists in the region so that the electron remains undeflected and exits the region at point P as shown.



The initial direction of the electron is at an angle of θ to the direction of the magnetic field.

What is the magnitude and direction of the electric field?

	magnitude	direction
A	$Be\sin\theta$	into the page
B	$Be\sin\theta$	out of the page
C	$Bv\sin\theta$	into the page
D	$Bv\sin\theta$	out of the page