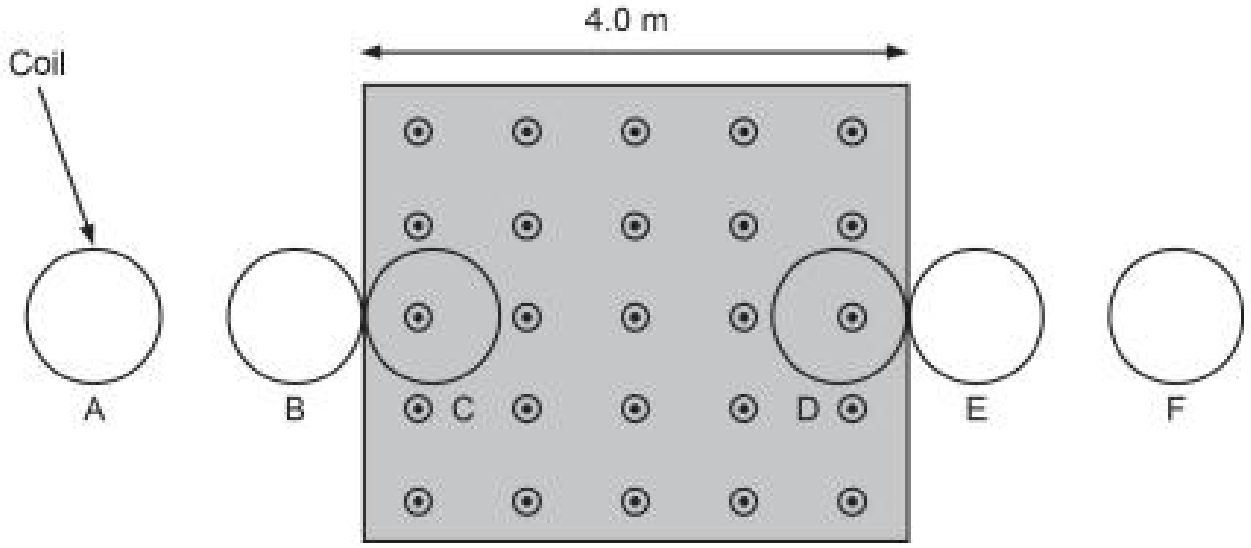
Question 18 **(12 marks)**

A coil with a radius of 50.0 cm and 25 turns is moved at a constant velocity of 0.80 m s^{-1} to the right of the page into, through and out of a uniform magnetic field of strength 0.28 T.

The total distance from the centre of the coil at A to the centre of the coil at F is 8.00 m and the distance from A to B is the same as E to F.



(a) Calculate the average emf induced as the coil moves from B to C. (4 marks)

(b) On the axes below, show the induced emf versus time as the coil moves from A to F.
(Note: only include specific values on the time axis.) (8 marks)