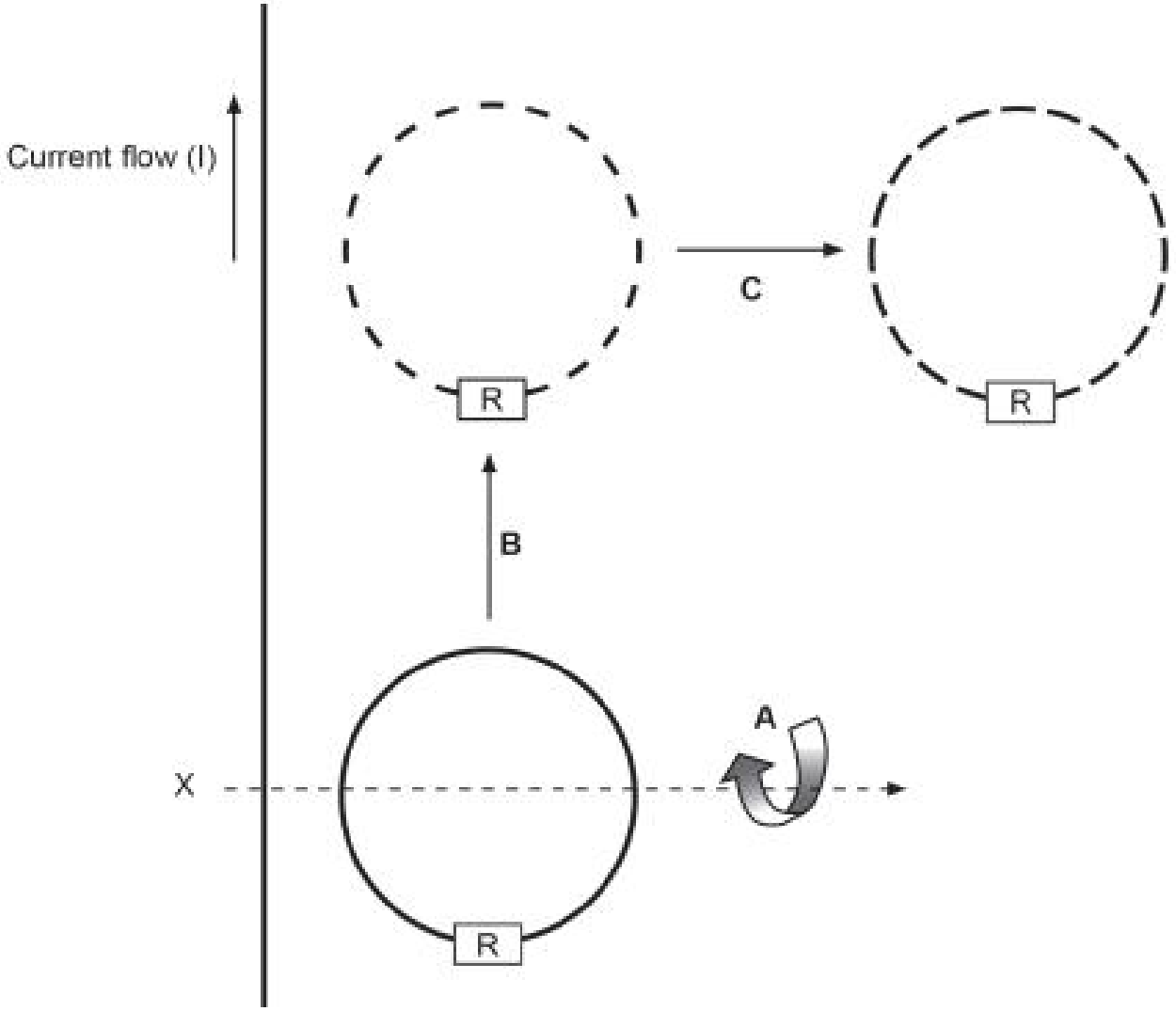
Question 8 **(8 marks)**

A circular wire loop is placed near a long, straight wire carrying a constant current in the direction shown. The loop moves three times:

- A – it rotates once, uniformly along the X-axis with the resistor R moving out of the page initially
- B – it moves parallel to the straight wire with constant speed
- C – it moves away perpendicularly from the straight wire with constant speed.



Complete the table in terms of Motions A, B and C by sketching the emf induced in the loop and state whether the direction of emf is clockwise, anticlockwise or not relevant.

Motion	Possible induced emf in the circular loop with respect to time	The direction of emf (clockwise/anticlockwise/ not relevant)
A		
B		
C