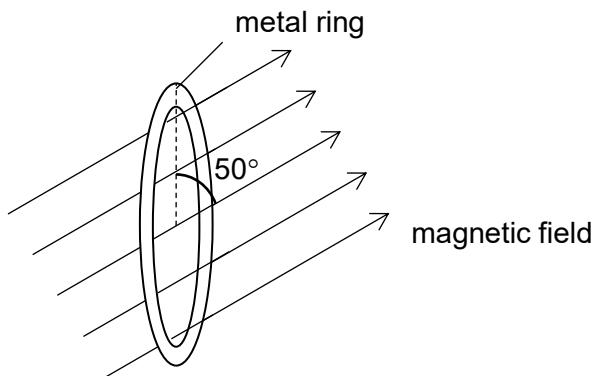


- 23 A uniform magnetic field directed at  $50^\circ$  to the plane of a circular metal ring passes through the ring of diameter 0.50 m and resistance  $3.0\ \Omega$ , as shown in the diagram.



The magnetic flux density through the ring decreases by  $4.0 \times 10^{-5}\ \text{T}$  at a constant rate in 2.0 s. During this change, what is the current induced in the ring?

- A It remains constant at  $1.0\ \mu\text{A}$ .
- B It remains constant at  $1.3\ \mu\text{A}$ .
- C It increases from zero to  $1.0\ \mu\text{A}$  at a constant rate.
- D It increases from zero to  $1.3\ \mu\text{A}$  at a constant rate.