



	الاسم
	الرقم الجامعي
	الشعبة

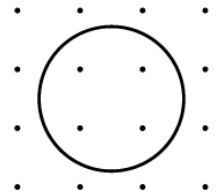
Question1: Choose the correct answer:

1. The unit of the magnetic flux is:

- (A) $T \cdot m^2$
- (B) T / m^2
- (C) Wb/s
- (D) $Wb \cdot s$

2. Consider the wire loop situated in a magnetic field as shown in the figure below. Which of the following is true?

- (A) When the radius of the loop decreases, the induced current runs counterclockwise.
- (B) When the radius of the loop decreases, the induced current runs clockwise.
- (C) All of the above.
- (D) None of the above.



3. Consider two parallel current carrying wires. With the currents running in the opposite direction, the wires are

- (A) attract each other
- (B) repel each other
- (C) not pushed – no net force
- (D) I don't know

4. A square loop of wire 0.2 m wide makes an angle of 45° with a magnetic flux density of 0.3 T. The flux through this loop is:

- (A) 0.0042 Wb
- (B) 0.0085 Wb
- (C) 0.074 Wb
- (D) 0.001 Wb

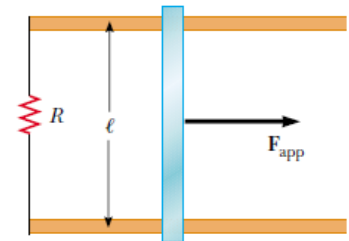
Question2 A single-turn wire loop is 0.02 m in diameter and carries a 650 mA current. Find the magnetic field

(a) At the loop center.

(b) On the loop axis, 20 cm from the center.

Question3 Consider the arrangement shown in Figure. Assume that $R= 6 \Omega$, $L=1.2 \text{ m}$, and a uniform 2.5 T magnetic field is directed into the page. And the bar is moving to the right at a constant speed of 2.00 m/s.

(a) Find the induced electromotive force.



(b) What is the magnitude of the induced current in the resistor?

Good Luck
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