

Grade 12 General  
Chapter 6 review  
Academic year 2020-2021

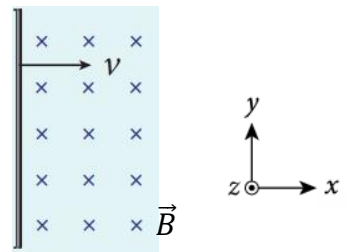
**Chose the correct answer of the following questions:**

1- By which of the following ways, an induced current can be produce?

- A. A segment of wire moves through a stationary magnetic field.
- B. A magnetic field moves past a stationary wire.
- C. The strength of a magnetic field changes around a wire.
- D. All of the above

2- A segment of conducting wire moves through a uniform magnetic field in the direction of **+x-axis** as shown in the figure, determine the direction of the induced current in this segment of wire?

- A. To the direction of  $-y$ -axis
- B. To the direction of  $+y$ -axis
- C. To the direction of  $-z$ -axis
- D. To the direction of  $+z$ -axis

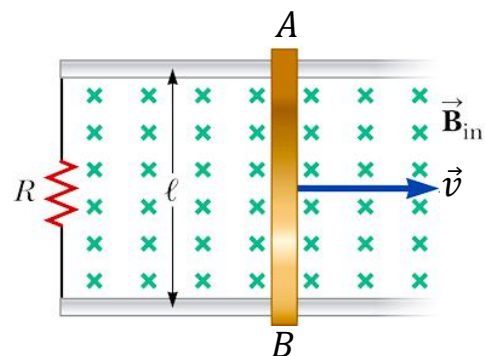


3- A straight wire that is **1.2 m** long moves at speed of **12 m/s** in parallel to a uniform magnetic field of **0.4 T** strength, what **EMF** is induced in the wire?

- A. EMF= 5.8 V
- B. EMF= 3.6 V
- C. EMF= 4.1 V
- D. EMF= 0.0 V

4- A straight wire AB, **1.3 m** long, moves at a constant speed of **6.0 m/s** perpendicular to a magnetic field of strength **0.42 T**. The wire is part of a circuit that has a resistance of  **$R= 3.0 \Omega$** . What is the current through the wire?

- A.  $I_{in}=1.1$  A
- B.  $I_{in}=3.3$  A
- C.  $I_{in}=4.2$  A
- D.  $I_{in}=5.8$  A

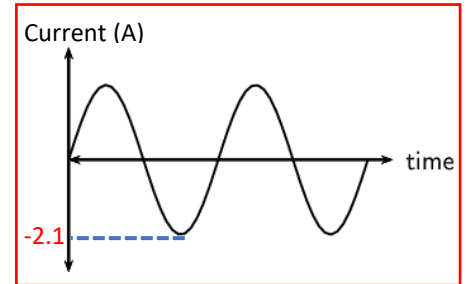


5- How does energy transform in the microphone?

- A. From electrical energy to sound energy.
- B. From electrical energy to mechanical energy.
- C. From sound energy to potential energy.
- D. From sound energy to electrical energy.

6- The graph shows the changes of the induced current by an AC generator, what is the RMS current induced by this generator?

- A. 2.9 A
- B. 2.1 A
- C. 1.5 A
- D. 0.8 A



7- The value of the induced current by an AC generator, is changing during one complete rotation of the rotor, **at what position** for the rotor relative to the magnetic field lines, the value of the induced current **becomes zero**?

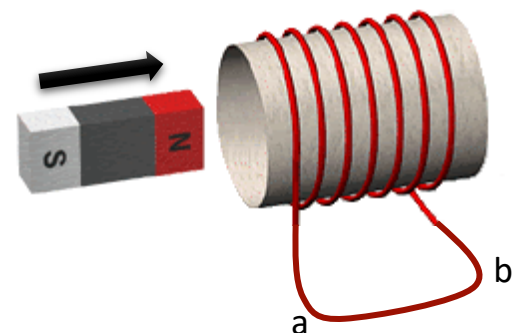
- A. When the rotor plane becomes in parallel to the magnetic field lines
- B. When the rotor plane becomes perpendicular to the magnetic field lines
- C. When the rotor plane makes a  $45^\circ$  angle with the magnetic field lines
- D. When the rotor plane makes a  $0.0^\circ$  angle with the magnetic field lines

8- An AC generator delivers an average power of 130 W, what is the peak power that generated by this generator?

- A. 180 W
- B. 260 W
- C. 310 W
- D. 360 W

9- According to the figure, determine the direction of the induced current in the wire ab that is part of the coil circuit?

- A. No induced current will produce
- B. From a to b
- C. Form b to a
- D. It is Oscillating between a and b



10- Which of the following is one of eddy currents applications?

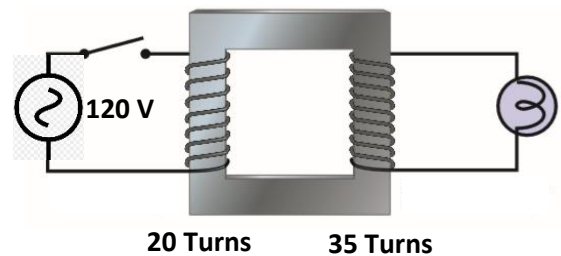
- A. The microphone
- B. The ear pods
- C. The breaks of some trains
- D. The AC generator

11- Which of the following is a device that increase or decrease potential difference with relatively little waste of energy?

- A. The Generator.
- B. The transformer.
- C. The motor.
- D. The isolation transformer.

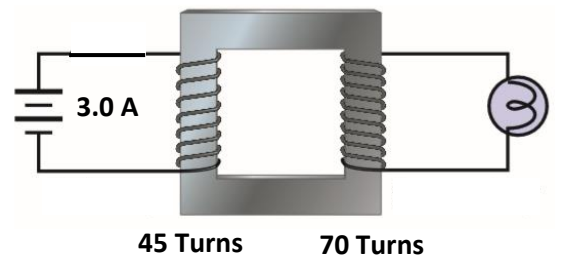
12- Relay on the figure and find the potential difference through the bulb when the switch is closed?

- A. Zero V
- B. 69 V
- C. 120 V
- D. 210 V



13- Relay on the figure and find the current that will flow through the bulb?

- A. 1.9 A
- B. 4.7 A
- C. 2.6 A
- D. Zero A



14- Which of the following is the principle of transformer work?

- A. Self-inductance
- B. Mutual inductance
- C. Conservation of charges.
- D. Conservation of energy.