In the **Magnetic Field of a Current e**xperiment, the magnetic field of the coil in the Physics Lab at UJ is kept:

- Perpendicular to the Earth's magnetic field.
- Vertical.
- Constant during the experiment.
- Zero.
- Parallel to the Earth's magnetic field.

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In the Magnetic Field experiment, let the magnetic fields of Earth and the coil be H_E and H_C, respectively. The compass and galvanometer are initially set up before turning the power supply on. After turning the power supply on, the needle of the compass deflects by an angle θ. Which of the following is true when performing the different steps of the experiment?

- a. The relation between the current in the coil and the total magnetic field is linear.
- b. The angle θ and H_E are varied but H_C is constant.
- c. H_E is constant but H_C and θ vary.
- d. The angle θ and the current in the coil are varied, but H_C and H_E are constant.
- e. H_E and H_C are constant but θ varies.

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Question 3

Not yet answered

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In the Magnetic Field of a Current experiment, when we decrease the current in the coil, which of the following is true?

- a. The direction of the magnetic field of Earth does not change but its magnitude decreases.
- b. The magnitude of the total magnetic field at the center of the coil increases but its direction does not change.
- c. The magnitude and direction of the coil's magnetic field at the center change.
- d. Both magnitudes of the magnetic fields of the coil and Earth decrease.
- e. Both the total magnetic field at the center of the tangent galvanometer and the angle of deflection of the compass decrease.

Clear my choice

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