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*Decreasing current of a coil over an iron core.* Let the core in Fig.Q5.6 be cut from iron and the current  $I$  of the coil be established at a very large (positive) value. If  $I$  is then reduced to zero, the values of the magnetic field intensity ( $H$ ) and flux density ( $B$ ) in the core encounter the following changes:

- (A) Both  $H$  and  $B$  drop to zero.
- (B)  $H$  drops to zero and  $B$  retains its starting (saturation) value.
- (C)  $H$  retains its saturation value and  $B$  drops to zero.
- (D)  $H$  drops to zero and  $B$  drops to a nonzero value.
- (E)  $H$  drops to a nonzero value and  $B$  drops to zero.
- (F) Both  $H$  and  $B$  drop but not to zero.

*Solution:* (D)

*Answer:* (D)