Increasing current of a coil over a toroidal magnetic core. In the structure in Fig.Q5.6, a coil of wire is wound uniformly and densely about a thin toroidal magnetic core. The current of the coil is I, and the magnetic field intensity and flux density in the core are H and B, respectively. If I is doubled,

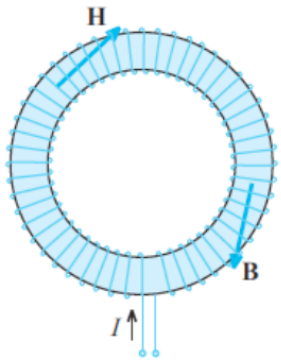

Figure Q5.6 Thin toroidal magnetic core with a uniform and dense winding with a steady current; for Question 5.14.

(A) both H and B double as well.
(B) H doubles and B remains approximately the same.
(C) H remains approximately the same and B doubles.
(D) H doubles and B increases by about 50%.
(E) None of the above.
(F) Need more information.

Solution: (F)
Answer: (F)