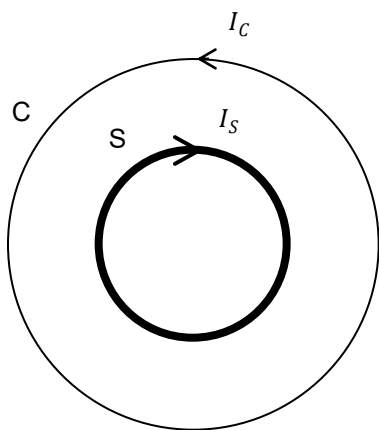25  A long solenoid S has 15 turns per unit length. A circular loop of wire C is placed over S as shown in the diagram below. S and C are coaxial. A current $I_S$ of 0.20 A is passed through S and a current $I_C$ of 0.90 A is passed through C in the directions shown.



The radius of S is 0.80 m and the radius of C is 1.6 m.

What is the magnitude of the resultant magnetic flux density at the centre of C?

**A**  0 T          **B**  1.0 × 10⁻⁶ T          **C**  3.4 × 10⁻⁶ T          **D**  4.1 × 10⁻⁶ T