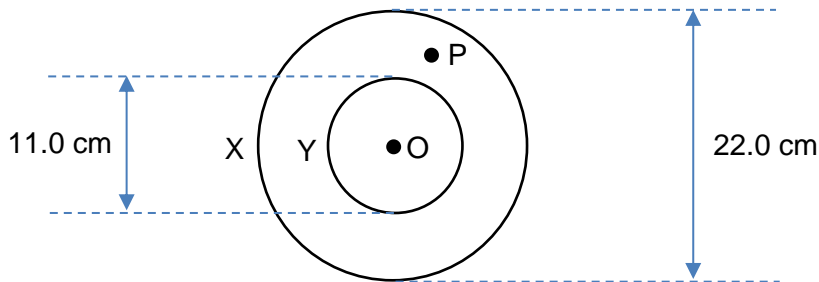


- 24** X and Y are two coaxial flat circular coils lying on a table. Coil X has 120 turns and a diameter of 22.0 cm. Coil Y has 80 turns and a diameter of 11.0 cm. O and P are two points on the table, and O is at the centre of the two coils.



Initially, there is a constant current of 1.2 A in coil X and no current in coil Y.

A current of 1.2 A is now passed through coil Y, which increases the magnitude of the magnetic flux density at P.

What is the final magnitude of the resultant magnetic flux density at O?

A 0.14 mT

B 0.27 mT

C 0.96 mT

D 1.9 mT

[Turn over