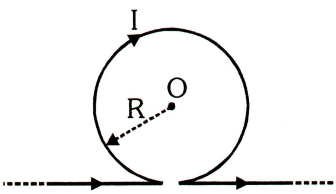
A coil of one loop is made by a wire of length L and there after a coil of two loops is made by same wire. The ratio of magnetic field at the centre of coils respectively :-

Remove Watermark Now

(1) 1 : 4 (2) 1 : 1 (3) 1 : 8 (4) 4 : 1

Magnetic field at point O will be :-



(1) $\frac{\mu_0 I}{2R}\otimes$ (2) $\frac{\mu_0 I}{2R}\odot$

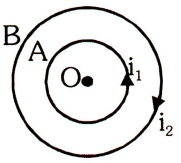
(3) $\frac{\mu_0 I}{2R}\left(1-\frac{1}{\pi}\right)\otimes$ (4) $\frac{\mu_0 I}{2R}\left(1+\frac{1}{\pi}\right)\odot$

The vector form of Biot savart law for a current carrying element is :-

(1) $d\vec{B} = \frac{\mu_0}{4\pi}\frac{id\ell\sin\phi}{r^2}$ (2) $d\vec{B} = \frac{\mu_0}{4\pi}\frac{i\vec{d\ell}\times\hat{r}}{r^2}$

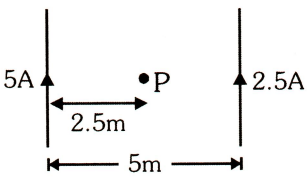
(3) $d\vec{B} = \frac{\mu_0}{4\pi}\frac{i\vec{d\ell}\times\hat{r}}{r^3}$ (4) $d\vec{B} = \frac{\mu_0}{4\pi}\frac{i\vec{d\ell}\times\vec{r}}{r^2}$

A and B are two concentric circular loop carrying current i_1 and i_2 as shown in figure. If ratio of their radii is 1:2 and ratio of the flux densities at the centre O due to A and B is 1:3 then the value of $\frac{i_1}{i_2}$ will be :-



(1) $\frac{1}{2}$ (2) $\frac{1}{3}$ (3) $\frac{1}{4}$ (4) $\frac{1}{6}$

For the given current distribution the magnetic field at point, 'P' is :-



(1) $\frac{\mu_0}{4\pi}\odot$ (2) $\frac{\mu_0}{\pi}\otimes$ (3) $\frac{\mu_0}{2\pi}\otimes$ (4) $\frac{\mu_0}{2\pi}\odot$