

## Electromagnetism: Magnetic Effect of Electric Current

### Typical Questions (Set-2)

A-01	-
A-02	40 cm
A-03	Zero on the middle wire and $6.0 \times 10^{-4}$ N towards the middle wire on each of the rest two
A-04	2 cm from the 10 A current and 8 cm from the other
A-05	$3 \times 10^{-3}$ N/m, downward Zero
A-06	0.50 A in opposite direction
A-07	(a) Proved (b) $1.6 \times 10^{-5}$ N towards wire AB
A-08	1.57 cm
A-09	48 mA
A-10	$6 \times 10^{-10}$ T
A-11	Zero
A-12	(a) $8\pi \times 10^{-4}$ T (b) Zero
A-13	1.8 T
A-14	$16\pi \times 10^{-19}$ N
A-15	$\frac{\mu_0 \pi i l r^2}{2R}$
A-16	$\frac{\mu_0 \pi i l r}{4R}$
A-17	$1.6 \times 10^{-5}$ T
A-18	$1.26 \times 10^{-5}$ T
A-19	At a distance of $\frac{4r}{\pi}$ from the center in such a way that the direction of the current in it is

	opposite to that in the nearest part of the circular wire
A-20	(a) 2.51 mT (b) 7.66 cm
A-21	$4.0 \times 10^{-5}$ T, downward in both cases
A-22	$1.88 \times 10^{15}$ m/s
A-23	(a) Zero (b) $\frac{\mu_0 i}{3\pi r}$
A-24	(a) Zero (b) $\frac{\mu_0 i}{2\pi b}$
A-25	$\frac{\mu_0 i a}{2\pi b^2}$
A-26	(a) 2.0 $\mu$ T (b) 10 $\mu$ T (c) 5.0 $\mu$ T
A-27	-
A-28	0, $\mu_0$ , K towards right in the figure, 0
A-29	$\frac{\mu_0 K q r}{m}$
A-30	5000 turns/m
A-31	$2\pi \times 10^{-3}$ T
A-32	1 V
A-33	(a) $\frac{\mu_0 n i}{\sqrt{1 + \left(\frac{2a}{l}\right)^2}}$
A-34	1420 turns/m
A-35	$\frac{\mu_0 q r n i}{2m}$
A-36	(a) $\frac{K}{2n}$ (b) $\frac{\mu_0 K}{\sqrt{2}}$
A-37	$16\pi \times 10^{-8}$ T

**Important Note:** You may encounter need of clarification on contents and analysis or an inadvertent typographical error. We would gratefully welcome your prompt feedback on mail ID: [subhashjoshi2107@gmail.com](mailto:subhashjoshi2107@gmail.com). If not inconvenient, please identify yourself to help us reciprocate you suitably.