

23 Two very long, straight, parallel wires carry equal steady current I in opposite directions. The distance between the wires is d . At a certain instant of time, a point charge q is at a point equidistant from the two wires, in the plane of the wires. Its instantaneous velocity v is perpendicular to this plane. The magnitude of the force due to the magnetic field acting on the charge at this instant is

A 0 N

B $\frac{\mu_0 I q v}{2\pi d}$

C $\frac{\mu_0 I q v}{\pi d}$

D $\frac{2\mu_0 I q v}{\pi d}$

24 A current of 0.3 A flows in a conductor ABCDE that lies on the plane of the paper as shown in