90. The induced electric field E as a function of r is given by $E(r) = (r/2)(dB/dt)$. So

$$\begin{aligned} a_c &= a_a = \frac{eE}{m} = \frac{er}{2m}\left(\frac{dB}{dt}\right) \\ &= \frac{(1.60\times 10^{-19}\,\mathrm{C})(5.0\times 10^{-2}\,\mathrm{m})(10\times 10^{-3}\,\mathrm{T/s})}{2(9.11\times 10^{-27}\,\mathrm{kg})} = 4.4\times 10^{7}\ \mathrm{m/s^2}\ . \end{aligned}$$

With regard to the directions, $\vec{a}_a$ points to the right and $\vec{a}_c$ points to the left. At point b we have $a_b \propto r_b = 0$.