49. (a) At A, the only field contribution is from the $+5.00Q$ particle in the hollow (this follows from Gauss' law – it is the only charge enclosed by a Gaussian spherical surface passing through point A, concentric with the shell). Thus, using k for $1/4\pi\varepsilon_0$, we have $\vec{E} = k(5Q)/(0.5)^2 = 20kQ$ directed radially outward.

(b) Point B is in the conducting material, where the field must be zero in any electrostatic situation.

(c) Point C is outside the sphere where the net charge at smaller values of radius is $-3.00Q + 5.00Q = 2.00Q$. Therefore, we have $\vec{E} = k(2Q)/(2)^2 = \frac{1}{2}kQ$ directed radially outward.