**2. GLASS PLATE (10 points)** — *Rasmus Kisel and Mihkel Heidelberg.* Light from a laser with a wavelength of $\lambda$ and power of $P$ falls perpendicularly on to a thin glass plate of thickness $a = (100.25\lambda)/n$ where $n$ is the index of refraction of glass. The reflection coefficient of the glass surfaces is $r$, which can be interpreted as the probability for a photon to be reflected from a single glass surface.

**i)** *(2 points)* Calculate the force $F_a$ applied to the glass by the laser light when the incident side of the glass is painted totally black.

**ii)** *(3 points)* Calculate the force $F_b$ applied to the glass by the laser light when the opposite side of the glass is painted totally black.

**iii)** *(5 points)* Calculate the force $F_c$ applied to the glass by the laser light when neither of the sides is painted.