6. Cube (5 points) — *Taavet Kalda.*

A laser pointer of power P is directed at a glass cube. The refractive index of the cube is n. The surface of the cube has anti-reflective coating so that there is no *partial* reflection when light travels from one medium to the other. The speed of light is c.

i) *(3 points)* What is the maximum force by which the laser pointer can push the cube if the laser needs to be kept parallel to one of the faces of the cube (this means that the laser beam can propagate only in a two-dimensional plane)?

ii) *(2 points)* What is the maximum force by which the laser pointer can push the cube if the orientation of the laser can be arbitrary?