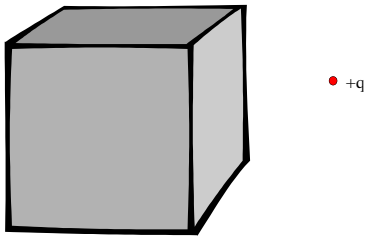


A point charge $+q$ is brought near a solid isolated uncharged metal cube. Select the correct option.



- (a) Due to induction, the cube gets negatively charged
- (b) Some protons from $+q$ jump to the cube making it positively charged
- (c) Some free electrons from the interior of the cube move to the 6 surfaces making them negatively charged while the interior is left with positive charge
- (d) The 6 surfaces get nonuniform charge distribution but the interior remains neutral

Answer

In case of solid metal object, the charge resides on the surface. So, the 6 surfaces will get nonuniform charge distribution due to the proximity of $+q$. The net charge of the entire cube will be zero as before. The interior of the cube will remain neutral.

Hence, (D).