Previous Year JEE Problems

If the Thompson model of the atom was correct, then the result of Rutherford's gold foil experiment would have been :

(A) All of the α-particles pass through the gold foil without decrease in speed.

(B) α-particles are deflected over a wide range of angles.

(C) All α-particles get bounced back by 180°

(D) α-particles pass through the gold foil deflected by small angles and with reduced speed.

Explanation

As in Thompson model, protons are diffused (charge is not centred) α-particles deviate by small angles and due to repulsion from protons, their speed decreases.