Power of Joule's losses in two steady states. The power of Joule's losses in two conductors appears to be the same. If the current density at every point in the first conductor becomes twice larger, while the electric field intensity at every point in the second conductor is halved, the power of Joule's losses in the first conductor in the new steady state is:

(A) 1/4 of
(B) 1/16 of
(C) 4 times
(D) 16 times

that in the second conductor.

Solution: (D)
Answer: (D)