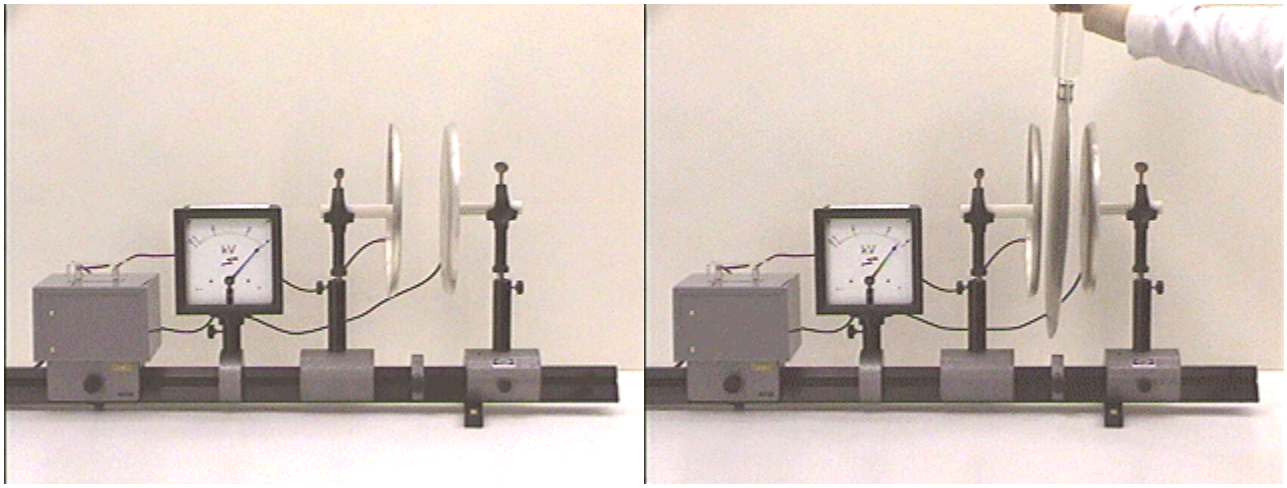
Answer #28

The answer is (c): the voltage across the plates will remain the same, as compared with the original configuration in the photographs below.



The inserted plate becomes charged with equal but opposite charges distributed on its sides. The original capacitor then becomes two capacitors in series, where the sum of the two series capacitors is the same as that of the original single capacitor. However, the voltage across the original plates cannot change due to insertion of an uncharged plate, so the potential difference across the plates must remain unchanged.

Archive 2

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

For questions and comments regarding the *Question of the Week* contact
Dr. Richard E. Berg by e-mail or using phone number or regular mail address
given on the Lecture-Demonstration Home Page.