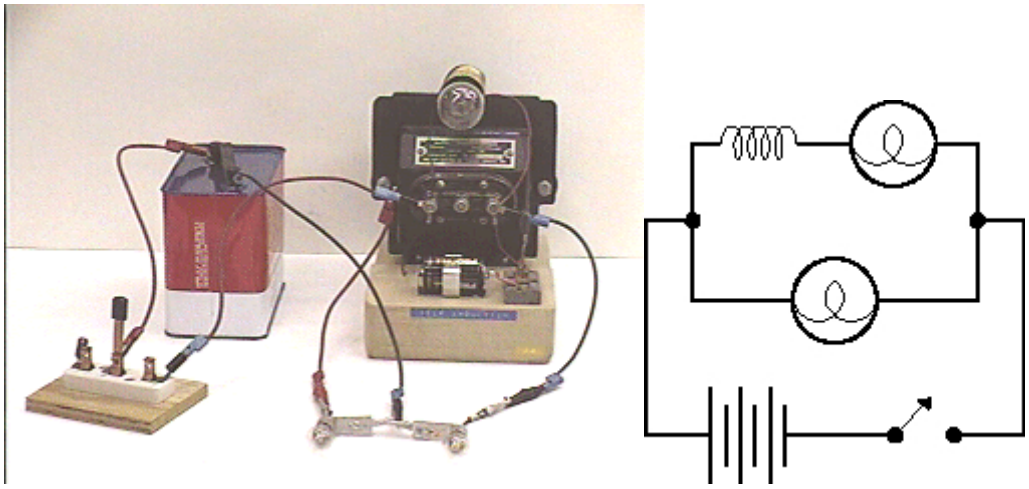
Answer #91

The answer is (d): both bulbs will go off slowly, with the same timing, as seen in an mpeg video by clicking your mouse on the photograph at the left below.



At the instant when the switch is removed from the circuit, the circuit consists of the inductor with two light bulbs in series. The magnetic field in the transformer will then collapse, inducing current in its windings that decreases with the characteristic time constant T = L/R, where R is the series resistance of the inductor and the two light bulbs and L is the inductance.

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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.