32 A high-resistance voltmeter connected across a battery reads 6.0 V.

When the battery is connected in series with a lamp of resistance of 10 Ω, the voltmeter reading falls to 5.6 V.

Which statement explains this observation?

A The electromotive force (e.m.f.) of the battery decreases because more work is done across its internal resistance.

B The e.m.f. of the battery decreases because work is done across the lamp.

C The potential difference (p.d.) across the battery decreases because more work is done across its internal resistance.

D The p.d. across the battery decreases because work is done across the lamp.

Space for working