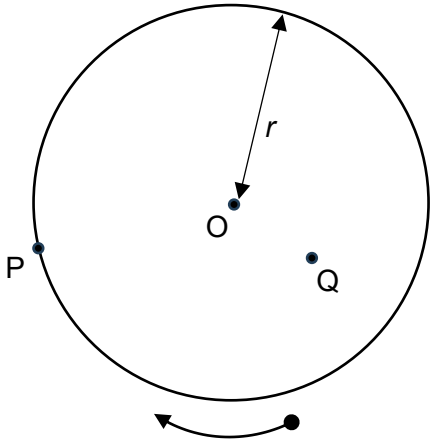
25 An aluminium disc of radius r rotates about its centre at a constant speed. It is placed in a uniform magnetic field perpendicular to its surface. A steady electromotive force (e.m.f.) E is generated between the centre O and the rim at P.



What is the e.m.f. generated between points Q and P, where Q is a distance $\frac{r}{2}$ from the centre?

A zero **B** $\frac{E}{4}$ **C** $\frac{E}{2}$ **D** $\frac{3E}{4}$

26 An alternating potential difference is connected across a fixed resistor and the frequency f of the