

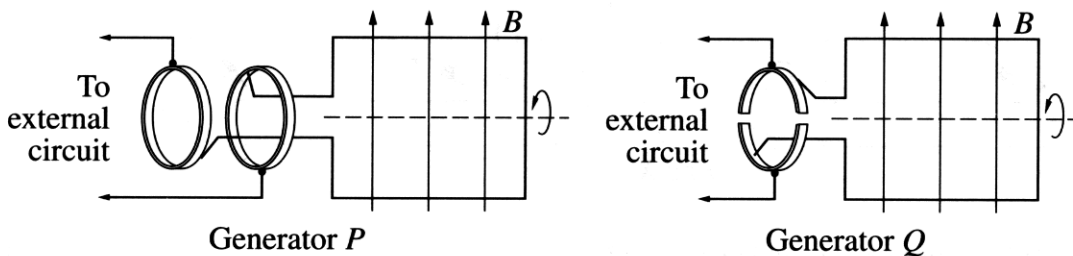
2002 HIGHER SCHOOL CERTIFICATE EXAMINATION  
**Physics**

Section I – Part B (continued)

Marks

Question 22 (6 marks)

Two types of generator are shown in the diagram.



(a) What is the function of the brush in a generator?

to make contact b/w the split rings / slip rings<sup>1</sup> and external circuit

(b) Which of these generators is a DC generator? Justify your choice.

Generator Q. The split ring commutator allows the current reversal to not ~~be~~ be passed on to the external circuit. The brushes switch contact with ~~the~~ the ends of the coil/commutator allowing the current to flow one way i.e. DC current

The graph shows a square wave representing DC current and a sine wave representing AC current. The AC graph is labeled "Instead of switch ends here".

(c) Outline why AC generators are used in large-scale electrical power production.

AC generators have less moving parts  $\therefore$  create less energy loss. More importantly AC generators allow the produced current to be stepped up or down for transmission  $\therefore$   $\downarrow$  power loss due to high currents.