

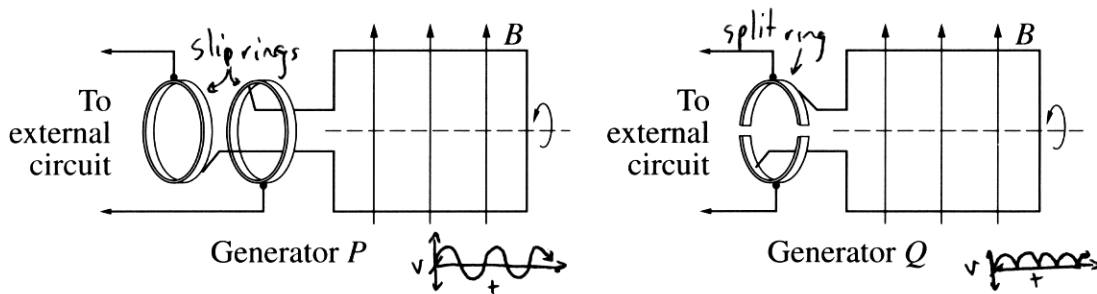
2002 HIGHER SCHOOL CERTIFICATE EXAMINATION  
**Physics**

**Section I – Part B (continued)**

**Marks**

**Question 22 (6 marks)**

Two types of generator are shown in the diagram.

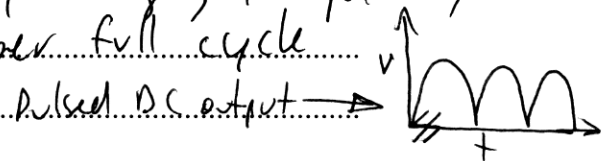


- (a) What is the function of the brush in a generator? 1

To make contact with a rotating commutator, from a fixed terminal and allow a circuit to be created

- (b) Which of these generators is a DC generator? Justify your choice. 3

Generator Q is a DC generator since it uses a split ring commutator. This split ring commutator rectifies the (what would normally be) AC output into DC by changing the polarity of the connection twice per full cycle



- (c) Outline why AC generators are used in large-scale electrical power production. 2

AC generators are easier to construct, can be easily connected to the grid, and voltage can be easily stepped up or down by the use of transformers and are generally more reliable than DC generators.