

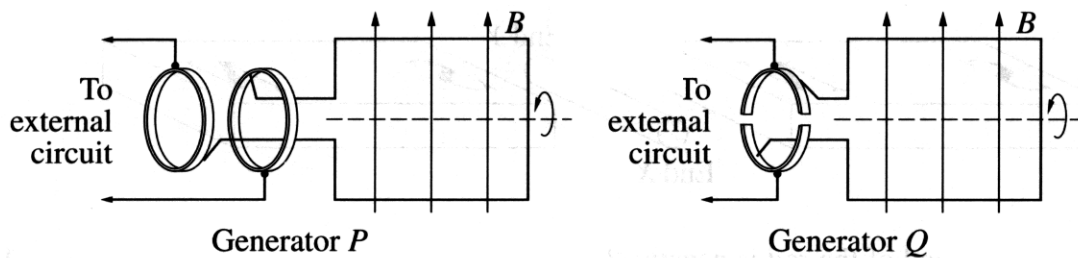
2002 HIGHER SCHOOL CERTIFICATE EXAMINATION
Physics

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

The brush conducts the generated electricity to the external circuit.

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

Generator Q is a DC generator because it has split rings. These are used in DC generators to reverse the direction of current, and are not needed in AC generator, as the current is already alternating.

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

AC generators are simpler to use, and require less maintenance, because they do not use simpler parts. Also they are more efficient (some are 97% efficient), and the electricity is transmitted through the powerlines in AC mode.