

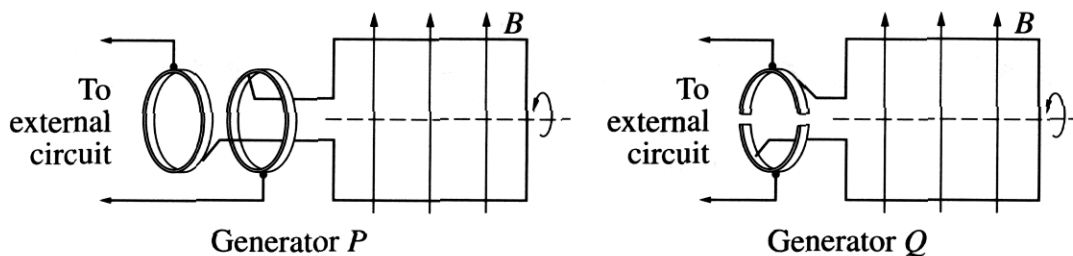
Physics

Section I – Part B (continued)

Marks

Question 22 (6 marks)

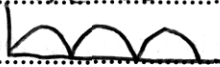
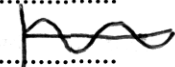
Two types of generator are shown in the diagram.



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

The brush minimises friction between either the split slip rings or the commutator yet still allows current to be transferred through.

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

Generator Q is a DC generator mostly due to the fact that it has a split ring commutator. This allows current to be switched once the coil has turned  $180^\circ$ , instead of leaving the ~~etc~~ connections of to allow a current such as (DC)  instead of (AC) 

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

AC generators have no need for commutators, that require constant maintenance. 3 phase power can also be easily produced by AC generators, not DC. Also transformers can only work w/ AC, not DC.