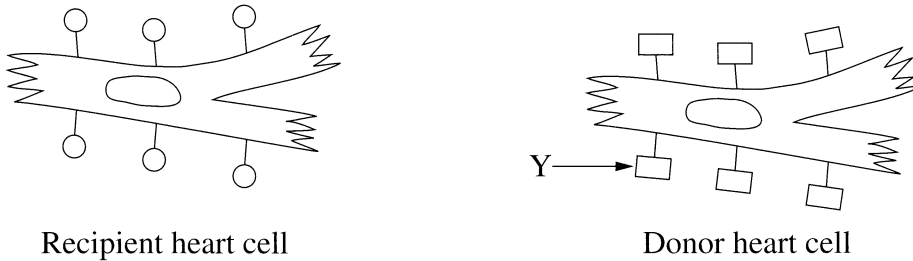


**Question 28** (8 marks)

Organ transplants may trigger an immune response which can lead to organ rejection.

The diagram below represents a model of two heart cells, one from a transplant recipient and one from a donor.



- (a) What does Y represent? 1

..... Antigen

- (b) Assess the effectiveness of the model in explaining the cause of organ rejection in a transplant recipient. 3

..... The model is effective in that it shows the difference in antigen markers between the two cells. However, it oversimplifies the concept. It also doesn't show the roles that antibodies and phagocytes play in organ rejection.

- (c) Name and outline the role of TWO types of T lymphocytes in organ rejection. 4

..... When alerted to the presence of a foreign body, Helper T cells affect B cells and assist them in differentiating into plasma cells which produce antibodies. Cytotoxic T cells, when they encounter a foreign body, such as an organ transplant, they attempt to destroy it.