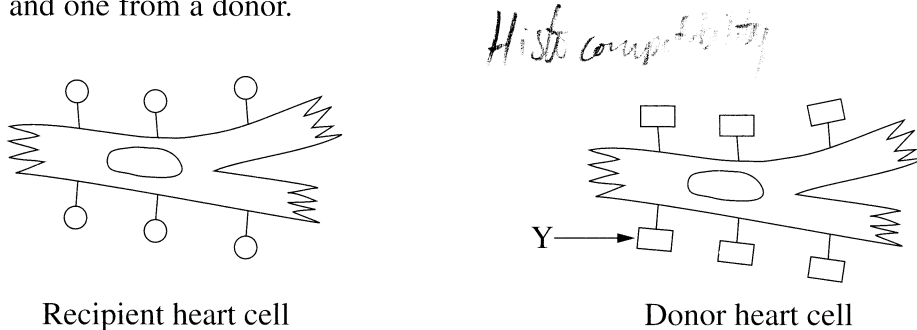


Question 28 (8 marks)

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

~~Marker~~ ~~chemicals~~ ~~MHC~~ ~~marker~~ ~~histo compatibility~~ ~~chemicals~~,
 MHC.

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

The marker ^{chemicals} ~~cell~~ of the donor heart ~~cell~~ is different from the recipient's heart cell. This will cause the recipient's body to reject the organ as it does not recognise the donor heart cells as its "self" as the recipient's own immune system proceeds to attack the donated organ.

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

Helper ~~cell~~ T cells : release antigens that recognise the donor heart cell's markers as non- "self"

Cytotoxic killer T cells : attacks the donor heart cells & causes the organ to be rejected.