Section A

Answer all questions in this section

- 1.Haemophilia is a genetic disorder caused by a recessive sex-linked gene. A phenotypically normal couple got a hemophiliac son.
 - (a) State the genotypes of the parents

(2mks)

Father: XHY

Mother: XHXh

(b) Using a genetic cross, determine the genotypes od the couple's children

(4mks)

Parental Phenotype Man with nermal Carmer Woman blood Clothing

Parental genotype >

x X tx h

i

Fi - genoty pes

Fi - Phenotypes

Crameter

Hornal Comer Son with Haemophiliae daughter daughter blood clother Son.

(c) Explain v

(c) Explain why hemophilia is common in males than in females

(2mks)

Since males have one X and one Y chromosome, and the genes present on X don't have counter genes on Y; only one affected gene (to be present on X) is required for the disease to occur in males;

