**1.** (a) Draw and label a simplified structure of a nucleotide.

(2)

A genetic cross was made between pure-breeding snapdragon plants with red flowers and pure-breeding snapdragon plants with white flowers. The cross produced F1 offspring that had only pink flowers. When the F1 plants were self-pollinated, the resulting F2 generation had some red, some white and some pink flowers.

(b) (i) Identify the relationship between the red and white alleles for flower colour.

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(1)

(ii) Deduce the genotype of the F1 plants.

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(1)

(iii) Construct a Punnett grid to show the cross between two F1 plants.

(2)

(iv) Deduce the proportion of the different phenotypes of the F2 offspring.

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(1)

 (Total 7 marks)

**2.** (a) Define the term *co-dominance*.

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(1)

(b) A man of blood type AB and a woman of blood type B are expecting a baby. The woman’s mother had blood type O. Deduce the possible phenotypes of the offspring from the cross shown below.



(4)

(Total 5 marks)