Questions

Q1.

(i) DNA gives instructions to make proteins.
Describe how two proteins can be different shaped molecules.

(ii) Some proteins are not the correct shape.
Suggest what may have happened to the DNA to cause a protein to form the wrong shape.

(iii) Complete the sentence by putting a cross (✓) in the box next to your answer.
Some proteins are enzymes.
Enzymes are

A biological catalysts
B functional foods
C haploid gametes
D resiping cells

Q2.

Some chemicals can cause DNA mutations.
Describe two ways that a DNA molecule is changed by mutation.

(Total for question = 2 marks)

Mark Scheme

Q1.
Q2.

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| (i)             | A description including **two** of the following points:  
• (coded for by a) different base sequence (1)  
• (made up of) different types of amino acid (1)  
• (made up of) a different number of amino acid (1)  
• (made up of) a different order of amino acid (1) | accept (coded for by) different genes / DNA code  
accept different amino acids | (2) |
| (ii)            | A suggestion including **two** of the following points:  
• (DNA) mutated (1)  
• change in base/base order (1)  
• correct reference to cause of mutation e.g. radiation / tar (1) | accept named change e.g. insertion  
ignore references to base-pairing | (2) |
| (iii)           | A biological catalyst | | (1) |

A description including two of the following  
• changed base / order of bases (1)  
• change in number of bases (1)  
accept substitution eg A becomes T  
accept insertion or deletion eg ACTTGA becomes ATTGA | (2) |