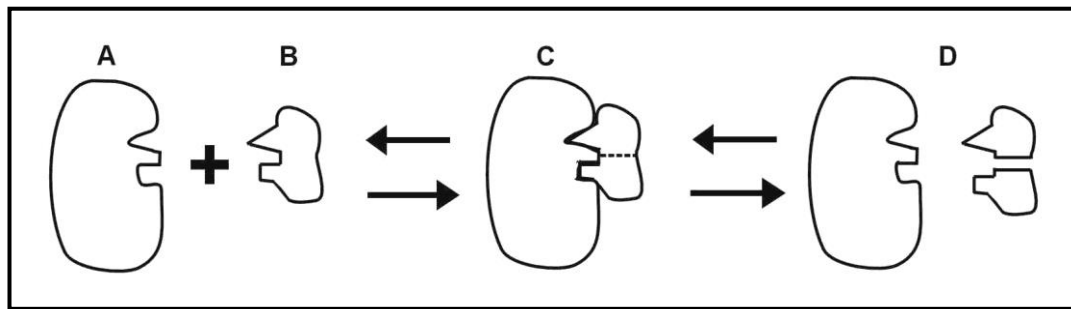


1.4 The diagram below shows the action of an enzyme.



1.4.1 What is an enzyme? (1)

1.4.2 Provide labels A to D. (4)

1.4.3 List TWO characteristics of enzymes. (2)

1.4.4 Enzymes that break down fats and proteins are often added to washing powders. Give THREE reasons why the addition of enzymes makes the washing powder more effective. (3)

[10]

1.5 Write the terms required next to each question number.

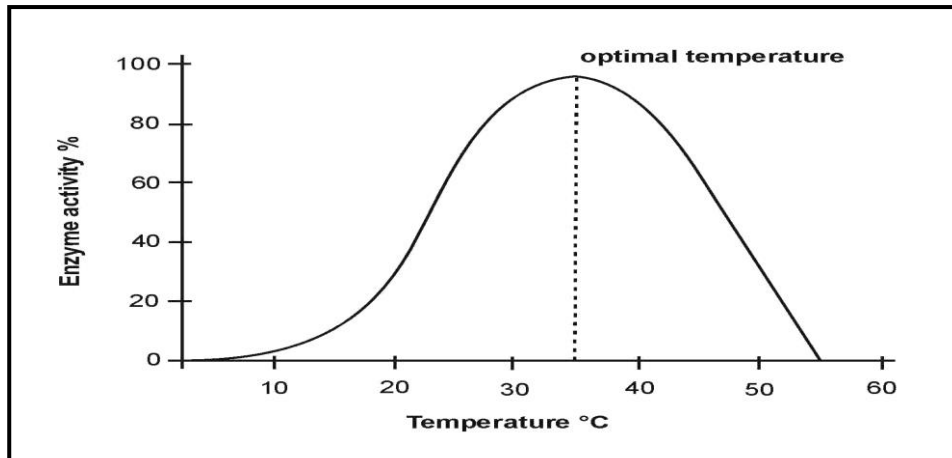
1.5.1 TWO parts making up a chromosome. (2)

1.5.2 TWO general types of tumour. (2)

[4]

QUESTION 3

3.1 The graph below shows the effect of temperature on enzyme activity.



3.1.1 Distinguish between the dependent and independent variable as indicated on the given graph? (2)

3.1.2 Use the information given in the graph to describe the effect of temperature on enzyme activity. (4)

3.2 *Erythrina caffra* (coastal coral tree) and *Erythrina decora* (Namib coral tree) are indigenous trees occurring in different habitats. *E. caffra* occurs in coastal forest regions, whereas *E. decora* is found in more arid and bushveld regions. A leafy twig from each tree was attached to a bubble potometer. The two potometers were kept in identical environmental conditions. The distance travelled by the bubble was recorded for each over a period of twenty minutes as shown in the table. [6]

Time (minutes)	Total distance travelled by bubble (mm)	
	Plant A	Plant B
Start	0	0
4	30	10
8	80	25
12	132	40
16	170	56
20	220	70

3.2.1 Explain why the two leafy twigs had to be more or less the same size and have roughly the same number of leaves. (2)

3.2.2 Plot a line graph of the data collected. (7)

3.2.3 Which plant, A or B, represents *Erythrina decora*? (1)

- 3.2.4 Explain your answer in Question 3.2.3 (2)
- 3.2.5 If both potometers were placed in a warm environment, how would this affect the total distance travelled by the bubble in twenty minutes? (1)
- 3.2.6 Explain your answer in Question 3.2.5 (2)

[15]