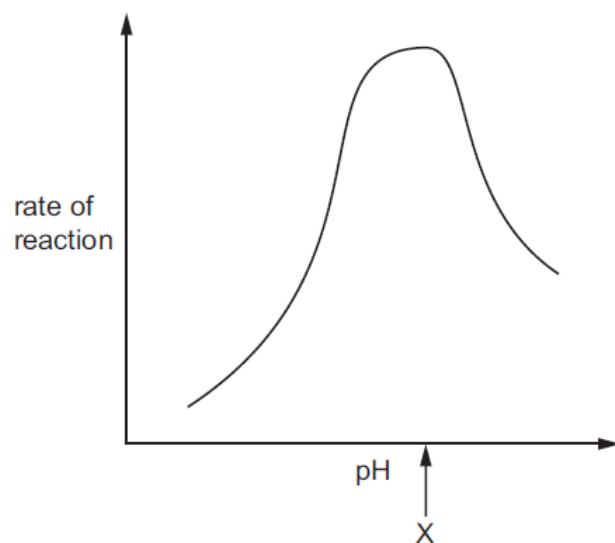


**Enzymes – 2022 June O Level 5090****1. June/2022/Paper\_11/No.5**

The graph shows how the rate of reaction of a protease from the stomach varies with pH.



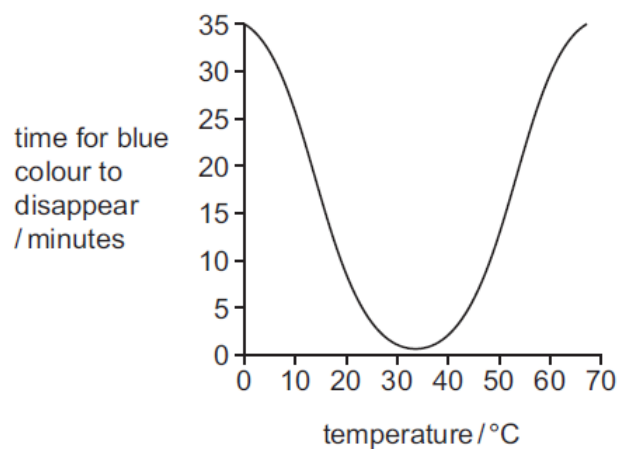
What describes the pH at point X?

- A the highest pH at which this enzyme is active
- B the lowest pH that does not destroy the enzyme
- C the pH at which the substrate starts to run out
- D the pH that produces the highest rate of enzyme activity

**2. June/2022/Paper\_11/No.6**

A dilute starch solution turns blue when very dilute iodine solution is added. This colour disappears as the starch is broken down by amylase.

The graph shows the disappearance of the blue colour at different temperatures.



Which statement explains the shape of the curve?

- A** Enzyme activity rises as the temperature rises.
- B** Enzymes have an optimum temperature range for activity.
- C** Enzymes are inactive below 30 °C.
- D** Enzymes do not work above 30 °C.

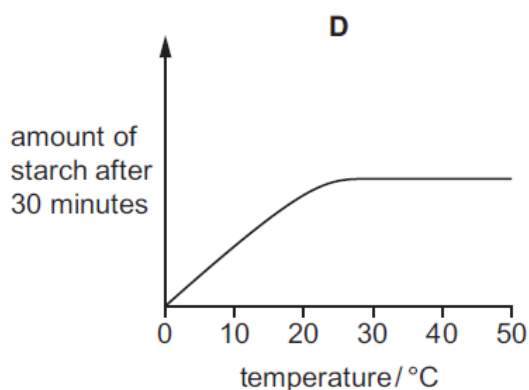
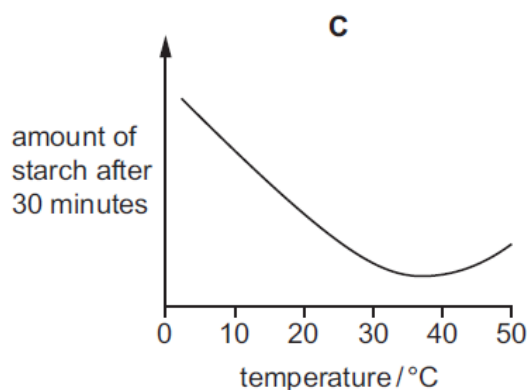
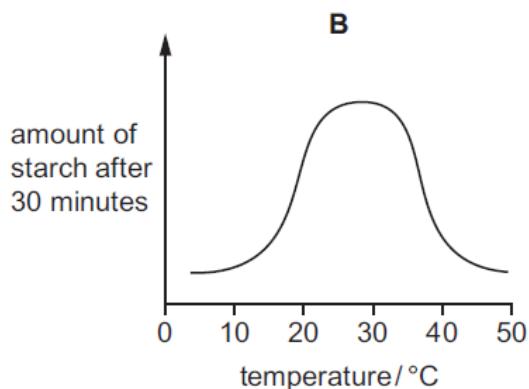
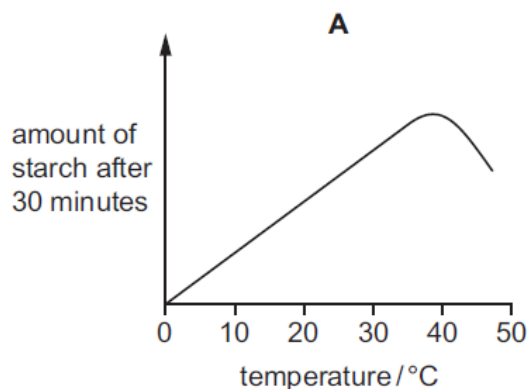
## 3. June/2022/Paper\_12/No.5

Amylase is an enzyme that breaks down starch to maltose.

Students set up an experiment to investigate the effect of different temperatures on the action of amylase on starch solution.

They measured the amount of starch remaining after 30 minutes at different temperatures.

Which graph would you expect the students to draw from their results?



## 4. June/2022/Paper\_12/No.6

Which statement identifies the optimum (best) temperature for enzyme activity?

- A** It is the highest temperature at which any enzyme activity happens.
- B** It is the highest temperature that does not destroy an enzyme.
- C** It is the lowest temperature that denatures an enzyme.
- D** It is the temperature that produces the highest rate of enzyme activity.

5. June/2022/Paper\_21/No.4(a\_b)

The human liver contains a high concentration of enzymes called transaminases. These enzymes are important in the metabolism of amino acids. Amino acids are absorbed from the alimentary canal and carried to the liver by a blood vessel.

- (a) Name the part of the alimentary canal where absorption occurs and the blood vessel that carries the amino acids to the liver.

part of alimentary canal .....

blood vessel .....

[2]

- (b) There are different types of transaminase. Each type has a specific active site.

Explain why this means that each type catalyses a specific reaction.

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[3]