

- 12 Six test-tubes were set up at different pH values. They each contained the same quantity of starch and amylase in water. The table shows the time taken for the reaction to be completed in each test-tube.

pH	1	3	5	7	9	11
time to be completed / s	95	64	42	5	35	66

At which pH does the amylase work best?

- A pH 1 B pH 5 **C pH 7** D pH 11

- 13 What are the chemical elements found in carbohydrates?

- A** carbon, hydrogen and oxygen only
 B carbon, hydrogen, oxygen and nitrogen only
 C carbon, hydrogen, oxygen and sulfur only
 D carbon, hydrogen, oxygen, nitrogen and sulfur only

- 14 A protease is added to a cloudy suspension of protein in a test-tube and kept at 37 °C

After eight minutes, the suspension changes from cloudy to transparent.

Which product, or products, will now be present in the test-tube?

- A** amino acids
 B fatty acids
 C glycerol
 D simple sugars

- 15 The following can be used to write a word equation for photosynthesis.

- 1 carbon dioxide and water
- 2 light and chlorophyll
- 3 glucose and oxygen

Which shows a correct word equation for photosynthesis?

- A 1 → 2 in the presence of 3
B 1 → 3 in the presence of 2
 C 2 → 3 in the presence of 1
 D 3 → 1 in the presence of 2

21 These actions may be important in controlling the spread of disease.

- 1 washing hands after going to the toilet
- 2 disposing of waste frequently
- 3 using separate cutting boards for meat and salad
- 4 disposing of raw sewage into a river

Which would help control the spread of disease?

- A 1, 2, 3 and 4
☒ B 1, 2 and 3 only
 C 2 and 3 only
 D 4 only

22 The table shows some of the features of respiration.

Which row is correct for anaerobic respiration?

	amount of energy released per glucose molecule	chemical reaction	releases carbon dioxide
A	high	always the same	sometimes
☒ B	low	different in different organisms	sometimes
C	high	different in different organisms	always
D	low	always the same	always