1- Poor nutrition can lead to a condition called rickets in which bones fail to develop properly.
The table shows some minerals and vitamins present in four foods.
Which food would be best for a child who has rickets?

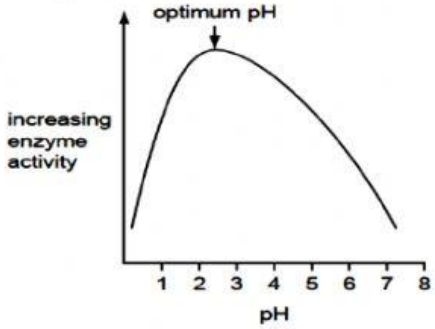
	calcium	iron	vitamin C	vitamin D
A	✓	✗	✓	✗
B	✓	✗	✗	✓
C	✗	✓	✓	✗
D	✗	✓	✗	✓

key
✓ = substance present
✗ = substance absent

2- Starch is digested by amylase in the mouth, but it is not digested in the stomach. What is the reason for this?

A. All starch digestion is completed in the mouth.
B. The pH in the stomach is not suitable for the amylase to work.
C. The starch does not stay in the stomach long enough to be digested.
D. The temperature in the stomach is not suitable for the amylase to work.

3- The graph shows the results of experiments in which the activity of an enzyme was measured at different pH values.



In which part of the alimentary canal would this enzyme be likely to work?

A. mouth cavity
B. esophagus
C. small intestine
D. Stomach

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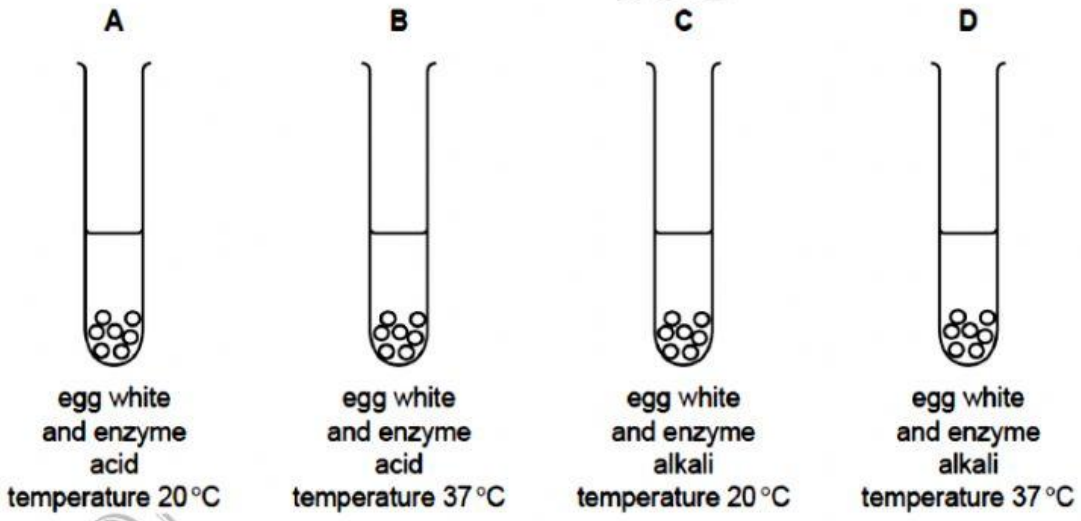
4- The table shows nutrients found in a biscuit.
Which nutrient needs no digestion?

A	fat	3.0g
B	glucose	2.8g
C	protein	3.5g
D	starch	5.5g

5- An enzyme from the stomach that digests protein, and cooked egg white that contains protein, are placed in four test-tubes.

When the egg white is digested the mixture becomes clear.
Which tube becomes clear first?



6- What does the graph show?

A. The enzyme is destroyed at pH 9.

B. The enzyme works best at pH 6.

C. The rate of reaction halves as the pH changes from pH 5 to pH 7.

D. The rate of reaction is the same at pH 5 and pH 8.5.

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7- The aorta takes

A. deoxygenated blood away from the heart.

B. deoxygenated blood towards the heart.

C. oxygenated blood away from the heart.

D. oxygenated blood towards the heart.

8- What is the definition of digestion?

A. Large insoluble molecules are changed into faeces.

B. Large insoluble molecules are changed into smaller soluble molecules.

C. Small soluble molecules are carried to the liver.

D. Small soluble molecules are passed through the wall of the intestine.

9- Which are characteristics of enzymes?

A. They are carbohydrates and biological catalysts.

B. They are carbohydrates and chemical messengers.

C. They are proteins and biological catalysts.

D. They are proteins and chemical messengers.

10-Which substance is an enzyme?

A. bile

B. fibrinogen

C. lipase

D. Maltose

11-What are enzymes made of?

A. Carbohydrates

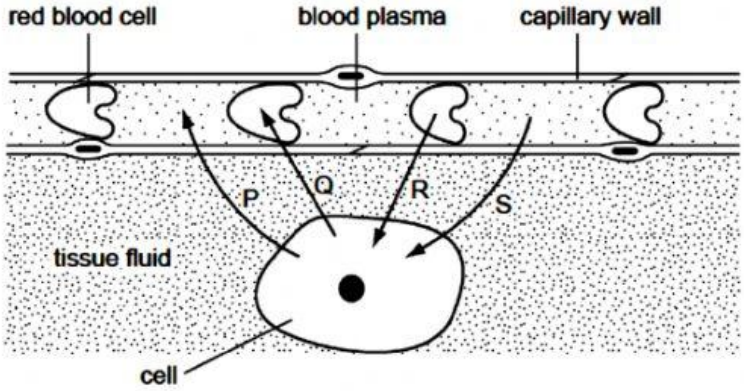
B. DNA

C. Fats

D. Proteins

ALEXANDRIA INTERNATIONAL SCHOOL

12-The diagram represents a blood capillary with an adjacent cell. The arrows represent the transfer of substances between the capillary and the cell.



Which arrows represent glucose, carbon dioxide and oxygen?

	glucose	carbon dioxide	oxygen
A	P	R	Q
B	Q	S	P
C	R	Q	S
D	S	P	R

13-The table shows whether starch was still present after four different experiments.

experiment	result
starch + water at 20 °C	✓
starch + amylase at 20 °C	✗
starch + amylase at 30 °C	✗
starch + boiled amylase at 30 °C	✓

key
✓ = starch present
✗ = starch absent

What broke down the starch?

A. amylase
B. boiled amylase
C. heat
D. Water

14-Where does hemoglobin become oxyhemoglobin?

A. heart
B. kidneys
C. liver
D. lungs

15-Which statement is correct for all catalysts?

A. They are enzymes.
B. They are proteins.
C. They speed up chemical reactions.
D. They work in living organisms.

16- A human digestive enzyme breaks down its substrate at a fast rate at 35ºC. What would occur if the enzyme and substrate were kept at 75ºC?

A. The enzyme would stop working and be denatured.
B. The reaction would continue at the same rate.
C. The reaction would take place more quickly.
D. The reaction would take place more slowly.

17- What is a characteristic of all catalysts?

A. They are broken down in the reaction.
B. They are made of protein.
C. They are not changed by the reaction.
D. They do not change

18-What happens to most enzymes above 60 °C?

A. They are denatured.
B. They are destroyed by white blood cells.
C. They are digested.
D. They are most active.

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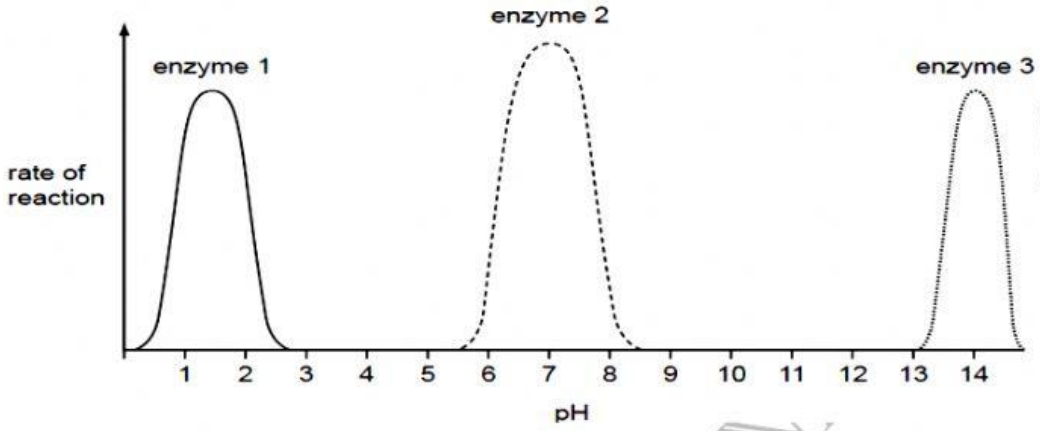
19-The graph shows the effect of pH on the rate of reaction of three different enzymes.



What does the graph show?

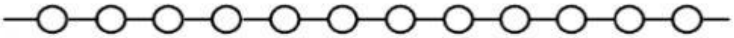
A. Each enzyme works best at a different pH.

B. Each enzyme works best over a narrow temperature range.

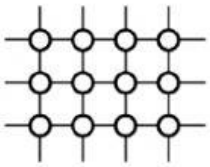
C. Enzymes work best in acid conditions.

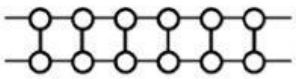
D. Enzymes work best in alkaline conditions.

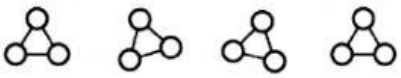
20-The diagram shows part of a starch molecule.

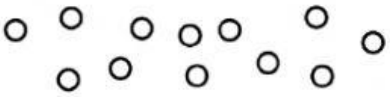


Which diagram shows this molecule after it has been completely digested?

A 

B 

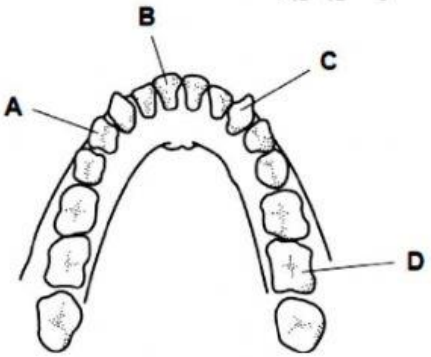
C 

D 

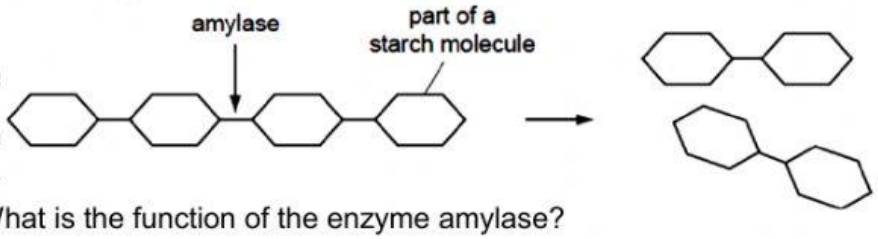
21- Nutrients are made up of smaller basic units. Nutrients can be identified by food tests.
Which nutrient is a protein?

nutrient	smaller basic units	food test
A	amino acids	Benedict's test
B	amino acids	biuret test
C	sugars	Benedict's test
D	sugars	biuret test

22- Which is an incisor tooth?



23- The diagram shows the action of amylase.



What is the function of the enzyme amylase?

A. breaks down the substrate into amino acids
B. changes the product into the substrate
C. increases the rate of starch breaking down into glucose
D. increases the rate of starch breaking down into maltose

24-Small molecules are used as the basic units in the synthesis of large food molecules.
Which statement is correct?

A. Amino acids are basic units of carbohydrates.

B. Fatty acids are basic units of glycogen.

C. Glycerol is a basic unit of oils.

D. Simple sugar is a basic unit of protein.

25- Six test-tubes were set up at different temperatures. Each contained identical solutions containing starch and amylase mixtures. The table shows the time taken for the reactions to finish in each test-tube.

temperature / °C	15	25	35	45	55	65
time / seconds	35	22	13	5	35	66

At which temperature does the amylase work best?

A. 15 °C B. 35 °C C. 45 °C D. 65 °C

26- Dietary fibre passes through several structures after leaving the stomach. In which order does the dietary fibre pass through these structures?

A. duodenum → ileum → colon → rectum

B. duodenum → ileum → rectum → colon

C. ileum → duodenum → colon → rectum

D. ileum → duodenum → rectum → colon

27- Which chemical reaction takes place in the stomach?

A. Proteins are digested by protease.

B. Proteins are digested into fatty acids.

C. Starch is digested into amino acids.

D. Starch is digested by lipase.

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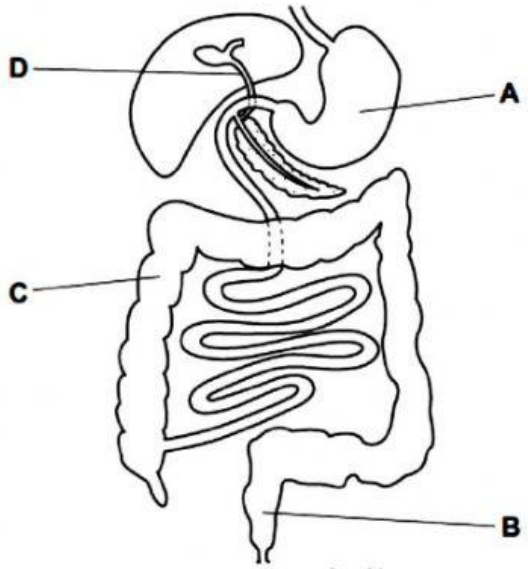
28-The diagram shows the human alimentary canal.
Which labelled part absorbs the most water?



29- Which row correctly identifies the chemical elements found in proteins?

	carbon	hydrogen	oxygen	nitrogen
A	✓	✓	✓	✓
B	✓	✓	✓	✗
C	✓	✗	✓	✗
D	✗	✓	✗	✓

key
✓ = present
✗ = absent

30- A person has bleeding gums.
This could be caused by a lack of which nutrient?

A. calcium
B. iron
C. vitamin C
D. vitamin D

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