

Biological molecules – 2023 November IGCSE 0610**1. Nov/2023 /Paper_ 0610/11/No.8**

What is the colour change shown by Benedict's solution when heated with a reducing sugar?

- A** blue to purple
- B** blue to red
- C** brown to blue-black
- D** red to yellow

2. Nov/2023 /Paper_ 0610/13/No.8

Which row shows the chemical elements contained in fats?

	carbon	hydrogen	nitrogen	oxygen	
A	✓	✓	x	✓	key ✓ = present x = absent
B	✓	x	✓	x	
C	x	✓	✓	✓	
D	✓	✓	x	x	

3. Nov/2023 /Paper_ 0610/13/No.9

Glycogen is a large molecule made from smaller molecules.

Which smaller molecules is glycogen made from?

- A** amino acids
- B** fatty acids
- C** glucose
- D** glycerol

4. Nov/2023 /Paper_ 0610/21/No.8

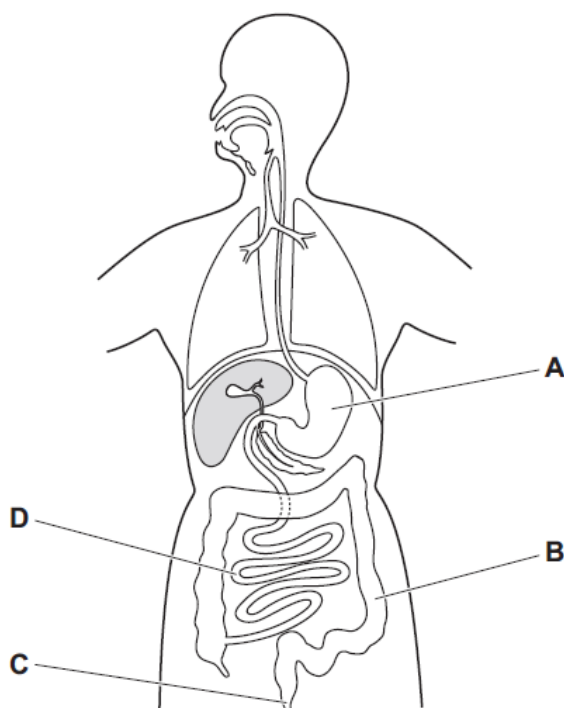
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5. Nov/2023 /Paper_ 0610/21/No.9

The diagram shows the digestive system.

Which part absorbs the most water?



6. Nov/2023 /Paper_ 0610/22/No.8

Which row identifies the chemical elements in proteins?

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

key

✓ = present

x = absent

7. Nov/2023 /Paper_ 0610/22/No.9

The table shows some large biological molecules and some small biological molecules.

	large biological molecules	small biological molecules
1	cellulose	glucose
2	oil	amino acids
3	glycogen	glucose
4	protein	ethanol

Which rows correctly pair large molecules with the smaller molecules used to make them?

A 1 and 2

B 1 and 3

C 2 and 3

D 3 and 4

8. Nov/2023 /Paper_ 0610/22/No.14

Some medicines are made into tablets which are coated in a starch-like substance.

The coating protects the medicine from the effects of gastric juice.

Which enzyme digests the coating and what is produced by this action?

	enzyme	products
A	amylase	fatty acids and glycerol
B	amylase	simple reducing sugars
C	lipase	fatty acids and glycerol
D	lipase	simple reducing sugars

9. Nov/2023 /Paper_ 0610/23/No.8

Which row shows the chemical elements contained in fats?

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

key

✓ = present

x = absent

10. Nov/2023 /Paper_ 0610/23/No.9

Glycogen is a large molecule made from smaller molecules.

Which smaller molecules is glycogen made from?

- A** amino acids
- B** fatty acids
- C** glucose
- D** glycerol

11. Nov/2023 /Paper_ 0610/31/No.8(c_e)

The protein pectinase is used in food industries to make fruit juice clear.

(c) Pectinase is an example of a type of protein.

State the name of this type of protein.

..... [1]

(d) Fig. 8.2 shows the process used to produce clear fruit juice.

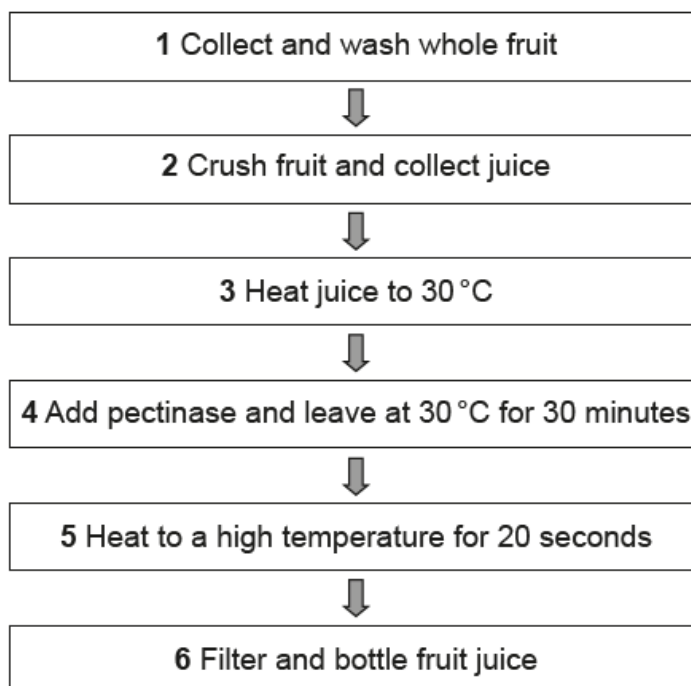


Fig. 8.2

(i) Explain why a temperature of 30 °C is used in step 4.

.....

 [1]

(ii) During step 4 amylase may be added to the fruit juice.

Suggest the purpose of adding amylase.

.....

 [1]

(iii) Explain why the juice is heated to a high temperature in step 5.

.....

.....

..... [1]

(e) Yeast is used in biotechnology.

Circle **two** uses of the products of anaerobic respiration in yeast.

biofuels	bread-making	herbicide production
insulin production	lactic acid production	washing powders

[2]

12. Nov/2023 /Paper_ 0610/32/No.2(d)

(d) (i) The boxes on the left show the names of some substances that are made in plants.

The boxes on the right show uses of these substances in plants.

Draw lines to link each substance with its correct use in plants. Draw **three** lines.

substance	use in plants
cellulose	to attract insects for pollination
nectar	to build cell walls
sucrose	for transpiration
	for transport in the phloem

[3]

(ii) List the chemical elements contained in carbohydrates.

..... [1]