

Tuesday 15 January 2019 – Afternoon

LEVEL 3 CAMBRIDGE TECHNICAL IN HEALTH AND SOCIAL CARE

05831/05832/05833/05871 Unit 4: Anatomy and physiology for health and social care

Duration: 2 hours

C442/1901



You must have:

- no materials required

First Name						Last Name				
Centre Number						Candidate Number				
Date of Birth	D	D	M	M	Y	Y	Y	Y		

INSTRUCTIONS

- Use black ink.
- Complete the boxes above with your name, centre number, candidate number and date of birth.
- Answer **all** the questions.
- Write your answer to each question in the space provided.
- If additional answer space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.

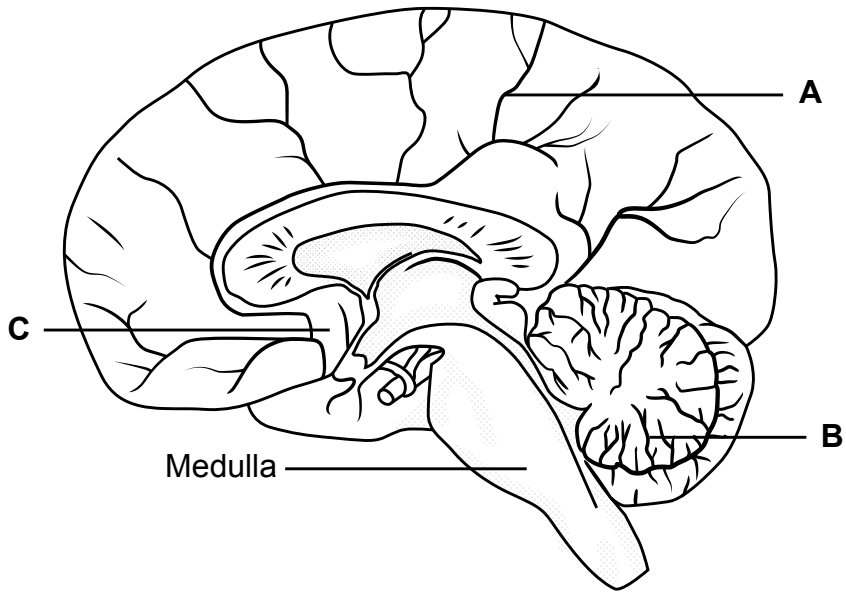
INFORMATION

- The total mark for this paper is **100**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document consists of **20** pages.

FOR EXAMINER USE ONLY	
Question No	Mark
1	/17
2	/25
3	/12
4	/29
5	/17
Total	/100

Answer **all** the questions.

1 A diagram of the brain is shown below.



(a) (i) Identify the parts of the brain labelled **A**, **B** and **C** in the diagram.
Choose from the following:

- Cerebellum Cerebral cortex Corpus callosum Hypothalamus**

A.....
B.....
C.....

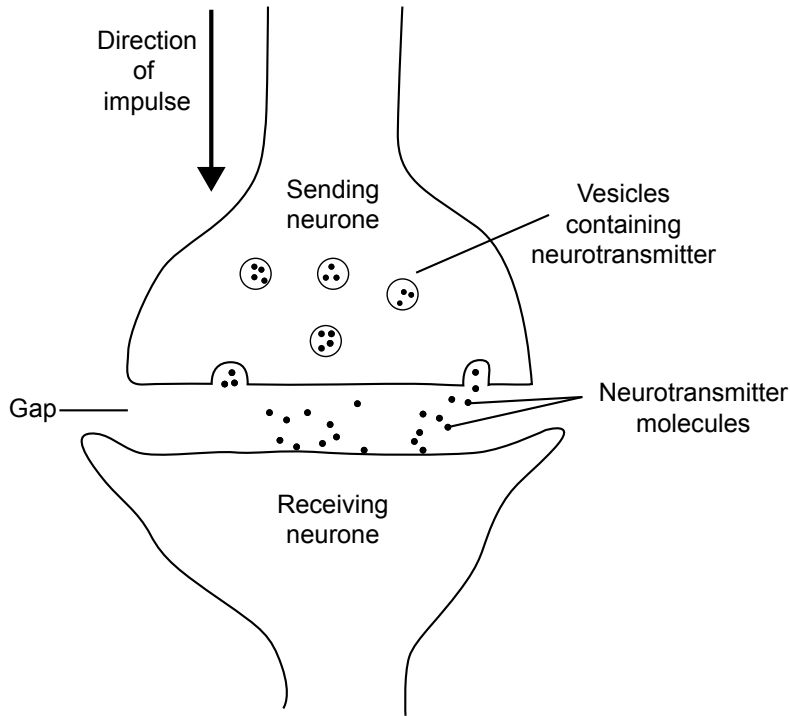
[3]

(ii) Which of the following statements about the function of the medulla is correct?
Tick (✓) **one** box.

- It controls autonomic functions such as heart rate.
- It controls balance and posture.
- It coordinates movement of muscles.
- It coordinates speech and language.

[1]

(c) The diagram below shows the gap between two neurones.



Describe **four** stages of how a nerve impulse is transmitted across the gap between two neurones.

Use the information in the diagram in your answer.

- 1.....
-
- 2.....
-
- 3.....
-
- 4.....
-

[4]

2 (a) Complete this description about the composition and functions of blood.

Use words from the list below:

- blood clotting cytoplasm erythrocytes extensions fragments
- lymphocytes neutrophils plasma temperature regulation

The main component of blood is called _____. It consists mostly of water and it helps in the _____ of the body. Red blood cells are also known as _____ and are responsible for transporting oxygen and carbon dioxide.

White blood cells help to prevent infection, for example, _____ which engulf microorganisms.

Platelets can be described as cell _____ and are responsible for _____.

[6]

(b) Kevin has been suffering from hypertension.

(i) What does the term 'hypertension' mean?

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.....[1]

(ii)* Evaluate the possible lifestyle changes Kevin could make to treat his hypertension.

[6]

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(c) Hypertension can lead to malfunctioning of the kidneys by damaging nephrons.

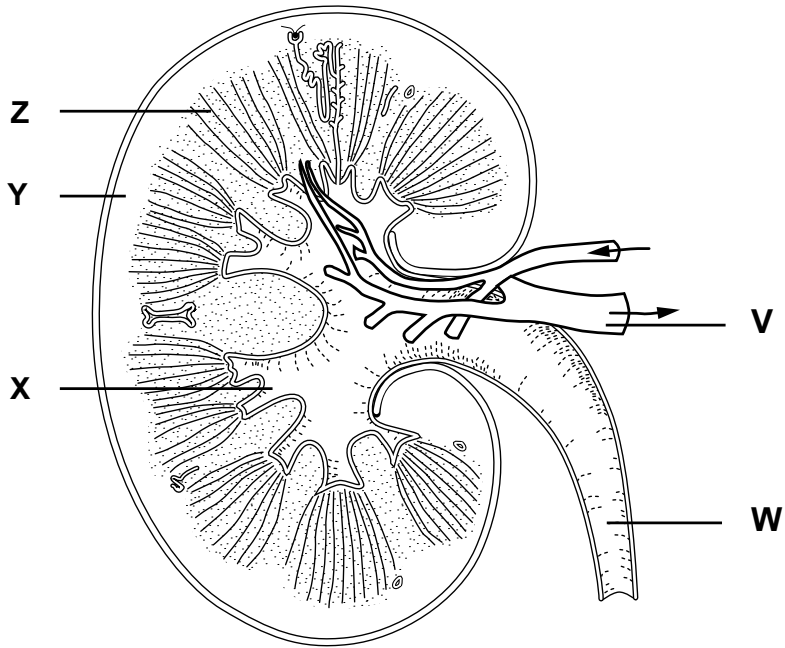
Name **one** process that occurs in a kidney nephron and the part of the nephron involved in this process.

Process.....

Part of nephron involved.....

[2]

(d) The diagram shows a kidney.



Select the correct letter to identify the labelled parts shown on the diagram.

The third one has been done for you.

Structure within the kidney	Letter
Cortex	
Medulla	
Renal vein	V
Ureter	

[3]

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Turn over for the next question

4 The digestive system consists of specialised organs that work together to break down food.

(a) Describe what happens to food in the buccal cavity up to the time it enters the stomach.

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.....
.....
.....
.....
.....[4]

(b) Choose from the list of organs below to answer the following questions.

You can use an organ once, more than once or not at all.

- | | | | |
|---------------------|------------------------|----------------|------------------------|
| Gall bladder | Large intestine | Liver | Small intestine |
| | Pancreas | Stomach | |

(i) Name **one** organ that secretes hydrochloric acid.

.....[1]

(ii) Name **two** organs that produce enzymes.

.....
.....[2]

(iii) Name **one** organ that stores bile.

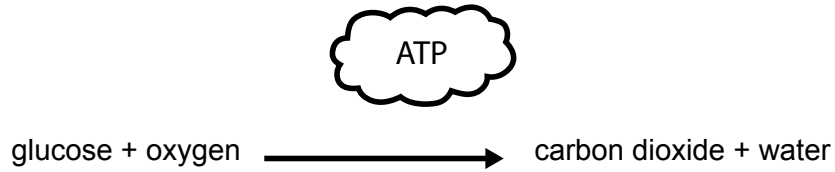
.....[1]

(iv) Name **one** organ where the products of digestion enter the blood.

.....[1]

5 Aerobic and anaerobic respiration are types of cellular respiration that take place inside cells to provide energy.

This is the reaction that takes place during **aerobic** respiration.



(a) Compare this reaction with the one that takes place during anaerobic respiration.

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[3]

(b) Write the name of **one** respiratory malfunction being described by each statement in the table.

Choose from: **Asthma** **Cystic fibrosis** **Emphysema**

You can use each malfunction once, more than once or not at all.

Can be triggered by cigarette smoke or dust	
Caused by chemicals in cigarette smoke	
Caused by a defective gene	
Mucus is produced thicker than normal	

[4]

(d) Complete the description about the structure of the middle ear.

Choose from the following:

air

cochlea

ear drum

Eustachian tube

fluid

incus

round window

The middle ear is a chamber filled with _____ between the _____ and the inner ear. The _____ connects the middle ear to the throat and ensures that the pressure of the middle ear is equal to the pressure outside the ear. The _____ is one of three small bones that transmit vibrations across the middle ear to the oval window.

[4]

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown – for example 1(a) (i) or 4(a).

A large rectangular area containing 25 horizontal dotted lines for writing answers. A solid vertical line is on the left side of the page.

A series of horizontal dotted lines for writing, spanning the width of the page.

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