

T Level Technical Qualification in Health (603/7066/X)

Paper B Elements B1–B2

Paper number: **P002988**
Assessment date: **Thursday 19 June 2025**

Time allowed: **2 hours 30 minutes**
Time: **1:00pm – 3:30pm**

Student instructions

- Use black ink.
- Fill in the boxes at the bottom of this page.
- Answer **all** questions.
- Read each question carefully.
- You **must** write your responses in the spaces provided. There may be more space than you need.
- You may do rough work in this answer book. Cross through any work you do not wish to be marked.
- If you use a supplementary answer booklet, you must add your student name, student number and provider number to the front cover of the booklet. Insert your supplementary answer booklet inside this question paper at the end of your exam.

Student information

- The marks available for each question are shown in brackets. This is to help you decide how long to spend on each question.
- The maximum mark for this paper is **118**.
- In questions **7, 8, 16, 17, 23** and **24**, you will be assessed on the quality of your written communication (QWC), specifically, your ability to:
 - use good English
 - express and organise ideas clearly and logically
 - use appropriate technical terms.
- In questions **4, 13, 14** and **20** you will be assessed on your application of maths.
- You may use a calculator.

Do not turn over until the invigilator tells you to do so.

Please complete / check your details below

Student name:

Provider name:

Student number:

Provider number:



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For the multiple-choice questions, write **A**, **B**, **C** or **D** in the answer space. Do **not** circle **A**, **B**, **C** or **D** in the question.

For example:

Answer **C**

If you change your mind about an answer, you must put a cross through your original answer and then write your new answer next to it.

For example:

Answer ~~A~~ **B**

Section A: body systems 1

This section is worth **35** marks, plus **6** marks for the quality of written communication (QWC) and use of specialist terminology.

Answer **all** questions in the spaces provided.

- 1** Name **one** physical barrier which prevents pathogens entering the body. [1 mark]

- 2** Name **two** types of organism made up of eukaryotic cells. [2 marks]



3 Nadia is obese and is travelling from the UK to Italy for weight loss surgery. She is having a gastric band fitted in a private hospital in Italy.

She knows her current height is 5 feet 1 inch, and her weight is 12 stone 2 pounds. Before she travels, her GP has insisted on measuring and recording her notes in the international system of units (SI), using metres and kilograms, for the Italian medical team.

Describe **one** reason for using the international system of units (SI) in Nadia's care.

[2 marks]

4 A standard daily dose of paracetamol is 4000 mg.

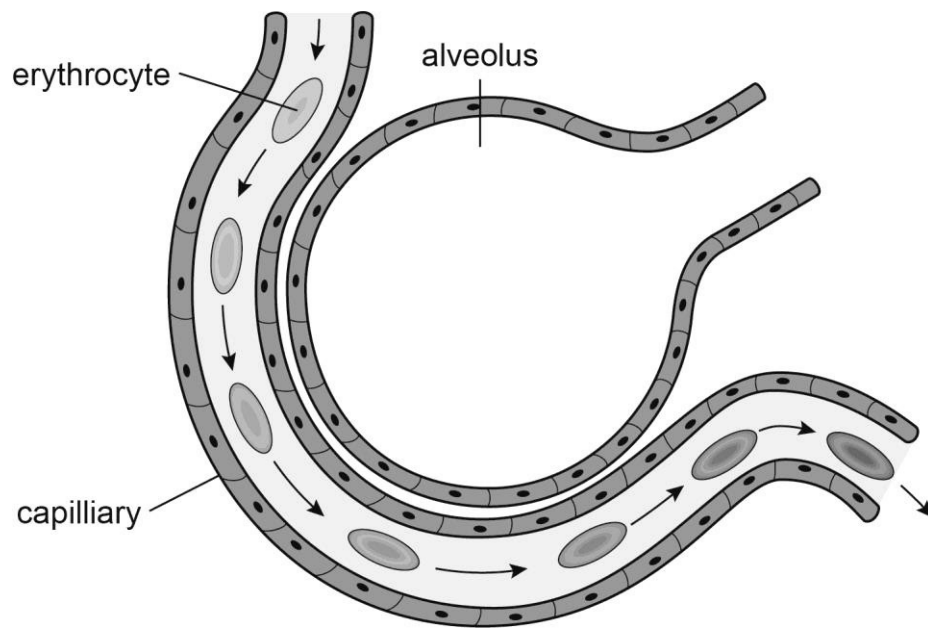
Convert this dose to grams.

You should show your working.

[2 marks]



5 (a) **Figure 1:** erythrocyte travelling through a capillary around an alveolus



Describe what happens to the gas composition of the erythrocytes as they travel through this capillary.

[2 marks]

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- (b) As part of an elite cycling race, riders must have a blood test to test for performance enhancing drugs. One of these drugs has the effect of increasing the number of erythrocytes in the body.

Explain **one** way this drug might affect a rider's performance in the race.

[2 marks]

Past Paper

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Section B: body systems 2

This section is worth **35** marks, plus **6** marks for the quality of written communication (QWC) and use of specialist terminology.

Answer **all** questions in the spaces provided.

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9 Which **one** of the following statements on principles of cell theory is correct? **[1 mark]**

- A** Bacterial cells are eukaryotic
- B** Cells are the basic unit of structure in all living things
- C** Cells in animals, plants, yeast and algae are prokaryotic
- D** No cells are created by pre-existing cells

Answer _____

10 Name the hormone given during in vitro fertilisation (IVF) to increase the number of eggs available to be fertilised. **[1 mark]**

11 Khalid has been referred to a gastroenterologist following a recent episode of pancreatitis. His symptoms were unexplained weight loss and fatty stools. His tests have revealed that his pancreas is not producing enough lipase.

Explain how Khalid's reduced lipase has led to **one** of these symptoms. **[2 marks]**



12 Define the term 'morbidity'.

[1 mark]

13 According to the Office for National Statistics, in 2021 there were 9 641 alcohol-specific deaths. This increased to 10 048 in 2022.

Calculate the percentage increase of alcohol-specific deaths between 2021 and 2022.

You should show your working.

[4 marks]

Past Paper



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Figure 2: thyroid cancer mortality rates in men and women

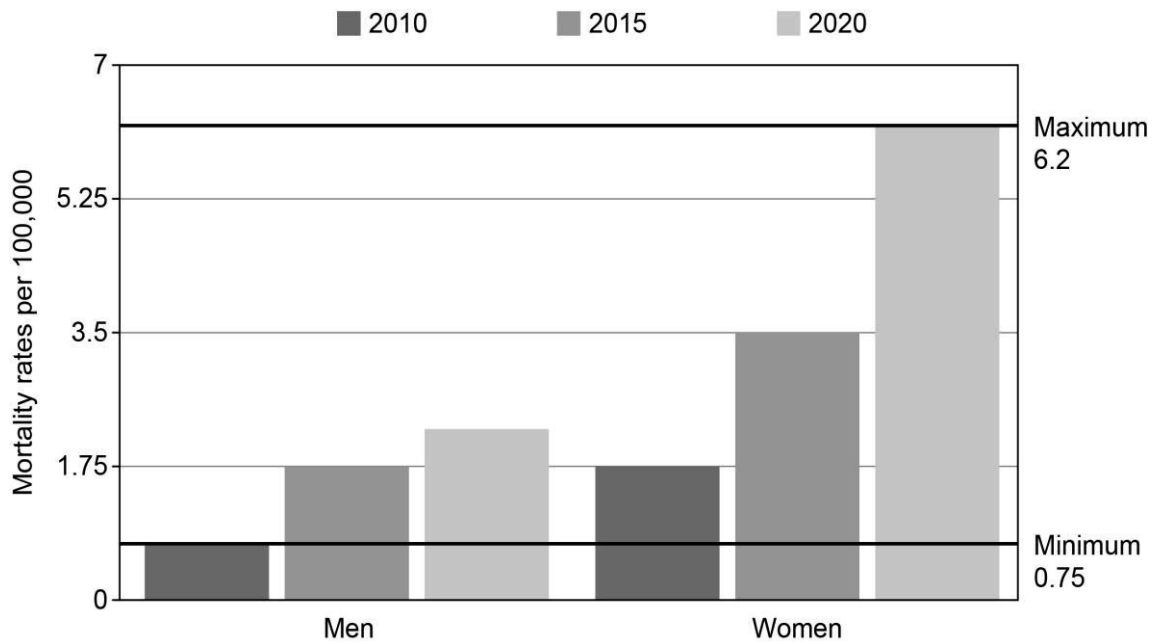


Figure 2 shows the mortality rates per 100 000 people from thyroid cancer between 2010 and 2020.

Calculate the difference in the mortality rate in women between 2010 and 2020.

You should show your working.

[2 marks]

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Section C: body systems 3

This section is worth **30** marks, plus **6** marks for the quality of written communication (QWC) and use of specialist terminology.

Answer **all** questions in the spaces provided.

18 State **one** role of a phagocyte.

[1 mark]

19 State **two** ways the body responds to trauma.

[2 marks]

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20 **Table 1:** sizes of different microorganisms

Microorganism	Size of microorganism
bacterium	0.5 μm
fungus	5 μm
protist	1 mm
virus	300 nm

List the **four** microorganisms in size order from **largest to smallest**, based on the average sizes given in **Table 1**.

[2 marks]

21 Joshua is undergoing surgery to remove part of his small intestine due to bowel disease. In a healthy small intestine, glucose is absorbed through the intestine's cell surface membrane.

Explain **two** ways that the surgery may affect Joshua's ability to absorb glucose.

[4 marks]



22 A nurse is reading an anti-smoking blog that claims:

‘The only effective treatment for chronic obstructive pulmonary disease (COPD) is to stop smoking.’

The nurse submits a comment stating this is not accurate.

Assess the nurse's comment.

[3 marks]

Past Paper



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