

Name of the Student: _____

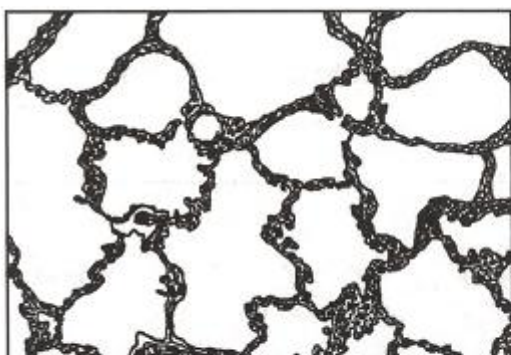
Max. Marks : 24 Marks

Time : 24 Minutes

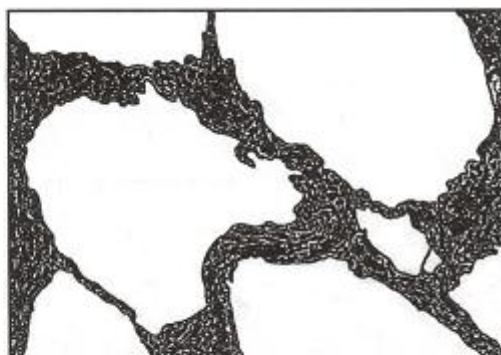
Q1.

Emphysema is a lung disease.

- (a) The drawings show sections through the lung of a healthy person and through the lung of a person with emphysema. The drawings are drawn to the same scale.



Section through the lung of a
healthy person



Section through the lung of a
person with emphysema

Use information from the drawings to answer the questions.

What effect does emphysema have on:

- (i) the thickness of the surface used for gas exchange

(1)

- (ii) the total area available for gas exchange?

(1)

- (b) Two men did the same amount of exercise.
 One man was in good health. The other man had emphysema.

The results are shown in the table.

	Man with	Man with
--	----------	----------

	good health	emphysema
Oxygen entering blood in dm ³ per minute	2.1	1.1
Air flow into lungs in dm ³ per minute	90.7	46.0

The man in good health was able to take more oxygen into his blood than the man with emphysema.

Calculate how much more oxygen was taken into the blood per minute by the man in good health. Show your working.

Answer = _____ dm³ per minute

(2)

(Total 4 marks)

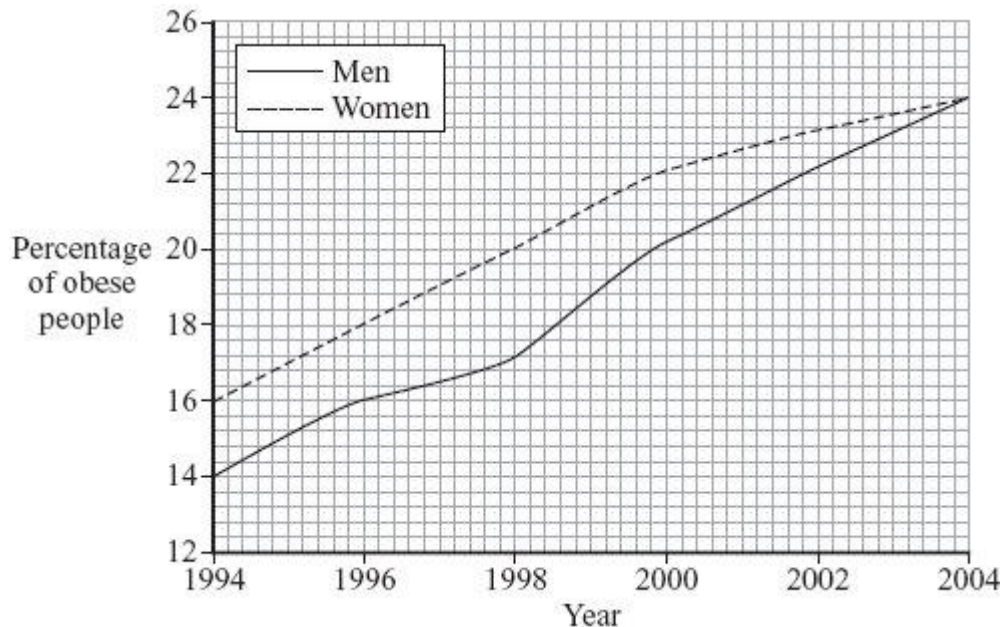
Q2.

Obesity is a factor that affects Coronary Heart Disease (CHD).

(a) What is meant by *obesity*?

(1)

(b) The graph shows how the percentages of obese men and women in the UK changed between 1994 and 2004.



(i) Describe how the percentage of obese women changed between 1994 and 2004.

(2)

(ii) The percentage of obese men changed between 1994 and 2004.

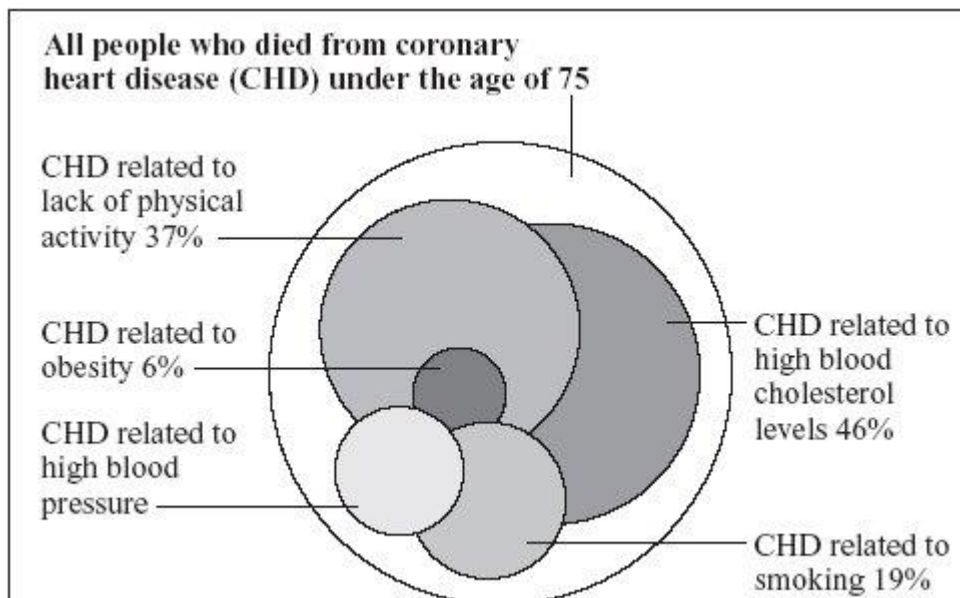
Suggest **two** reasons for this change.

1.

2.

(2)

(c) The chart below is published by the British Heart Foundation. It shows how death from CHD is related to a number of different factors.



copyright National Heart Forum

Each factor is represented by a circle.

The bigger the circle, the more people are affected by the factor.

- (i) What is the main factor causing death from CHD?

(1)

- (ii) Estimate the percentage of deaths from CHD related to high blood pressure.

_____ %

(1)

- (iii) The data are shown as overlapping circles instead of a bar chart. The percentages of deaths related to the different factors add up to more than 100%.

What does this tell you about some of the people who died from CHD?

(1)

(Total 8 marks)

Q3.

Complete the table to show which part of the blood carries out each function.

Choose your answers from the list.

plasma

platelet

red blood cell

white blood cell

The first answer has been done for you.

Function	Part of the blood
Transports most of the carbon dioxide	<i>plasma</i>
Transports most of the oxygen	
Helps blood to clot at a wound	
Defends the body against microorganisms	
Transports the products of digestion	

(Total 4 marks)

Q4.

Bread contains starch, protein and fat.

- (a) Complete each sentence by choosing the correct words from the box.

amino acids	protein
fat	starch
fatty acids	sugar

Amylase speeds up the digestion of _____. The product of this digestion is _____. Protease speeds up the digestion of _____. The product of this digestion is _____.

(4)

- (b) Why do molecules of starch, protein and fat need to be digested?

(2)

- (c) In which part of the digestive system does the digestion of starch begin? Draw a ring around your answer.

large intestine mouth small intestine stomach

(1)

- (d) What do we call substances like amylase and protease which speed up chemical reactions?

(1)

(Total 8 marks)