Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- You may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P61586A0116

Answer ALL questions. Write your answers in the spaces provided.

1 (a) State **two** types of muscle tissue.

(2)

1 ....

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2 ....

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(b) Explain the function of **two** kinds of connective tissue other than blood.

(4)

1 ....

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2 ....

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(c) Explain **two** functions of blood.

(4)

1 ....

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2 ....

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(Total for Question 1 = 10 marks)

The diagram below shows parts of the urinary system.

2 (a) Identify structures **A** and **B** on the diagram of the urinary system.

(2)

A

B
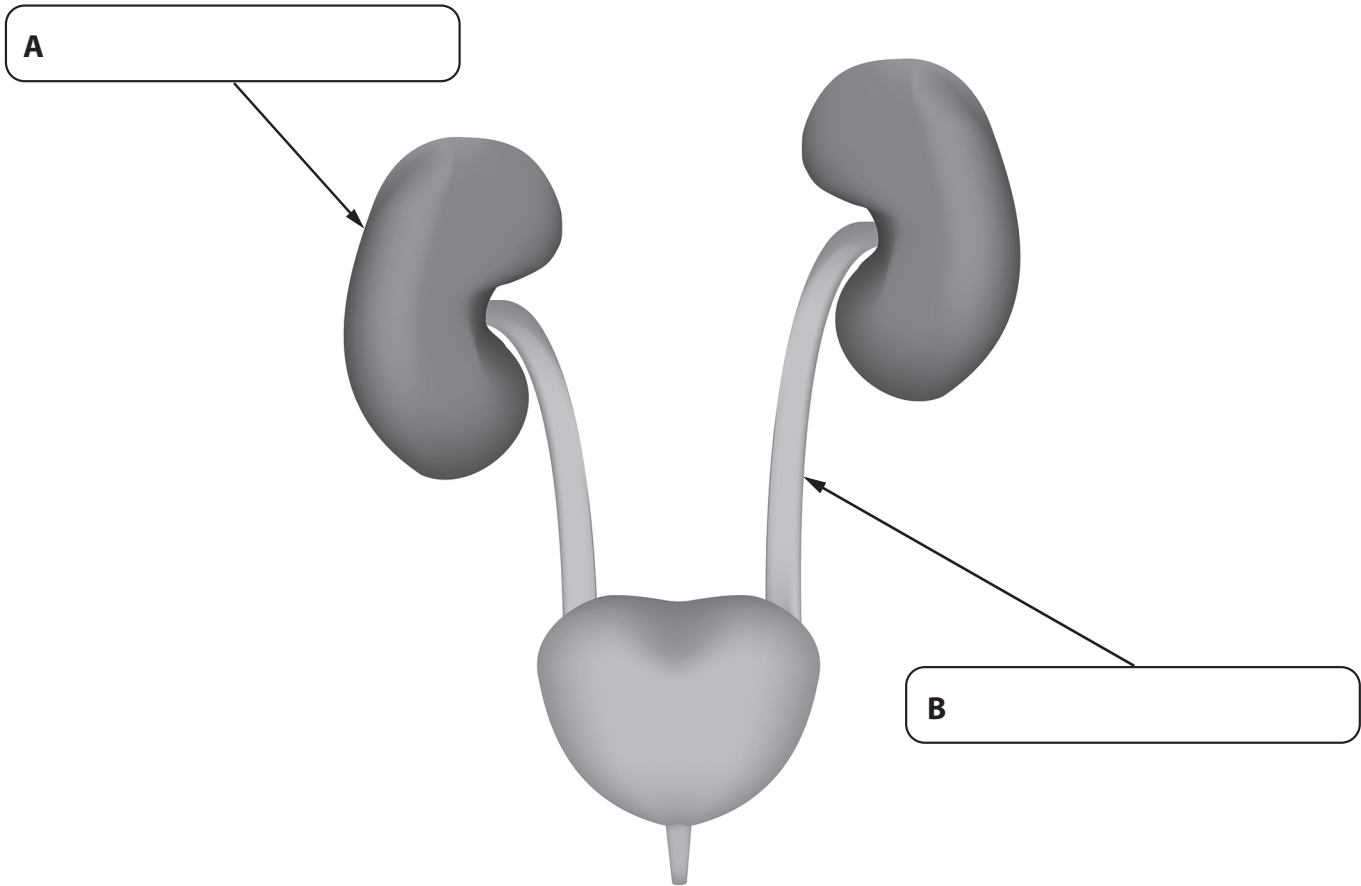
(b) Outline the role of the following:

(4)

Urethra

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Bladder

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(c) Explain **two** effects of renal failure.

(4)

1 ....

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2 ....

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(Total for Question 2 = 10 marks)

P 6 1 5 8 6 A 0 4 1 6

3 (a) Outline **two** functions of the skeletal system.

(4)

1 ....

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2 ....

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(b) Compare fibrous joints and cartilaginous joints.

(4)

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Structure of a synovial joint

(c) Explain **two** functions of synovial fluid in a joint.

(4)

1 ....

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2 ....

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(d) Explain the problems that a fracture of the femur may cause.

(6)

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(Total for Question 3 = 18 marks)

4 (a) State **two** roles of the pituitary gland.

(2)

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(b) Describe the effects of adrenaline on the body.

(4)

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(c) Describe hypothyroidism.

(6)

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(Total for Question 4 = 12 marks)

5 (a) Outline **one** role of air passages in the nose.

(2)

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(b) Describe how alveoli are adapted to carry out their function.

(4)

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(c) Explain how the respiratory muscles allow ventilation of the lungs.

(4)

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(d) Explain the effect of smoking on body systems.

(8)

**(Total for Question 5 = 18 marks)**

P 6 1 5 8 6 A 0 1 1 1 6

6 The data for Question 6 results from a three-year epidemiological research project – 'The respiratory health of the nation' – funded by the British Lung Foundation.

The research project team used The Health Improvement Network (THIN) database records for 2004-13 to estimate prevalence and incidence data. These 12.6 million patient records from 591 GP surgeries represent a sample of approximately 5% of the population. The team then scaled up the results to estimate prevalence in the whole population.

The research project team obtained mortality data from the Office for National Statistics for England and Wales, the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency.

Number of people per 100,000 ever diagnosed with Chronic Obstructive Pulmonary Disorder (COPD), by standard of living, 2004 -12
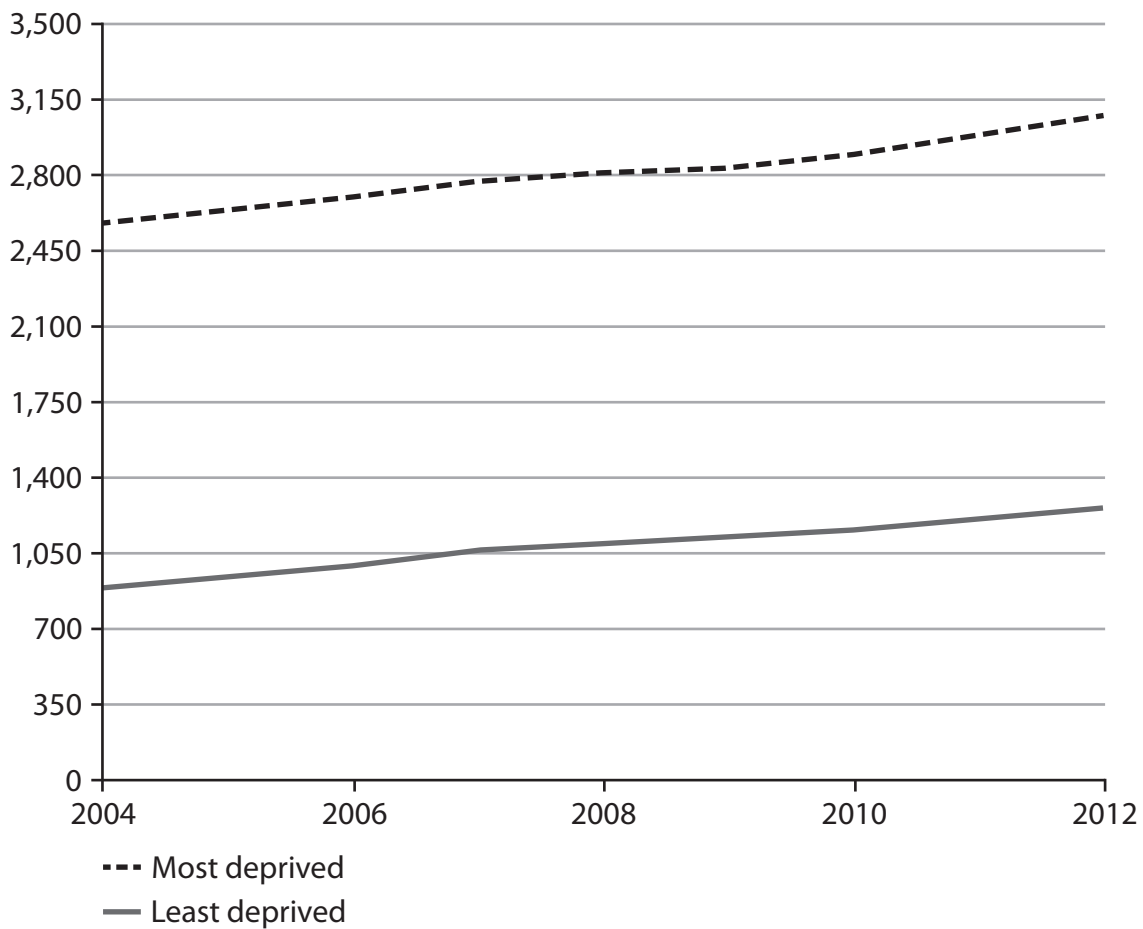
- - - Most deprived
—— Least deprived

(Source: British Lung Foundation)

(a) Compare the change in COPD rates between the most and least deprived groups in society.

(4)

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Of the 29,776 people who died from COPD in 2012:

- 2,719 were aged 15–64
- 27,056 were aged 65 and above.

(Source: British Lung Foundation)

(b) Explain why people in the 65 and above age group are more likely to die of COPD.

(4)

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UK deaths from COPD compared with other lung diseases, 2012

Cystic fibrosis (0.1%)

Other lung diseases (17.5%)

Pneumonia (25.3%)

Lung cancer (31%)

COPD (26.1%)

(Source: British Lung Foundation)

(c) Describe the effect of different lung diseases on death rates, in 2012.

(6)

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(Total for Question 6 = 14 marks)

Huntington's disease is an inherited disorder that affects the nervous system.

7 What is the probability of a child with one parent who has Huntington's disease, being a sufferer themselves?

Include a genetic diagram in your answer.

(8)

(Total for Question 7 = 8 marks)

TOTAL FOR PAPER = 90 MARKS

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