

Non-communicable diseases: practice questions

4 questions · 13 marks · mark scheme at the back

For Edexcel GCSE Biology 1BI0 and Combined Science 1SC0. **Triple only** is not in Combined Science. **Higher tier** is only on the Higher paper.

Name

Total / 13

1 Which statement about non-communicable diseases is correct? [1 mark]

- A. ☐ They are caused by a single factor
- B. ☐ They are often caused by the interaction of a number of factors
- C. ☐ They are spread by vectors
- D. ☐ They are caused by pathogens

2 The table shows some measurements for a man. (a) Calculate his body mass index (BMI). [3 marks]
Use the equation: $\text{BMI} = \text{mass (kg)} \div \text{height (m)}^2$. Give your answer to 1 decimal place. (2)
(b) Calculate his waist : hip ratio. Give your answer to 2 decimal places. (1)

Measurements for one man	
Measurement	Value
Mass	85 kg
Height	1.70 m
Waist circumference	98 cm
Hip circumference	104 cm

Answer =

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3 (a) Describe how smoking increases the risk of cardiovascular disease. (2) (b) State one disease caused by drinking too much alcohol. (1) [3 marks]

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Doctors can treat cardiovascular disease with life-long medication, with surgical procedures, or by advising lifestyle changes. Evaluate these three treatments.

[6 marks]

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Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

B B (1)

2. [3]

- (a) $\text{height}^2 = 1.70 \times 1.70 = 2.89$ (1)
- $\text{BMI} = 85 \div 2.89 = 29.4$ (1) allow 29.41; award 2 marks for the correct answer with no working
- (b) $98 \div 104 = 0.94$ (1) allow 0.942; do not accept a unit

3. [3]

- (a) chemicals in smoke damage the lining of arteries, so fatty deposits build up / arteries narrow (1)
- nicotine increases heart rate and blood pressure (1) allow any other correct effect on the heart or blood vessels
- (b) liver disease / cirrhosis / fatty liver (1)

4. [6]

Level 3 5-6	A balanced evaluation of all three treatments, with advantages and disadvantages for each, and a justified conclusion about their use.
Level 2 3-4	Advantages and/or disadvantages given for at least two treatments, with some judgement. The conclusion may be missing or not justified.
Level 1 1-2	A few correct points about one or two treatments, with no evaluation or conclusion.

Indicative content

- medication such as statins or blood pressure drugs reduces risk without an operation
- but medication must be taken for life, can have side effects and costs money
- surgery such as stents, bypass, valve replacement or transplant can quickly restore blood flow or heart function
- but surgery has risks such as infection and bleeding, needs recovery time and is expensive; a transplant needs a donor and may be rejected
- lifestyle changes such as stopping smoking, healthy diet and exercise are cheap, have no side effects and reduce risk
- but they need long-term effort, take time and may not be enough for severe disease
- conclusion, for example lifestyle changes for everyone, medication to manage disease, and surgery for severe blockages