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SECTION A

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

You are advised to spend no more than 20 minutes on this section.

**For Question 1(a), choose an answer, A, B, C or D, and put a cross in the box (☒).
If you change your mind, put a line through the box (☒) and then put a cross in
another box (☒).**

1. The invention of the jet engine was an important technological development. The following are important scientific revolutions:

- (i) Newton's laws of motion
- (ii) Dalton's atomic theory
- (iii) Einstein's theory of relativity
- (iv) The nuclear model of the atom
- (v) The laws of thermodynamics

(a) For the development of the jet engine to have taken place, technologists needed some understanding of:

- A (i) and (ii)
- B (i), (ii) and (v)
- C (i), (iii) and (iv)
- D (iii) and (v)

(1)

(b) **Briefly** explain your choice.

(2)

(Total 3 marks)

Q1



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2. Tragically, a baby's lungs have been damaged at birth, so much so that it is unable to breathe without a ventilator. At the same time the baby's brain was damaged through lack of oxygen. The heart keeps stopping and has to be started again.

(a) What ethical problems arise for the medical staff caring for the baby?

(3)

(b) What ethical problems arise for the parents of the baby?

(2)

(Total 5 marks)

Q2

3. The topics of fuel prices and energy resources are frequently in the headlines of the news media. Give **three** reasons why the media devote attention to these topics.

1 _____

2 _____

3 _____

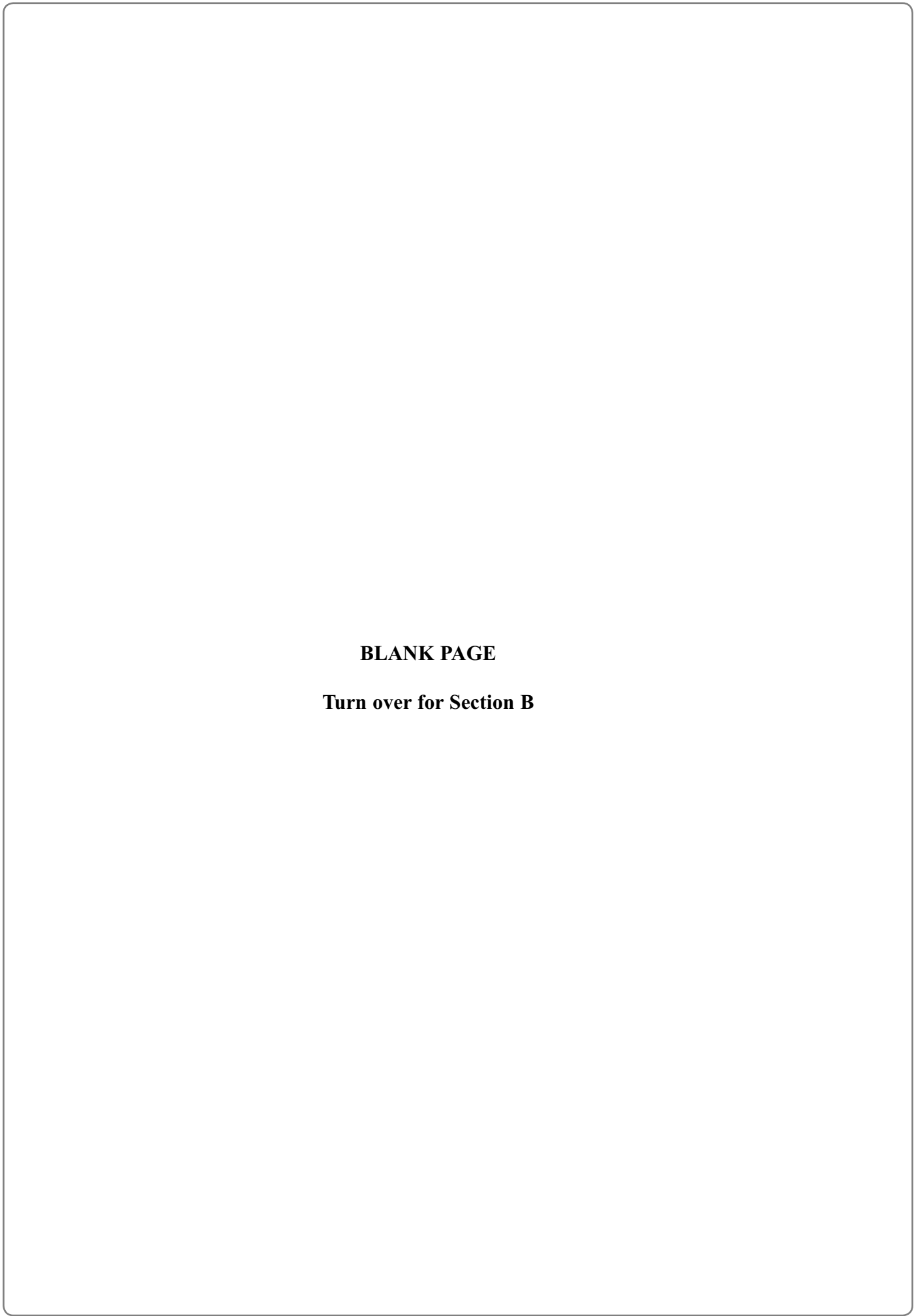
(Total 3 marks)

Q3



<p>4. The human body, a petrol driven car and a diesel powered train all produce carbon dioxide, which is a greenhouse gas contributing to global warming. List the information you need in order to assess the relative effects of these on global warming.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p style="text-align: right;">(Total 3 marks)</p>	<p>Leave blank</p> <p>Q4</p> <input type="text"/>
<p>5. British Summer Time involves changing clocks by one hour in the spring and autumn. The reason is to allow people to enjoy as much daylight in the working day during the summer as possible. The following note appeared in a local newspaper:</p> <p>“Why don’t we get up in the light, put the clocks forward during the day – say at 3 pm since no-one likes doing anything between 3 and 4 pm – and then get a nice light evening? Put the clocks back overnight – giving us an extra hour’s sleep – and repeat daily.”</p> <p>What is wrong with this suggestion? In what ways is this reasoning in the newspaper flawed?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p style="text-align: right;">(Total 3 marks)</p>	<p>Q5</p> <input type="text"/>
<p>TOTAL FOR SECTION A: 17 MARKS</p>	





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Turn over for Section B



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SECTION B

Answer ALL the parts of Question 6. Write your answers in the spaces provided.

Read Source 1 on the separate insert and answer the following questions.

6. (a) The writer of Letter A opposes the introduction of a law. Give **three** pieces of evidence in the letter that is used to justify opposition.

1 _____

2 _____

3 _____

(3)

- (b) The writer of Letter B supports the introduction of a law. Give **three** pieces of evidence in the letter that is used to justify support. State whether each is fact or opinion.

1 _____

2 _____

3 _____

(3)



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(c) Explain how the evidence in the two letters is conflicting.

(3)

(d) What form of argument does the writer of Letter B use in the last sentence of the letter?

(1)

Quality of Written Communication.

(3)

Q6

(Total 13 marks)

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TOTAL FOR SECTION B: 13 MARKS

7



Turn over

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SECTION C

**There are three questions in this section. You should answer ONE of them.
Write your answer in the space provided.**

**Put a cross in the box indicating the question you have chosen (☒).
If you change your mind, put a line through the box (☒) and then put a cross in
the other box (☒).**

**You are reminded that an appropriate conclusion to your argument is required.
In answering the question you should consider arguments for and against the
statement.**

7. Darwin's Theory of Evolution completely changed humanity's view of itself, from something unique and specially created, to an animal related to, and similar to, other animals.

How far does any scientific revolution change human understanding and behaviour, not just that of scientists?

(17)

8. Modern technologies such as X-ray machines and mobile phones may present risks to health.

Examine the view that if the risk is small, it is worth taking.

(17)

9. The Internet has been welcomed as a huge benefit to mankind since it enables cheap and rapid communication and sharing of information and messages.

Assess the comparative benefits and problems arising from this technological development.

(17)

Quality of Written Communication.

(3)

(Total 20 marks)

Chosen question number: **Question 7** ☒ **Question 8** ☒ **Question 9** ☒



