

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced Subsidiary GCE

CRITICAL THINKING

Paper 1

Afternoon

20/0/12

Friday

13 JANUARY 2006

on

1 hour 30 minutes

Additional materials: Answer sheet 8 page Answer booklet

TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the spaces provided on the answer booklet.
- There are two sections in this paper.

Section A

Answer all questions. For each question there are five possible answers, A, B, C, D, and E. Choose the one you consider correct and record your choice of letter on the answer sheet provided.

Section B

Answer all questions.

Read each question carefully and make sure you know what you have to do before starting your answer. Answer Section B in the answer booklet.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is 40.

Section A

Answer **all** questions in this section of the paper.

You are advised to spend no more than 30 minutes on this section of the paper.

In petrol stations, you always see the instruction to switch off mobile phones. The thinking behind this instruction is that the phone's electrical circuitry could cause petrol vapour to ignite. This instruction should be scrapped. It's difficult to know how there could be any risks from a phone's electrical circuitry. By contrast, it's not difficult to know those from a car engine. Unlike a phone battery, a car's is very large and is connected to all sorts of things that could generate sparks. Furthermore, petrol stations should be more worried about other sources of electricity than phone batteries. Both frizzy hair and nylon clothes generate static electricity. In the US there have been more than 200 cases of fires at petrol stations caused by static electricity.

Which of the following, if true, would **most strengthen** the above argument?

- **A** Mobile phone batteries used to be much bigger than those used today.
- **B** Batteries are used in many goods (laptops and cameras, for example) that people carry in cars.
- C High levels of petrol vapour, often found in petrol stations, would cause an explosion if ignited.
- **D** No case of a mobile phone ever causing a fire at a petrol station has been recorded.
- **E** People sometimes need to use their mobile phones in petrol stations in order to avoid using them whilst driving.

[1]

We have significantly improved the survival rate of people with cancer. We can now cure 43 per cent of people who develop the disease. However, the survival rate from lung cancer is very low: five-year survival rates are only 5 per cent. Unfortunately, the treatments for lung cancer are not very effective, so the best strategy is to prevent it. The best way to prevent it is to stop people smoking. One of the most effective ways to stop people smoking is to ban it in public places. For example, in New York such a ban led to 100,000 people giving up smoking. Banning smoking in public places in the UK has much public support. It is something that needs to be done.

Which of the following is the best statement of the **main conclusion** of the above argument?

- **A** The most effective way to prevent lung cancer is to stop people smoking.
- **B** The best way to get people to stop smoking is to ban it in public places.
- **C** A ban on smoking in public places should be put in place.
- **D** The need to ban smoking in public places is justified by public support.
- **E** The survival rate from lung cancer cannot be improved greatly unless people stop smoking.

We are often being encouraged to take a short nap after lunch to fit in with our body's rhythms. This can be difficult to achieve if we are at school or work. Fortunately, recent research should make us feel less concerned if we have this difficulty. It has been found that people who sleep after lunch were more likely to drink too much alcohol, to eat irregularly, and to have unsettled sleeping patterns. Since it is obviously good to avoid such behaviours, we should avoid sleeping after lunch. This recommendation is further supported by the finding that people who sleep after lunch have a higher risk of suffering chest pain.

Which one of the following is the best statement of the **flaw** in the above argument?

- A People with unsettled sleep patterns are not always going to sleep after lunch.
- **B** Taking a nap after lunch is sometimes possible even if people are at school or work.
- **C** The behaviours associated with taking a nap after lunch are not necessarily caused by doing so.
- **D** The cause of the relationship between higher risk of chest pain and sleeping after lunch is not explained.
- **E** The encouragement to take a short nap after lunch is contradicted by the author's recommendation not to do this.

[1]

The famous Nobel Prizes, awarded since 1901, remain the measure of scientific achievement. Of the 500 awards for science, 74 (15 per cent) have gone to the UK. Given our population size, it's an impressive achievement. But since 1970 the percentage has declined. During the same time, that of the US has increased (they have won about 60 per cent of all science awards). Today they spend over twice as much of its national wealth on universities as we do. Scientific discovery is heavily reliant on university spending, so our decline shows that we need to spend more. Increasing tuition fees is the best way to raise more money for the universities. This has to be done. Excellence unfortunately doesn't come cheaply.

Which of the following is the best statement of the **main conclusion** of the above argument?

- A Scientific excellence is always going to be expensive.
- **B** The tuition fees charged by universities must be raised.
- **C** We used to spend much more of our national wealth on universities.
- **D** Increasing university tuition fees would increase the UK's share of Nobel Prizes.
- **E** Reduced spending on universities has caused the UK's decline in its percentage of Nobel Prizes.

The decline in farmland species of birds is very worrying (down to 60 per cent of the 1970 numbers). The major cause of this rapid decline is farming, with its extensive use of chemicals, destruction of hedgerows, and failure to leave any parts of fields uncultivated. Interestingly, farmers were paid to do the very things that have caused the problem. Now, they're going to be paid again to restore what they have destroyed: for example, they're being paid to maintain hedgerows. How can this be justified? It would be like paying vandals to spoil our city streets, then paying them again to clean them up. We should get farmers to improve their land to help birds survive, but we shouldn't pay them to do it.

Which of the following is the best expression of the **meaning** of the word 'justified' as used in the above argument?

•			
Α	exp	laını	ed

B understood

C supported

D enforced

E put forward

[1]

We are the sixth highest consumers of tea in the world. There are few households that don't drink it. But tea is more than a refreshing drink. It also has important medicinal properties. It has been shown to improve memory, to help prevent Alzheimer's disease, to slow the growth of some cancers, and to reduce cholesterol levels. For example, the well-known politician Tony Benn is eighty years old, but has an amazing memory and a very sharp mind. He also drinks 18 pints of tea a day. It is obviously much more important for our health than many drugs that doctors prescribe. It is also very cheap, and has no known side-effects. People should see tea rather than medical treatment as the key to good health.

Which one of the following is the best statement of the **flaw** in the above argument?

- **A** The extent of consumption of tea in this country is irrelevant to the author's argument.
- **B** The author ignores natural products other than tea that might also be health-promoting.
- **C** The author generalises from just the example of Tony Benn to argue that tea is good for our health.
- **D** The term 'key to good health' is an exaggeration of the significance of the evidence about the benefits of tea.
- **E** The author fails to explain how tea works to provide such important medicinal properties.

A government campaign is urging drivers to take breaks for coffee every two hours on long journeys. This is because drivers fall asleep at the wheel without knowing it, having what are called 'microsleeps' that can last up to thirty seconds. Even 'microsleeps' of a few seconds are enough, at high speed, to cause serious accidents (a quarter of such accidents are sleep-related). Taking breaks for coffee will, it is hoped, stop drivers from falling asleep. Unfortunately, many service stations sell coffee with fairly low levels of caffeine (the substance that helps to keep drivers alert). A cup needs to have 80 mg of caffeine to be effective; many outlets sell coffee with only 20 mg.

Which of the following is a **conclusion that can be drawn** from the above passage?

- A The Government should not urge drivers to drink coffee on long journeys.
- **B** The problem of drivers having microsleeps cannot be solved by them drinking coffee.
- **C** If drivers drank coffee with 80 mg of caffeine per cup, they would not cause serious accidents.
- **D** Drivers should take their own coffee on long journeys rather than rely on that available at service stations.
- **E** Drivers stopping every two hours for coffee on long journeys will not necessarily reduce the level of sleep-caused accidents.

[1]

8 The first women's 100 metres Olympic final in 1928 had a winning time that was 1.4 seconds slower than the men's. In 1952 the difference was 1.1 seconds. In the Olympics from 1988 to 2000, the difference was less than a second. As a result, there are sports scientists who argue that, given the continuation of this trend, by the 2156 Olympics women will be faster sprinters than men. But this prediction fails to take into account men's greater muscle mass and hormonal advantages. In addition, the 2004 Olympics produced a difference of 1.08 seconds between the fastest man and woman. So the prediction of a continuing trend is shown to be wrong. Women will not overtake men in the 100 metre event.

Which of the following, if true, would **most weaken** the above argument?

- A Women do not compete with men in any of the Olympic athletic events.
- **B** Some women are already faster sprinters than many men.
- **C** Not all male athletes are going to stop taking performance-enhancing drugs in the future.
- **D** The prediction for women to overtake men in the 100 metre event is as early as 2064 and as late as 2788.
- **E** Many leading female athletes did not compete in the 2004 Olympics women's 100 metres as a result of drug-taking allegations.

9 Many of the large mammals, such as lions and elephants, are threatened with extinction. The last big extinction of large mammals was 10,000–50,000 years ago, when creatures such as the mammoth disappeared. This extinction had two causes: climate change and human activity (such as hunting). Interestingly, large mammals are similarly threatened today. Human activity such as people encroaching on land needed by animals threatens these animals' survival. Climate change is an increasing problem (especially for polar bears). The lesson of history is clear. We will lose the large mammals unless we act. If we can do little about climate change, we can at least protect them from human activity. Reserves in which large mammals are not threatened have to be created very urgently.

Which of the following is the best statement of the **main conclusion** of the above argument?

- A Areas in which large mammals are protected need to be established as soon as possible.
- **B** Large mammals face the same threats to their survival as did those 10,000–50,000 years ago.
- **C** We will lose the large mammals unless there is action taken to protect them.
- **D** Though we can do little about climate change, we can restrict the effects of human activity on large mammals.
- **E** Large mammals will survive if we create reserves which are protected from human activity.

[1]

A study shows that children and their mothers suffer more ill-health when there are high levels of what are called volatile organic compounds (VOCs) in their house. These VOCs have been linked with the use of aerosols and air fresheners. The health problems related to VOCs include headaches, earaches, and even depression. 40 per cent of families say that they regularly use aerosols and air fresheners. If we banned aerosols and air fresheners, the health of children and their mothers would improve.

Which of the following, if true, would **most weaken** the above argument?

- A Some families use aerosols but not air fresheners.
- **B** Most illnesses are unrelated to the level of VOCs in the house.
- **C** VOCs are produced both by smoking and the use of paint in the house.
- **D** People in households with low levels of VOCs will at times suffer ill-health.
- **E** Some air fresheners are less effective than the use of cheap, natural methods (such as squeezing a lemon).

11 During a two-week period, it was found that, in the viewing period 5.30pm to 9.00pm, 1,045 examples of violence were screened on five channels. Such exposure to violence, it is argued, must affect children's behaviour. But children have for centuries been exposed to violence in the form of nursery rhymes, without any evidence that they have become more violent as a result. For example, Humpty Dumpty falls catastrophically off a wall; Jack and Jill are injured collecting water; a maid has her nose pecked off in 'Four-and-Twenty Blackbirds'. Though half of the television programmes studied contained violence, compared with 44 per cent of nursery rhymes, the levels of violence in the latter are twice as high as those on television.

Which of the following is a **conclusion that can be drawn** from the above passage?

- A Nursery rhymes have the same effect on children's behaviour as television does.
- **B** There is no significant difference between the violence on television and that in nursery rhymes.
- C Children exposed to both television and nursery rhymes will see violence as a normal part of life
- **D** Exposing children even to high levels of violence does not necessarily lead to them becoming violent themselves
- **E** Levels of violence are just as important as the frequency of violence in looking at the effect on children.

[1]

12 A study of the diet and lifestyle of 2339 men and women aged between 70 and 90 across Europe has shown that there are four important factors that give a recipe for health and living longer. A diet high in fruit, vegetables and nuts, but low in meat, is one of them. Drinking alcohol only moderately and avoiding smoking are two more. The fourth is taking exercise each day. In the study, those who did not adhere to these four factors lived less long. The evidence on diet and lifestyle is clear enough for this age-group. If they want to live long and healthily, younger age-groups should ensure that they have a good diet and lifestyle.

Which of the following, if true, would most **strengthen** the above argument?

- A The longer-living people in the study had adopted a healthy diet and lifestyle when they were younger.
- **B** 935 of the 2339 people in the study had died by the end of it.
- **C** Many people below the age of 70 have had access to good health care throughout their lives.
- **D** People in their 80s who are healthy are in the minority.
- **E** Many younger people are aware of the health value of a good diet and lifestyle.

13 The large majority of the population believes that we should be made to look after our health. This idea fits well with that of penalties being imposed if we don't. People need to be made to see that the consequence of not looking after yourself is illness. Already insurance companies are looking at charging higher premiums to people who are very overweight (like charging more for vehicle insurance to people with motoring offences). Quite simply, too many people think 'if the Government pays for my health care, why should I worry about eating another cholesterol-soaked burger?' It is clear that people who don't look after their health should be made to pay whenever they need health care.

Which of the following is an underlying assumption of the above argument?

- A People who haven't looked after their health will need health care only as a result of this.
- **B** People who need health care haven't looked after their health.
- **C** People who look after their health will need very little health care.
- **D** Paying for health care will make people look after their health.
- **E** People who are prepared to pay for their health care do not need to look after their health.

[1]

Parents and teachers worry that children no longer play traditional games. These games include marbles, skipping, and chase or tag. Children are now much more likely to be playing with Yu-Gi-Oh! and Pokemon cards than any of these. For example, fewer than one per cent of children now play marbles. At the same time that there has been a decline in the playing of traditional games, there has been a decline in the number of opportunities for children to play in public places. We should therefore be grateful that Woolworth's is putting £1 million into improving playground facilities in schools.

Which of the following is an underlying **assumption** of the above argument?

- A Children have access to playground facilities in schools at all times.
- **B** Children no longer play traditional games because of the lack of places to play them.
- **C** Traditional children's games are of greater educational benefit than modern games.
- **D** Improving playground facilities in schools is the most effective way of getting children to play.
- **E** Children today do not know how to play traditional games such as marbles.

15 Most people who buy chips from chip shops ask for salt on their chips. A recent finding is therefore interesting. We think that when salt is scattered across our chips, we are getting more salt than if the chip-seller merely held the salt container over them. As a result, we approve of this method. What we should know is that when salt is shaken from the container, it comes out at the rate of 0.43 g per second, whereas salt comes out of container held still at the rate of 0.48 g per second. So, given that excess salt is bad for us, we should be pleased when salt is scattered over our chips in a chip shop rather than left to fall from the container.

Which of the following is an underlying assumption of the above argument?

- A Chips that have salt on them are less healthy than other foods that contain salt.
- **B** The amount of salt that falls on chips from a container in a chip shop is uniformly spread over them.
- **C** People who sell chips in a chip shop know that scattering salt over them uses less salt than just holding the container over the chips.
- **D** Salt containers used in chip shops do not all have the same size of hole for the salt to fall out of.
- **E** The length of time a salt container is held still over chips in a chip shop is not significantly less than when it's shaken over them.

[1]

16 Titan, the largest moon of Saturn, is unusual. It has an atmosphere (unlike other moons). This atmosphere is fairly Earth-like, being composed mainly of nitrogen. There is probably an ocean below the surface ice, an ocean containing ammonia and up to 200 kilometres deep. However, there is a crucial difference between Titan and the Earth: Titan's surface temperature is about –180° C. So it would seem that life could not exist there. But that is to look at life only from our perspective. If you were a Titanian, you would look at Earth and ask 'how could life ever develop in the oven temperatures there, with high levels of radiation from the Sun, and poisonous oceans?' We should therefore accept that life has probably developed on Titan.

Which one of the following is the best statement of the **flaw** in the above argument?

- A Just because life has developed on Earth does not mean that it has also developed on Titan.
- **B** Just because a hypothetical Titanian could doubt the existence of life on Earth does not mean there is life on Titan.
- **C** Just because we can doubt that life has developed on Titan does not mean that there is no Titanian life.
- **D** Just because there are some similarities between Titan and Earth does not mean that Titan has developed Earth-like life.
- **E** Just because Titan's surface temperature is so low compared to Earth's does not mean that there are not higher temperatures below the surface.

Section B

Answer **all** questions in this section of the paper.

You are advised to spend no more than 30 minutes answering the questions on each passage.

Read the passage 'Putting on Some New Blue Genes' and then answer Questions 17–22 about it.

PUTTING ON SOME NEW BLUE GENES

Most people in the UK see GM (genetic modification) as just about food. Furthermore, most people see such GM food as something that should be opposed. Newspapers that ought to know better refer to 'Frankenstein food' and give a picture of GM food as something that is dangerous. Not only is this picture a complete distortion of the truth, it is one that is very limited in its portrayal of what GM offers.

1

3

6

7

Even if you think that you are managing to avoid putting a GM product inside you, it is more than likely that you have one on the outside. GM products for clothing provide great benefits. In six years, the amount of GM cotton grown worldwide has grown by over 500 per cent, and in the US 75 per cent of all cotton grown is GM. Perhaps with that cotton, you are wearing wool too. Australian scientists have produced sheep which grow more and better wool. It is difficult to see what might be wrong with such a development. People like wool. Here are sheep which have better (softer) wool. Therefore people will welcome such sheep. It is surely logical for people to welcome such sheep.

Beyond the comfort of GM clothing, GM could also make both human and animal life better by improving medical care. Vaccines can be developed for both animals and humans using potatoes and tobacco, and they could even be given by eating modified fruit. A needle in the arm or an apple to eat? It's obvious what's better. Furthermore, the vaccines could help to prevent such diseases as hepatitis-B, anthrax, and cholera.

Developed societies such as the UK rely heavily on oil in order to function. With the price of oil so uncertain (and often very high), an alternative to oil must be welcome. What is called bio-fuel could provide this. In Brazil, 15 billion litres of ethanol are produced each year from sugar, whilst the US makes it from maize. With the UK having the second highest cost of petrol in the world (only Uruguay being higher), any proposed development of ethanol on a big scale must be welcomed.

People who oppose the development of GM foods are the sort of people who would see trees as things to be grown and protected. But GM can make a big contribution to the state of the world's trees. Eucalyptus trees from Asia have been modified so that they can grow where they couldn't before. Trees can even be made that grow much faster: good news for the paper industry that uses them for its product. They can be adapted to cope with drought, so all the worries about lower rainfall in some parts of the world as a result of possible global warming can be forgotten. They can even be adapted to clean up contaminated soil.

Opposing the development of GM is irrational. Those who do oppose it insist that there's something wrong with interfering with Nature. But Nature interferes with herself all the time. Organisms adapt themselves to new situations. And just because something is natural doesn't make it something that we should leave alone. Do we allow cholera to live undisturbed, on the grounds that it's a natural organism? Some things that are natural can harm us. Try telling the condemned prisoner in the electric chair that he needn't worry: electricity is natural.

It is not only irrational to oppose GM. It is also inconsistent. Over thousands of years, we have adapted crops to give us those with the highest yields, rather than just staying with the grasses that Nature had given us. Opponents of GM are happy enough to eat such modified wheat and barley. In rejecting GM food they're rejecting developments with enormous potential to help the world. We must embrace GM with enthusiasm.

2870/11,12 Jan06

17	Give	e two reasons that the author uses to support their conclusion.	[2]
18	(a)	In Paragraph 2, the author claims that 'GM products for clothing provide great benefi Explain why the evidence on cotton in this paragraph doesn't support this claim.	its.' [1]
	(b)	In Paragraph 2, the author argues that it is 'logical' to welcome GM sheep. What assumptimust the author make to argue in this way?	ion [1]
19	(a)	In Paragraph 3, the author gives the example of vaccines to support their claim that GM coumprove medical care. What assumption about such vaccines must the author make?	uld [1]
	(b)	In Paragraph 3, the author says that it's obvious that eating an apple is better than having injection as a way of being vaccinated. Suggest circumstances in which it might not be.	an [1]
20	of in	Paragraph 4, the author argues that bio-fuels are a welcome alternative to oil. Give two piece of the conformation that we need about these bio-fuels to see that such fuels support the authoument.	
21	(a)	In Paragraph 5, the author uses evidence to support their claim that 'GM can make a bit contribution to the state of the world's trees'.	big
		Evaluate the significance of either the evidence on Eucalyptus trees or the evidence faster-growing trees, in terms of how it supports the claim.	on [1]
	(b)	In Paragraph 5, the author uses GM trees' ability 'to cope with drought' to support a cla about global warming. Explain a weakness in this part of the author's argument.	im [1]
22	(a)	In Paragraph 6, we are told that 'organisms adapt themselves to new situations'. How might opponent of GM respond to this in defence of their rejection of 'interfering with Nature'?	an [1]
	(b)	In Paragraph 6, the author criticises the opponents of GM for ignoring the fact that 'sor	me

things that are natural can harm us'. What is the weakness in the author's use of the electric

chair as an example to illustrate this?

Read the passage 'Playing for Real? No Big Deal' and then answer Questions 23-28 about it.

PLAYING FOR REAL? NO BIG DEAL

When we go into amusement arcades, we will normally see children playing on a range of different machines. They might be trying to use a 'grab' to catch a cuddly toy, or putting coins into 'penny rollers' that they hope will encourage other coins to tip and fall for them. The scene doesn't look too alarming. So why is there so much concern about children risking their money to try to win something? The whole thing about winning and losing normally causes us no problems. Sport is about winning and losing, but we encourage children to play sport. A young person described as a 'winner' is being praised; a 'loser' is a term of abuse. Campaigns against children gambling should be opposed.

Those who worry that Britain is the only Western country in which it is legal for children to gamble will say that they don't worry about children risking a small amount of money for small prizes like toys. But drawing the line between what is small (and thus acceptable) and what isn't (and thus is unacceptable) creates many problems.

It has to be remembered that gambling is a normal part of life. Children will frequently say 'I bet it is/isn't' when in an argument. All they are doing is making a prediction, and gambling can be defined as 'predicting one outcome rather than another'. We gamble on (and so predict) the results of football matches, horse races, whether it will snow at Christmas, and so on. Learning how to predict events can develop useful skills, such as considering evidence of past performance. Indeed, being good at making predictions is a skill that young people should develop.

Those who argue that children and young people shouldn't be allowed to gamble often point to other activities that this group cannot legally do. For example, there are legal restrictions on smoking, drinking, and driving. But there are good reasons why there should be. Smoking has significant health implications; drinking can have consequences for both health and behaviour; driving needs a set of skills that children might find difficult to learn. Gambling, however, creates no health problems nor does it require special skills. It is argued that gambling can be addictive (although nobody has shown that 'grabs' for cuddly toys are). Smoking is addictive as a result of the chemical effects of nicotine in the brain. Alcohol can also be chemically addictive. Gambling involves no consumption of chemicals, so there can be no addiction.

There is some evidence on what are called 'problem gamblers'. These are people for whom gambling disrupts or damages their lives. For example, they spend far more than they can afford. In one study in the US, 11 per cent of adult gamblers fell into this category. In a recent study in the UK, 5 per cent of young people could be classified as 'problem gamblers'. Clearly, the problem for young people is not that serious. Though there is some UK evidence linking truancy with gambling, it cannot be a serious problem in that most truants aren't problem gamblers.

Many adults spend a little of their money on gambling (on the National Lottery, for example). Thus, in that children learn behaviour from their parents, they might well see that gambling is acceptable. But then they will learn that spending only a little is acceptable. We should worry much less about children gambling than we should about them smoking or drinking. The odd loss of £1 on a lottery ticket can't be compared with developing lung cancer, or with liver damage caused by continued heavy drinking.

6

5

1

2

3

- 23 In Paragraph 1, the author sees children 'risking their money to try to win something' as not a problem. Give **two** ways in which their argument in this paragraph for this position can be shown to be weak.
- 24 In Paragraph 2, the author argues that, in relation to risking money for prizes, 'drawing the line between what is small (and thus acceptable) and what isn't (and thus is unacceptable) creates many problems'. Identify one such problem and explain why it is a problem. [2]
- **25** (a) In Paragraph 3, the author gives a definition of gambling. Identify what is missing in this definition.
 - (b) Identify a contradiction between what the author says about gambling in Paragraph 3 and what they say about it in Paragraph 4. [1]
- **26** (a) In Paragraph 4, the author claims that 'nobody has shown that "grabs" for cuddly toys are' addictive. Evaluate the relevance of this evidence for the author's argument that gambling is not addictive. [1]
 - (b) In Paragraph 4, the author argues that gambling cannot be addictive. What must they assume in order to argue in this way? [1]
- 27 In Paragraph 5, the author gives evidence on what are called 'problem gamblers'. Evaluate the way in which the author uses this evidence. [2]
- 28 (a) In Paragraph 6 the author argues that children 'will learn that spending only a little' on gambling is acceptable. According to how the author argues for this, how might children learn that spending a lot on gambling is also acceptable?
 [1]
 - (b) What is the weakness in the author's contrast in Paragraph 6 between 'the odd loss of £1 on a lottery ticket' and 'developing lung cancer, or ... liver damage caused by continued heavy drinking'?
 [1]

BLANK PAGE

BLANK PAGE

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (OCR) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.