



**ADVANCED GCE**  
**CRITICAL THINKING**

Unit 4: Critical Reasoning

**F494**

Candidates answer on the Answer Booklet

**OCR Supplied Materials:**

- 8 page Answer Booklet
- Answer Sheet
- Resource Booklet

**Other Materials Required:**

None

**Thursday 17 June 2010**  
**Morning**

**Duration:** 1 hour 45 minutes



**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the spaces provided on the Answer Booklet.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Section A contains multiple-choice questions which you should answer on the Answer Sheet provided.
- Do **not** write in the bar codes.

**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 **110**.
- You are advised to spend no more than 40 minutes answering Section A.
- You will be awarded marks for the quality of your written communication in Section B.
- This document consists of **12** pages. Any blank pages are indicated.

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**Section A: Multiple Choice**

Answer **all** questions in this section of the paper using the separate answer sheet provided.

You are advised to spend no more than 40 minutes on this section of the paper then move directly on to Section B.

**1 Fastest Runners**

Which of the following is an argument?

- A** Not many sprinters are tall. The smaller you are, the more force you can generate to body mass. This makes it difficult for a tall person to make a quick start from the blocks.
- B** Donovan Bailey probably had the highest ever peak speed of 27.07mph. Michael Johnson had a higher average speed (23.15mph) when he ran the 200m in 19.32 seconds than Usain Bolt did when he ran the 100m in 9.72 seconds (average 23.02mph).
- C** The average human can run about 15mph for short periods. The best sprinters are running about 27mph for a couple of seconds. Cheetahs can run 70mph and even dogs can exceed 40mph.
- D** The fastest runner in the world today might not be the best of all time. Runners from the 1930s might beat today's top runners with modern advances. Grace and elegance of style, or consistent high speed might count towards being the best of all time. **[1]**

**2 All badgers have stripes. That skunk has stripes. That skunk is not a badger.**

Which of the following can be inferred from the information?

- A** Stripes are a necessary but not a sufficient condition of being a badger.
- B** Stripes are a sufficient but not a necessary condition of being a badger.
- C** Stripes are both a necessary and a sufficient condition of being a badger.
- D** Stripes are neither a necessary nor a sufficient condition of being a badger. **[1]**

**Questions 3 and 4 refer to the following passage.**

### **Fertility**

Teenagers are taught at school that conceiving a baby is easy and that they should be careful to avoid unwanted pregnancy. However, they should also be taught about problems with infertility. There is a growing problem with infertility, which can be caused by smoking, obesity, pollution and some common chemicals. 1 in 7 people experiences problems with infertility. Infertility will be a problem to more people than teenage pregnancy. If teenagers were taught about infertility treatments, they would be better able to make choices in their adult lives. For example, many women who want IVF do not realise how invasive and unpleasant it is, or how low the chances of success are.

- 3** Which of the following is the main conclusion of the argument?
- A** If teenagers were taught about infertility treatments, they would be better able to make choices in their adult lives.
  - B** Infertility will be a problem to more people than teenage pregnancy.
  - C** Problems with infertility can be caused by smoking, obesity, pollution and some common chemicals.
  - D** They should also be taught about problems with infertility. **[1]**
- 4** Which of the following would best counter the argument?
- A** Not all infertility problems are caused by environmental factors such as smoking or pollution.
  - B** Obesity reduces the chances of conceiving and increases the risk of complications during pregnancy.
  - C** Teaching teenagers that becoming pregnant may be difficult could lead to careless sexual behaviour and unwanted pregnancies.
  - D** Teenagers might not pay any attention to lessons about infertility. **[1]**
- 5** All dogs have tails. That animal has a tail. Therefore that animal must be a dog.

Which of the following uses the same flawed pattern of reasoning as the argument above?

- A** All supermarkets sell cheese. Cheese contains high levels of fat. Therefore supermarkets contain high levels of fat.
- B** All art books contain pictures. That book contains pictures. Therefore that book must be an art book.
- C** Only choirboys sing treble. Tom sings treble. Therefore Tom must be a choirboy.
- D** Only policemen wear stab vests. Arvind is a policeman. Therefore Arvind must wear a stab vest. **[1]**

Questions 6 and 7 refer to the following passage.

### Biofuels

Ministers at the UN food conference should call for a measure that would have a real impact on the current food crisis – a go-slow on biofuels. Food has never previously been used for fuel. The respected Food Policy Research Institute believes that biofuels are responsible for 30% of the rise in grain prices. According to Friends of the Earth, rainforests are being cut down to grow biofuel crops. So biofuels are actually making climate change worse.

- 6 'Biofuels are actually making climate change worse.'

What is the function of this element in the structure of the argument?

A Evidence.

B Intermediate conclusion.

C Main conclusion.

D Reason.

[1]

- 7 'Just because food has never previously been used for fuel does not mean that it is wrong to do so now.'

This response to the argument

A Highlights a minor weakness in the argument, but the other reasons still strongly support the conclusion.

B Highlights a significant weakness which means that the conclusion doesn't follow from the reasons.

C Ignores the main weakness in the argument which is that it appeals to biased authorities.

D Strengthens the argument because the rising world population means we need more food now than ever before.

[1]

8 Which of the following is a valid argument?

- A Chains are jewellery. Chains are bonds. Therefore jewellery is a bond.
- B Chokers are necklaces. Necklaces are jewellery. Therefore chokers are jewellery.
- C Pendants are precious. Jewellery is precious. Therefore pendants are jewellery.
- D Rings are jewellery. Earrings are jewellery. Therefore rings are earrings. [1]

9 Which of the following is an argument?

- A Although DVDs and CDs are the same size, they are sold in different sized boxes. This is because two CD boxes fit neatly into the space that an old vinyl LP fitted into. DVD cases fit into the spaces that used to be used for VHS videos.
- B Although high heels are uncomfortable and can cause injuries, women keep wearing them. This is because high heels make women taller, more powerful and more attractive.
- C Although one manufacturer's black laptop costs more than an otherwise identical white one (price difference in 2007 £70), this is not unfair. This is because customers can choose the cheaper laptop – they do not have to pay the higher price.
- D Although soft drinks are mostly sold in round containers, milk is sold in rectangular containers. Unlike other soft drinks, milk must be refrigerated. Rectangular containers stack more neatly into refrigerated shelves than round containers. [1]

**Questions 10, 11 and 12 refer to the following passage.**

When teenagers are online, their parents worry about grooming, drugs, violent games and unsuitably explicit sites. However, most teenagers have the wisdom to avoid the obvious hazards on the net, are basically sensible individuals and cope better than their parents with the virtual worlds they encounter. Parents should be much more worried about SpongeBob SquarePants. Very young children are being lured by cartoon characters like SpongeBob into virtual worlds which combine the appeal of popular TV characters, social networking and gaming. Companies can therefore load these worlds with subtle marketing messages. These worlds are, according to in-game advertising specialist Double Fusion, 'a place where advertisers can develop powerful interactions with their teen audiences.' This sort of social indoctrination is not so obviously risky as hard drugs and is therefore more difficult to avoid. So parents should be more afraid for their small children online than for their internet-savvy teenagers.

(Adapted from TechnologyGuardian April 10 2008 p3, Keith Stuart Gamesblog, and the quotation is taken from that article.)

**10** 'Most teenagers have the wisdom to avoid the obvious hazards on the net.'

What is the function of this element in the structure of the argument?

**A** Assumption.

**B** Counter assertion.

**C** Intermediate conclusion.

**D** Reason.

**[1]**

**11** 'This sort of social indoctrination is not so obviously risky as hard drugs and is therefore more difficult to avoid.'

What is the function of this sentence in the structure of the argument?

**A** A reason and intermediate conclusion.

**B** An explanation.

**C** Evidence and a reason.

**D** Two reasons.

**[1]**

**12** Which of the following best expresses a weakness in the argument?

**A** It fails to consider that virtual worlds could be policed in future to minimise the risk of advertisers taking advantage of very young children.

**B** It fails to show that the risks to small children from advertising are greater than the risks to teenagers from unsuitable sites.

**C** It generalises from SpongeBob SquarePants to all virtual communities aimed at children.

**D** It ignores the very high risks of harm encountered by teenagers in virtual worlds.

**[1]**

**Questions 13 and 14 refer to the following passage.**

It is entirely counter-productive to prevent fifteen- and sixteen-year-olds from drinking in pubs. When young people drink in a pub surrounded by adults, they are forced to behave quite sensibly, because they are afraid of being thrown out. They also learn from those around them about civilised, companionable drinking. If they are banned from pubs, adolescents end up drinking in parks in groups of their peers. This means that, far from drinking becoming a rite of passage into adulthood, it becomes a destructive activity. This reinforces their sense of isolation from the adult world they are so keen to join. It is therefore necessary to go to extremes to prove oneself as an adult, rather than simply being accepted.

**13** Which of the following is the main conclusion of the argument?

- A** It is entirely counter-productive to prevent fifteen- and sixteen-year-olds from drinking in pubs.
- B** It is therefore necessary to go to extremes to prove oneself as an adult, rather than simply being accepted.
- C** This means that, far from drinking becoming a rite of passage into adulthood, it becomes a destructive activity.
- D** When young people drink in a pub surrounded by adults, they are forced to behave quite sensibly, because they are afraid of being thrown out. **[1]**

**14** Which of the following is a principle that would support a policy of preventing fifteen- and sixteen-year-olds from drinking in pubs?

- A** It is damaging if young people believe that some laws do not have to be obeyed.
- B** Not all adults drink companionably or in a civilised way in pubs.
- C** People who are still developing should not risk their health by drinking alcohol.
- D** Responsible adults have a duty to introduce teenagers to sensible drinking in pubs. **[1]**



**Questions 15, 16 and 17 refer to the following passage.**

Google's Street View, which currently covers 27 American cities, has many advantages. It allows users to see an all-round photographic view of buildings, roads and other features of a neighbourhood from street level. People who struggle with flat maps can visualise their route more clearly when they need to go somewhere new. Yet the costs of Street View far outweigh the benefits. Real people have been caught on camera doing embarrassing things, including sunbathing naked in parks or entering adult shops. Others have been photographed doing illegal things, such as burgling a house. Our privacy is too valuable to sacrifice to an online map. It may currently be legal to publish these images but it is wrong. Google should be prevented from expanding Street View to the UK.

**15** Which of the following is the main conclusion of the argument?

- A** Google's Street View has many advantages.
- B** Google should be prevented from expanding Street View to the UK.
- C** Our privacy is too valuable to sacrifice to an online map.
- D** Yet the costs of Street View far outweigh the benefits. **[1]**

**16** Which of the following, if true, would most weaken the support for the conclusion?

- A** House hunters have found Street View very useful to explore neighbourhoods they might like to live in.
- B** People post embarrassing images of themselves on the internet all the time.
- C** Privacy laws state that a person has no reasonable expectation of privacy in a public place.
- D** The law should reflect our views of right and wrong. **[1]**

**17** 'The American Government has been banned from publishing close-up images of military bases because images of the Fort Sam Houston in Texas included potentially risky details.'

How does this additional information affect the strength of the argument?

- A** It neither strengthens nor weakens the argument because the British Government should make its own decision about Street View.
- B** It strengthens the argument because it would set a precedent for banning some images.
- C** It strengthens the argument because the Government ought to apply the same rules to itself as to the people.
- D** It weakens the argument because there is an important difference between publishing military secrets online and images of people in the street. **[1]**

Questions 18, 19 and 20 refer to the following passage.

**Letter to the Peak District Gazette**

Lentil-munching, nutty vegans have utterly lost the plot. They are now telling us eating meat every day is the biggest environmental danger of all, because cow burps will overheat the planet. So apparently we should all become vegans and save the planet. These vegans would want us to starve our children rather than accepting that eating meat is normal, human behaviour. We should ignore them and carry on as we are. Cows and sheep eat grass, which people can't eat, and turn it into meat, which people can eat. Grazing land is often in hilly regions with poor soil, where crops such as wheat could not grow. So we should keep eating meat.

Yours

Dr Kah Nivoor

**18** Which of the following is used in the argument?

- A** Appeal to authority.
- B** Appeal to emotion.
- C** Appeal to history.
- D** Appeal to popularity.

[1]

**19** Which of the following is NOT a weakness in the argument?

- A** It attacks vegans for personal reasons rather than considering their argument.
- B** It distorts the vegans' argument in order to dismiss it more easily.
- C** It gives no reasons to support any of the opinions it puts forward.
- D** It uses an argument for continuing to eat meat in some circumstances to support the claim that we should carry on as we are.

[1]

**20** On reading Dr Nivoor's letter to the Peak District Gazette, a reader commented:

'We must support hill farmers in the UK by eating their produce. It doesn't make sense to make them unemployed while we eat imported lentils.'

This response to the argument

- A** Restricts the options between employing farmers and eating lentils, so is very weak and offers no support at all to the argument.
- B** Supports the conclusion quite a lot because meat is much nicer than lentils, so we should carry on as we are.
- C** Supports the conclusion to a limited extent because it raises an additional, important consideration, even though it restricts the options.
- D** Very strongly supports the conclusion because it answers the vegans' argument precisely. [1]

## Section B: Analysing and evaluating argument

Questions 21–24 refer to the article in the Resource Booklet.

### Analyse

- 21 Name the following elements and briefly explain their function in the structure of the argument:
- (a) 'Many recent discoveries are beginning to make the prospect of radical human enhancement a reality.' (paragraph 4) [2]
  - (b) 'Contemporary and future biological enhancements may create problems of injustice.' (paragraph 9) [2]
- 22 Analyse in detail the structure of the reasoning in paragraph 7 by identifying elements of argument such as reasons, intermediate conclusions etc and showing their relationships to each other. [13]

### Evaluate

- 23 'In the future there will be no more human beings. This is not something we should worry about.' (paragraph 1)

Evaluate the support given to this claim by the reasoning throughout the whole article. [30]

You should **selectively** refer to key strengths and weaknesses which may include:

- Flaws in the reasoning **and** their impact on the strength of the reasoning.
- Assumptions which must be made **and** their impact on the reasoning.
- The effectiveness of the use of evidence and examples.
- How effectively reasons support intermediate and main conclusions.

### Develop your own reasoning

- 24 The most important change for the better that could be made to the human species would be an improved moral sense.

Write your own argument to support or challenge this claim. [18]

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