
THINKING SKILLS

9694/23

Paper 2 Critical Thinking

May/June 2017

1 hour 45 minutes

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** the questions.

The number of marks is given in brackets [] at the end of each question.



This document consists of **6** printed pages, **2** blank pages and **1** insert.

1 Study the evidence and answer the questions that follow.

Source A**News report***from Basset Echo*

15th February 2017

Basset resident Mr Terry Singh had a lucky escape yesterday when his car skidded on a muddy road in the local village of Thrubwell. He suffered only minor injuries but his car overturned and is damaged beyond repair. The road was closed for 2 hours, much to the inconvenience of travellers on this once-quiet country road; there has been a considerable increase in traffic over the last ten years due to housing development in the area. There have been several complaints from motorists about the amount of mud on the road through Thrubwell. Skidding on muddy roads happens quite frequently.

Source B**Email from Terry Singh to a friend**

10th February 2017

I have just bought a new car – goes like a rocket! I have been saving up for it for ages, and it is a really beautiful machine: it is my pride and joy. I'll come round and we can go for a drive and zip through some bends; I'll try to stay on four wheels!

Source C**Statement from local farmer**

A lot of people in the new housing complain about the mud on the road through Thrubwell, but they have to understand that this is a rural area where farming is a key part of the local economy. Mud is inevitable when tractors have been ploughing and it is not realistic to expect busy farmers to keep the roads clear. Drivers need to take into account the possibility of there being mud on the road and drive in such a way as to avoid skidding when they encounter it. They always seem to be in a hurry but they must realise that not all roads are designed for high-speed motoring.

Source D**Comments from a roads engineer**

Changes in farming practices in recent years have led to a big increase in the problem of mud on rural roads. Huge double-wheeled tractors and the growing of crops such as maize, that tend to encourage water-logging and mud, are the two key factors.

There is in fact a legal obligation on farmers to keep roads free from mud where traffic is considerable. But this rule is never enforced because the elected councillors are sympathetic to the farming interest and agree with the view that mud on the roads is an unavoidable feature of rural life. It is very frustrating.

Source E**Letter from council to Terry Singh**

Thank you for your letter of 16th February. We are sorry to hear of your accident and are glad that you were not seriously injured. As regards your complaint about the amount of mud on the road, we would advise that when driving on minor country roads, such as the one through Thrubwell, drivers should be aware that they might encounter hazards such as mud. We do have signs warning of Farm Vehicles at various points along the road. Therefore we do not feel the council can be held responsible for your unfortunate accident.

- (a) How useful is the evidence in Source B in determining Mr Singh's responsibility for the accident? [3]
- (b) To what extent does Source D provide relevant information as regards responsibility for the accident? [3]
- (c) How significant would be the information that the farmer in Source C is also a councillor? [3]
- (d) How likely is it that Mr Singh's careless driving was the cause of his accident?
Write a short, reasoned argument to support your conclusion, with critical reference to the evidence provided and considering a plausible alternative conclusion. [6]

2 Study the evidence and answer the questions that follow.**Source A****Extract from book**

According to the organisation Drug Free Sport a performance-enhancing drug is “any substance taken by athletes to improve performance.” However, it is difficult to see why this should not include eating certain foods because they improve physique and fitness. The attempt to separate out using drugs, as we normally understand them, from ingesting certain foods is further complicated by the issue of dietary supplements such as extra vitamins. These are marketed as performance-enhancing and there is now a huge market in these substances. But why is taking these supplements considered legitimate performance-enhancement, whereas taking ‘drugs’ isn’t? In both cases something is ingested and there is an effect on the metabolism and fitness of the individual. Sporting organisations should give up the attempt to make sport free of performance-enhancing drugs and allow athletes to improve their performance in any way they see fit.

Source B**Extract from health journal**

The extremely competitive nature of modern professional sport means that professional sportsmen and women have to drive their bodies to the limits of endurance in order, for example, to shave a few milliseconds off the world 5000 metres record. These pressures have tempted many to take performance-enhancing drugs. Use of these drugs results in well-documented long-term health problems. There have been attempts to control such drug use, but many people are not convinced that these have been successful. There can be no doubt that the successful elimination of the use of performance-enhancing drugs would ensure that sportsmen and women were protected from long-term damage to their health as a result of pursuing their sport.

Source C**Statement by robotics expert**

An increasing factor in enhancing sporting performance will be the use of bionic implants designed to make people mentally and physically superior. These are likely to become normal in everyday life. For example, it has been envisaged that retinal implants will become routine for pilots in order to enable them to see better at night. The humans of the future will typically have a number of these implants, to the extent that some commentators have argued that they will be transformed into cyborgs – half human, half robot. In competing with each other, it will be extremely difficult not to allow sportsmen and women to use these implants if they become part and parcel of normal life. Even more advanced future techniques might include genetic therapy, where performance-enhancing genes are injected directly into muscles, lungs or other target areas. The nature of these treatments means they will probably be impossible to detect.

Source D

Extract from speech

by president of athletics association

International sporting bodies must remain vigilant against attempts to relax the rules against the use of drugs to enhance sporting achievement. It goes against the spirit of sporting competition for some athletes to have an advantage over others. We would clearly yell "Cheat!" if we saw somebody deliberately trip up a fellow competitor in a 100-metre running race. Taking performance-enhancing drugs is no different. It is an attempt to cheat. Sport should be about people's natural abilities being tested in a way that is not interfered with by artificial interventions.

Source E

<i>Country</i>	<i>Average income (\$ per annum)</i>	<i>200 metres national record (seconds)</i>
USA	30 000	18
Italy	25 000	20
Vietnam	15 000	22
Bangladesh	9 000	23
Cameroon	8 000	25
Honduras	6 000	27

- (a) Explain why the conclusion of Source B may be overdrawn. [3]
- (b) What are the implications of the information in Source C for maintaining fair competition between disabled athletes in sports? [3]
- (c) Suggest **two** explanations for the correlation revealed between national records and average income in Source E. [3]
- (d) 'Sporting organizations should abandon the attempt to ban the use of drugs in sport.'

To what extent do you agree with this claim? Write a short, reasoned argument to support your conclusion, using and evaluating the information provided in Sources A–E. [6]

3 *Read the passage and answer the questions below.*

- 1 It has become fashionable in the UK for people to have wooden floors instead of carpet in their homes: this trend is regrettable.
- 2 Wooden floors present a considerable noise problem for residents living in rooms below. Carpet absorbs the noise made when people walk around. These noise-reducing qualities make carpet a far superior floor covering to wood.
- 3 Wooden floors lack the protective quality of carpet in the event of a child or elderly person falling over. Serious, even fatal, injuries can result when contact is made with a hard surface. Using carpets would eliminate this risk and so relieve the pressure on health services.
- 4 Many long-established carpet manufacturers have gone out of business because of the fashion for wooden flooring. This has resulted in many people losing their jobs in such businesses. Therefore there is a harmful effect on the economy as a result of the declining popularity of carpet.
- 5 Wood is an increasingly scarce resource. Rainforest depletion is exacerbated by the demand for tropical hardwoods such as mahogany and teak. In contrast, carpets are traditionally made of wool from sheep, which is a renewable resource. The environment would benefit from a shift back to carpets as the floor covering of choice. Old hippies may go on about using natural materials such as wood and saving the planet but their position is inconsistent.
- 6 Some people have argued that carpets are not good for people with allergies as they harbour creatures such as dust mites. However, the increase in allergic conditions such as asthma has not been reversed by the rise of wooden flooring. Moreover, modern synthetic materials such as polypropylene can be used in carpet manufacture, rather than wool. In fact, 99% of the fibre used in carpet manufacture in the US is synthetic. The supposed advantages of wooden floors for those with allergies are illusory.

- (a) Using the exact words from the passage as far as possible, identify the main conclusion. [2]
- (b) Using the exact words from the passage as far as possible, identify **three** intermediate conclusions. [3]
- (c) Evaluate the strength of the reasoning in the argument. In your answer you should consider any flaws, unstated assumptions and other weaknesses. [5]
- (d) 'Synthetic materials, such as plastic, have been a life-enhancing development.'

Write your own short argument to support **or** challenge this claim. The conclusion of your argument must be stated. Credit will not be given for repeating ideas from the passage.

[5]

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