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**THINKING SKILLS**

**9694/23**

Paper 2 Critical Thinking

**May/June 2016**

MARK SCHEME

Maximum Mark: 45

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**Published**

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**1 (a) How useful is the evidence in Source A? [3]**

The evidence is reliable as it reports verifiable facts in a neutral way [1] – even though it comes from the Coles and Son Newsletter and so might be expected to be biased, it is not [1]. It suggests that Platt was an experienced lathe operator [1]. However, this assumes his long service has always been as a lathe operator [1]. It is not useful [1] as it gives no indication of why the accident occurred [1].

**(b) How significant is the information that this was Platt’s third accident that year (Source C)? [3]**

Of little significance [1] because the information is consistent with both the machine being dangerous [1] and also Platt’s being a careless/accident prone worker [1]. It therefore does not contribute anything to the crucial question of who or what was to blame for the accident [1]. Also, information for one year would not be sufficient to judge how accident prone Platt is [1].

**(c) How could the information in Source E be used to challenge the case being made by Platt’s lawyer in Source B? [3]**

The lawyer suggests the accident has been caused by Platt using an old-fashioned lathe [1]. The evidence here however suggests that the simplicity of the safety features of old-fashioned lathes are actually superior [1] because they do not tempt workers to save time by ‘cutting corners’ [1]. This may also be relevant to the time-driven conditions at Cole and Sons [1], which is the second point Platt’s lawyers are making [1].

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- (d) How likely do you think it is that Coles and Son are to blame for the injury to Edward Platt? Write a short, reasoned argument to support your conclusion, with critical reference to the evidence provided and considering a plausible alternative conclusion. [6]

<b>Level 3</b> 5–6 marks	A strong answer, which provides a reasoned argument including thorough evaluation of all or most of the evidence to support an acceptable conclusion in terms of probability and evaluates the plausibility of at least one alternative conclusion.
<b>Level 2</b> 3–4 marks	An answer which evaluates some of the evidence, draws an acceptable conclusion in terms of probability and may mention the plausibility of at least one alternative conclusion.
<b>Level 1</b> 1–2 marks	A weak answer, which refers to some of the evidence, possibly including a simple evaluative comment. The conclusion may be unstated or over-stated.
<b>Level 0</b> 0 marks	No credit-worthy material.

### **Indicative content**

Possible answers:

- The accident was caused by Platt's general incompetence
- The accident was caused by after effects of Platt's birthday lunch
- The accident was caused by time pressures on workers
- The accident was caused by outdated/faulty machinery
- The accident was 'caused' by the inherent dangers of lathes

Coles and Son do not seem to be quite the cosy family firm their newsletter would suggest. It seems unwise to put time pressures on workers operating potentially dangerous machinery and such time pressures are confirmed by the e-mail from Coles Junior. The points they make in reply to Platt's lawyer are rather weak. The number of accidents Platt has had could be caused by the time pressure. Whilst within government guidelines, these guidelines might be inadequate. How Platt is *behaving* during his lunch break is not a relevant or reliable indicator of how he behaves when he is operating his lathe. However he may have been drinking. On the other hand, they would be unlikely to claim a good safety record if they didn't have this, as this is easily verified. If it is unusual for workers at Coles and Sons to have accidents this does suggest there is something about Platt that makes him accident prone. This may be why Coles Junior wants to get rid of him. The e-mail is not as incriminating as it looks at first sight as getting new machines may be a question of producing goods faster rather than an indication that Coles Junior thinks they are dangerous. Source E would suggest the older machines are actually safer in practice. 'Pinning the blame' doesn't necessarily mean that they are blaming him falsely though it is an unfortunate phrase. Also, we only have circumstantial evidence that Platt is a skilled experienced lathe operator.

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- 2 (a) Does the information in Source B enable the conclusion to be drawn that a turbo-charged diesel engine is better than other engines? [3]

No [1]. This conclusion would rely on the assumption that engines that produce faster acceleration are better [1]. This could be challenged on the grounds that this makes cars more dangerous [1] and therefore they are not better [1]. The source claims only that turbo-charged diesel engines can produce faster acceleration than many petrol engines, not all [1]. Also, even if one accepts the assumption about acceleration, there might be an even faster type of engine [1]. In any case, there may be other factors affecting whether an engine is “better” [1] (such as the cost of maintenance mentioned in Source C).

- (b) ‘Taxi drivers must regret the development of the diesel particulate filter.’ To what extent is this statement justified by the evidence in Source C? [3]

Justified because taxis typically do many short journeys in cities [1]. This would cause the DPF to block up and fail [1]. It is less justified in the case of any who frequently undertake long journeys [1]. The high mileage of taxis will mean that there will be an extra expense which was not encountered before [1].

However, environmentally-concerned taxi drivers may welcome the device because of its environmental benefits [1]; or, since they spend a lot of time sitting in traffic, they might well appreciate the cleaner air [1]. It assumes taxi drivers would have to pay – they might be employed by a taxi firm [1].

- (c) ‘All HGVs have diesel engines.’ Suggest and briefly explain two factors that would account for this. [3]

*1 mark for identifying a valid factor, a second mark for explaining it. Maximum 3 marks.*

- HGV’s do a very high mileage so the better fuel consumption of diesel outweighs any other costs associated with diesel engines OR they obviously benefit from longer-lasting engines.
- HGV’s might have unsophisticated engines without turbo-chargers etc. This would mean they do not incur the maintenance costs of the more sophisticated diesel engine found in cars.
- HGVs are likely to have high road taxes, so the purported lower taxes for diesel engines would constitute an incentive.
- HGV’s have very large engines; these use up a great deal of fuel per kilometre so fuel consumption needs to be as low as possible.
- HGV’s by definition carry very heavy loads; petrol engines might not be powerful enough to cope with them.
- HGV’s might be required by government regulations to have diesel engines.
- HGV’s do not need high speed or acceleration.

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(d) 'The diesel engine will become the dominant power source for road vehicles.'

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]

<b>Level 3</b> 5–6 marks	A reasoned argument, which uses and evaluates all or most of the evidence provided.
<b>Level 2</b> 3–4 marks	A simple argument, which uses and/or evaluates evidence.
<b>Level 1</b> 1–2 marks	A weak answer, which makes some correct reference to evidence but consists of opinion and/or assertion rather than argument <b>or</b> an argument which makes no reference to evidence.
<b>Level 0</b> 0 marks	No credit-worthy material.

**Indicative content**

- Sources A and B show a number of advantages in cars with modern diesel engines, however, the claim is too sweeping.
- Source C shows a number of expenses associated with modern diesel engines.
- Source E shows that there are a number of countries where diesel is significantly more expensive than petrol. Drivers will be more reluctant to change to diesel in those countries where the price is higher.
- Source D suggests that the diesel is suitable for a rather narrow range of drivers, namely those who do a high mileage and intend to change the car every two or three years.
- Source C shows that diesel has always been the preferred form of power for HGVs so the claim does not apply to these vehicles.
- Environmentally, diesel engines seem to be better, assuming they are fitted with a DPF.
- However, the statement is based on the assumption that alternatives to internal combustion engines like the electric-powered vehicle will not become the preferred mode of power.

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- 3 (a) Using the exact words from the passage as far as possible, identify the main conclusion. [2]

2 marks: It is better to pack your cases in the car and drive to a holiday destination instead.  
 1 mark: (but) anybody planning a holiday would be well-advised to avoid this [a cruise] option.

- (b) Using the exact words from the passage as far as possible, identify three intermediate conclusions. [3]

1 mark for each of the following, to a maximum of 3:

- (but) anybody planning a holiday would be well-advised to avoid this [a cruise] option.
- One could probably have more fun on a silent retreat in a Tibetan monastery than on a cruise.
- There are safety concerns about the design of modern cruise ships.
- You'll need a holiday to recover from a cruise.
- It is better to be a normal visitor.

Allow one additional element or one significant omission in each case.  
 If more than three answers are offered, mark the first four only.

- (c) Evaluate the strength of the reasoning in the argument. In your answer you should consider any flaws, unstated assumptions and other weaknesses. [5]

Marks for each evaluative point as follows, up to a maximum of 5 marks:

2 marks: Valid evaluative point, clearly expressed.  
 1 mark: Weak attempt at a valid evaluative point.

Paragraph 1

- Assumption – that the glossy brochures for other holidays are not also misleading.

Paragraph 2

- Assumption – that holidays are about having fun / an induced state of mindless boredom is bad.
- Assumption – that cruises are necessarily at sea; they might be on rivers or lakes.

Paragraph 3

- Assumption – this potential to capsize has not been recognised and steps not taken to safeguard against it.
- Flaw – the example\* given is not relevant as the ship did not capsize as a result of its bad design but rather poor seamanship.
- Assumption – driving in a car to one's holiday destination is not as/ more dangerous.

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*Paragraph 4*

- Assumption – holidays are about having a rest.
- Inconsistency – having described monotony and boredom in Paragraph 2, the author now talks of there being too much to do.
- Assumption – that people are required to engage in more of these exhausting activities than they want to.

*Paragraph 5*

- Assumption – a few hours is insufficient time to visit a place.
- Assumption – being mass-produced is inconsistent with being authentic and local.
- Flaw – problem of meaning surrounding expression ‘normal visitor’. Difficult to see why cruise ship visitors are seen as any different from any other tourist e.g. ones arriving by car.

*General*

- The conclusion that you are better to go on holiday by car is not supported by any of the reasoning, which deals only with the negatives of cruises.

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(d) 'Going on a holiday is selfish and irresponsible.'

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]

<b>Level 3</b> 4–5 marks	Developed, coherent argument. Reasons strongly support conclusion. Development may include intermediate conclusion or apt examples. Simply structured argument – 4 marks. Effective use of IC etc. – 5 marks.
<b>Level 2</b> 2–3 marks	A simple argument. One reason + conclusion – 2 marks. Two or more separate reasons + conclusion – 3 marks.
<b>Level 1</b> 1 mark	Some relevant comment.
<b>Level 0</b> 0 marks	No relevant comment.

*Maximum 3 marks for wrong conclusion or if conclusion is implied but not stated.*

*No credit for material merely reproduced from the passage.*

### **Specimen level 3 answers**

*Support (89 words)*

A holiday involves travel often by plane. This unnecessary travel is a major contributor to global warming. The natural environment is often destroyed through the building of hotels to accommodate holiday makers. Holidaying is typically an activity done by the rich often to poorer countries where low-paid staff are exploited for the benefit of the rich. So environmentally it is irresponsible and, politically, it is a classic example of wealth being used for self-gratification rather than for the benefit of others. So, going on holiday is selfish and irresponsible.

*Challenge (122 words)*

The principle that lies behind this statement is basically a recipe for a joyless world in which the individual is not allowed to have any fun. Anything done purely for one's own personal happiness could be described in this way. So going on holiday is no different from any other personal indulgence like going for a meal in a restaurant. However, it is not purely selfish as people need a break from their daily routine so that they return refreshed and better able to tackle work. Workers who abide by this principle and never take a holiday are probably being irresponsible in not recognizing when they need a break in order to avoid becoming exhausted and inefficient in what they do. So going on holiday is not selfish and irresponsible.