THINKING SKILLS **9694/42**

Paper 4 Applied Reasoning **May/June 2016**

MARK SCHEME

Maximum Mark: 50

Published

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1   **Make <u>five</u> criticisms of the statistics in the advertisement and/or the support they give to the claim, "To save money on your weekly shopping, come to Dasamart!"** **[5]**

1 mark for any of the following:

- 3 competitors could have been selected
- Last month might have been an unusual month
- Dasamart's less expensive products may have been only slightly cheaper while competitors' less expensive products could be much cheaper
- "weekly shopping" likely to include non-food products, about which there is no information
- Proportions of bars do not match numbers (Dasamart is exaggerated)
- "weekly shopping" might not include a significant number of the 'cheaper' products
- If the prices for all the other products not included in the comparison are substantially higher at Dasamart, then unlikely to "save money"
- To "save money" one has to assume that all the products in the weekly shopping are absolutely necessary
- It is not clear whether items only on sale at Dasamart are counted as being the cheapest.

2   **Briefly analyse E Rainbow's argument in Document 1: *Meat-free Future*, by identifying its main conclusion, intermediate conclusions and counter-assertions.** **[6]**

1 mark for each element (maximum 4 if MC not identified).

CA – (It is often said that) protein from meat is needed to build muscle and fish is 'brain food'.
IC – the Egyptians seem to have achieved great things without resorting to eating animals.

IC – killing animals is morally wrong.
CA – vegetables need to be killed in order to eat them
IC – we should not eat anything that has a brain.
MC – We should cut meat from our diets completely.

IC – Many animals reared for food suffer intolerable cruelty during their lives

IC – A vegetarian diet improves your health.

IC – If we continue as we are we face widespread famine.
IC – Widespread conversion to a meat-free diet is our only hope to avoid mass starvation.

IC – The future is vegetarian.

3   **Give a critical evaluation of the strength of E Rainbow's argument in Document 1:** *Meat-free Future,* **by identifying and explaining any flaws, implicit assumptions and other weaknesses.**   [9]

2 marks for a developed version of any of the following points.
1 mark for a weak or incomplete version of any of the following points.

Paragraph 1

Conflation – of "might have had an almost entirely vegetarian diet" with "were vegetarians".

Generalisation – from "a mummy" to "the Egyptians".

Paragraph 2

The accusation of hypocrisy associated with watching a film about a talking pig assumes that the family are unable to distinguish fact from fiction.

Assumption – that the difference between animals and plants is significant enough to justify eating one but not the other.

Straw man – the representation of the position of the "committed meat-eater" is unfair and illegitimately makes this position appear untenable.

Equivocation – in the meaning of "intelligent": intelligent life forms / anything with a brain

Confusion of necessary and sufficient conditions – Possession of a brain might be a necessary condition for intelligence, but might not be sufficient.
OR
Assumption – that any being which possesses a brain should be regarded as intelligent

Paragraph 3

"Many animals reared for food suffer intolerable cruelty" implies that some do not, and so does not support a complete end to eating animals.

Assumption – that animals and "meat apologists" should be treated in a similar way, or that animals and "meat apologists" would share similar feelings about the same experiences.

(Could be expressed in terms of an inappropriate application of the principle of universalizability, i.e. there is no reason to think that the same principles should apply to humans and animals.)

Paragraph 4

"Heart disease is the biggest killer in the Western world." implies that it is not the biggest killer in the non-Western world and hence only supports the conclusion if "you" live in the Western world (or, indeed, are typical of Westerners).

Selective examples – there may be other animal-derived foods that do not contain "this killer fat".
OR
Generalisation – from selected example to all animal-derived food

Conflation – of 'eating animals' with 'animal products'

The author states that "plants can provide most of the vitamins and minerals needed for a healthy diet" but fails to say where the remainder can come from, if not from meat (or even animal products).

Conflation – of "regular meat eaters" with people who eat any meat.

The reasoning in this paragraph, and indeed most of the argument, supports the adoption of a diet with a reduced meat content but does not support the complete removal of meat from the diet. For example, "vegetarians live longer than regular meat-eaters" implies that vegetarians might not live longer than occasional meat eaters.

Assumption – that longevity is of greater importance than the pleasures of meat-eating.

Paragraph 5

Contradiction – in paragraph 4 the author argues that we should be vegetarian because we will live longer and then implies that increasing population is a concern.

Contradiction – presumably if there is widespread famine then the world population will cease to grow exponentially.

Assumption – that land used for livestock would be suitable for growing vegetables (efficiently).

Assumption – that the main cause of food shortage is a lack of land.

Paragraph 6

Significance – it is likely that the number of books written on almost any topic has increased steadily since the mid-1800s; the specific "year-on-year" claim is almost certainly inaccurate.

Appeal – to a (fictitious) celebrity as an authority.

Appeal – implies that if you want to be part of the future, you had better be vegetarian.

4   **'Everyone should adopt a meat-free diet.'**

Construct a reasoned argument to support <u>or</u> challenge this claim, commenting critically on some or all of Documents 1 to 5 and introducing ideas of your own.   **[30]**

Level	Structure	Max 8	Quality of argument	Max 8	Use of documents	Max 8	Treatment of counter positions	Max 6
4	Precise conclusion and accomplished argument structure with consistent use of intermediate conclusions. Likely to include at least two of the following: • strands of reasoning • suppositional reasoning • analogy • evidence • examples Argument is structured so the thought process is made clear. Uses vocabulary of reasoning appropriately and effectively to support argument.	7–8	Cogent and convincing reasoning which answers the question which was asked. Subtle thinking about the issue. Use of relevant own ideas and ideas from documents. No glaring gaps or flaws.	7–8	Perceptive, relevant and accurate use of documents to support reasoning. References 3+ documents. Sustained and confident evaluation of documents to support reasoning. (Two or more valid **evaluative** references to documents). Able to combine information from two or more documents and draw a precise inference.	7–8	Consideration of key counter arguments and effective response to these. Use of own ideas in response to counter arguments not mentioned in the documents. Use of valid critical tools to respond to counter arguments. Effective use of appropriate terminology.	5–6
3	Clear conclusion that is more than "I agree". Clear argument structure, which may be simple and precise or attempt complexity with some success. Appropriate use of intermediate conclusions. Use of other argument elements to support reasoning. Generally makes thinking clear. Appropriate use of vocabulary of reasoning.	5–6	Effective and persuasive reasoning which answers the question which was asked. (Although there may be some irrelevance or reliance on dubious assumptions.) Use of own ideas and ideas from documents. Few significant gaps or flaws.	5–6	Relevant and accurate use of documents which supports reasoning. References 3+ documents. Some evaluation **and** comparison of documents to support reasoning. Inference drawn from at least 1 document.	5–6	Consideration of key counter arguments and effective response to these. Response uses own ideas or is developed from documents. Some use of appropriate terminology.	3–4

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Level	Structure	Max 8	Quality of argument	Max 8	Use of documents	Max 8	Treatment of counter positions	Max 6
2	Conclusion stated but may be "I agree". Sufficient clarity for meaning to be clear throughout. Structure may be easy to follow but brief or a longer argument which has a less clear structure. Uses reasons. Some appropriate use of vocabulary of reasoning.	3–4	A reasoned stance which attempts to answer the question which was asked. Some support for the conclusion. (Although there may be considerable irrelevance or reliance on dubious assumptions.) Some thinking/own ideas about the issue. Use of rhetorical questions and emotive language. Some significant gaps or flaws.	3–4	Some relevant use of documents to support reasoning, but some documents used indiscriminately. Some comparison of documents **or** some critical evaluation of documents **or** reasoned inference drawn from document.	3–4	Inclusion of counter argument or counter assertion. Response is direct and uses own ideas, albeit weakly or is taken entirely from documents.	2
1	Attempt to construct an argument. Unclear conclusion, multiple conclusions or no conclusion. Disjointed, incoherent reasoning. Use of examples in place of reasoning. Possibly a discourse or a rant. Reasons presented with no logical connection. Documents considered sequentially. Substantial irrelevant material.	1–2	Attempt to answer the general thrust of the question. Attempt to support their view. Excessive use of rhetorical questions and emotive language. Ideas which are contradictory.	1–2	Some, perhaps implicit, use of documents. No attempt at critical evaluation. No comparison of documents.	1–2	Inclusion of counter argument or counter assertion. Response is direct but ineffective.	1

Example Level 4 Answers

Support (701 words)

There are many reasons why a meat free diet is good for us. Document 1 and Document 3 suggest that eating a meat-free diet is good for your health. There are four areas mentioned in the documents – heart disease, obesity, cancer and, by implication from the reference to fibre in Document 3, digestion. The first three of these are major killers so any reduction in meat eating is likely to have a big effect. Although Document 1 is clearly biased in its point of view, evidenced by the excessive use of loaded language, and Document 3 clearly has a vested interest to market its own product, both agree on the relative health dangers of a diet high in meat. And the food company in Document 3 would be unlikely to publish anything that was provably false for fear of being sued or losing customer confidence. Document 3 also provides a counter to the argument that 'vegetables don't taste as nice as meat' by highlighting the 'delicious' nature of their product. They could, of course, be exaggerating but the obvious popularity of these meat-substitute products in shops does corroborate what they are saying.

Keeping animals in unnatural conditions and then killing them for food is obviously cruel. As Document 1 says, no human would choose to live in a cage and be killed at a young age, however 'humane' the method of slaughter was. Although Document 4 claims that it might benefit the species, the individual animal does not care about its genes getting passed on. If it worries at all, it only worries about its own future. Indeed, if there is a wider 'survival of the species' issue then we should consider the other wild species, overlooked by Otis in Document 4, that once occupied the land that is now used for animal farming. I'm no expert but I would be surprised if species had not died out because humans chopped down their forests to rear cattle. There are those who claim that the solution to animal cruelty is free-range farming; however, the animal is still killed unnaturally and the land area used is much larger – which worsens the effect on the environment. As caring individuals we should worry about the well-being of animals and a meat-free future would make us feel better about how we look after the other occupants of our planet. If we start to treat animals better, we might start to treat ourselves better as well.

Arguably the most important reason for abandoning meat is the environment. Document 1 and Document 5, and by the inference above, Document 4, all provide evidence that eating meat is harmful to the environment. The chart in Document 5 shows that wheat (a plant food) has much lower carbon emissions than any of the animal-based foods. One plant food has high emissions, indoor tomatoes; it is likely that outdoor tomatoes would have much lower emissions. Document 2 claims that vegetarian foods can harm the environment but most of the concerns centre on meat-substitute foods and it is perfectly possible to include only a small proportion of these in your diet. Most of the negative consequences cited in Document 2, such as using large areas of land, also apply to meat production. The comments from the National Farmers Union are likely to be biased in favour of existing farmers. A more appropriate title for Document 2 would be "high-protein meat substitutes are not quite as environmentally friendly as people think but there is nothing unfriendly about eating vegetables".

So far I have examined the benefits of reducing meat consumption, but why should *everyone* do it and why should diets be entirely *meat-free*? Surely not everyone has health issues and a little bit of meat does no harm? No. If a small amount of meat consumption is seen as acceptable, animals and the environment will still suffer. It would be like saying, I'm only going to drop litter once a week, or it's OK as long as only one in 100 people are cruel to dogs. If something is wrong it is wrong.

For the good of the planet, society, and our own mental and physical well-being, everyone should adopt a meat-free diet.

Challenge (690 words)

To suggest that everyone needs to adopt a meat-free diet is ridiculous.

Two of the documents that are in favour of increased vegetarianism have questionable credibility. The use of loaded language in Document 1 clearly indicates a bias. Document 3 has a strong vested interest to promote their meat-substitute product. The chart in Document 5 cites only 2 non-animal-based foods and one of those is grown indoors. We thus cannot draw any conclusions from Document 5 alone about the relative carbon footprint of plant and animal foods. That said, taken at face value, Documents 1, 3, 5 and some parts of the contradictory Document 2 do suggest that excessive consumption of meat might have certain problems. However, there is no reason why a totally meat-free diet is necessary.

Document 1 cites beef, lamb and pork as containing saturated fat. The line of arguing it follows goes from "too much is bad, therefore the ideal is none"; as with most things, there is a middle ground that is perfectly healthy. Indeed, the selective use of these meats ignores other meats, such as chicken, that contain very little saturated fat and that could be easily substituted for the traditional 'red' meats. Document 3 cites the health benefits of its meat-alternative product but even it admits that it does not contain as much iron as real meat. It is likely that there are vitamins and minerals within meat products that it is difficult to get from plant sources. The health argument also treats everyone as if they were an overweight adult with a sedentary job. It might well be good for many people to reduce meat or even for some to cut it out altogether, but there are many who need the extra protein, energy, iron etc. Furthermore, many people do not have access to 'Quorn' or other meat-substitutes.

As for the environmental arguments, they too support a reduction in meat consumption and not the adoption of a universal meat-free diet. Indeed, Document 2 highlights some environmental concerns about the vegetarian meat alternatives. The study carried out by Cranfield University is likely to have been subject to verification by experts and the sponsors of the study have an interest in benefitting the environment, so they are not likely to claim environmental harm where none exists. The figures in Document 5 are not very useful as they cite so few examples. Indeed, it is possible that land on which sheep graze would not be suitable for growing wheat, or other low carbon foods.

Document 4 makes some interesting points about evolution and the reasons for vegetarianism. Nature itself is full of suffering; most wild animals are either eaten by a predator, during which their death is not usually as quick as that of a farm animal, or they die slowly from starvation. Thus the argument in Document 1 that killing animals is cruel is not only irrelevant but the converse is true. Of course, we should not be blasé about animal suffering and 'natural' does not always mean 'best', but claims of individual animals suffering do not stand up to much scrutiny. It is not morally wrong to eat meat, as EM in Document 4 would agree.

Document 1 raises a point about increasing population needing to be fed and this only being possible using plants. Document 1 also claims that being a vegetarian makes you live longer. It is possible then to reason that what we need is fewer vegetarians and therefore more people dying younger. Admittedly, most people would not argue against vegetarianism for that reason, but it does undermine Document 1's point somewhat.

In conclusion, there might well be reasons why we should reduce the meat content of our diets, but there is no reason to give it up completely and no justification for encouraging (or perhaps forcing) everyone to do it. A great many people currently enjoy meat in their diet. Unless there is a strong argument to the contrary, those people should not have to undergo the inconvenience of change. Since the contrary argument is not strong, it is not necessary for everyone to adopt a meat free diet.