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**THINKING SKILLS**

**9694/42**

Paper 4 Applied Reasoning

**October/November 2016**

MARK SCHEME

Maximum Mark: 50

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**Published**

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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- 1 Make **five** criticisms of the decision to abandon the building on the basis of the statistics and other information presented in the passage. [5]

1 mark for any of the following:

- Within a large population ‘clusters’ will occur
- The variance of the distribution of breast cancer incidence is unknown, so it is not possible to interpret the significance of the 12 cases occurring
- (Assuming a normal distribution of cases,) some groups will experience incidence which is much higher than the mean
- Staff turnover / total number of employees over an 11-year-period is unknown so comparisons with national average are difficult
- The average for women almost certainly higher than average for the whole population. (This is a weakness if one assumes, as implied in the passage, that the majority of workers in the building were women.)
- These women are limited to those of working age, making comparison with the rate of incidence for the whole population difficult
- The 11-year-period may have represented a peak
- The 12 cases could have mostly occurred early on in the 11-year period; if so then the trend of recent years might not have been significantly above average and so the decision to abandon the building may not be justified
- The women working in this building may have been atypically at risk due to e.g. family history of breast cancer, all falling within the age range where women are most at risk, etc.
- The investigation does not appear to have been particularly thorough in ruling out other, non-obvious explanations.

- 2 Briefly analyse Trib’s argument in Document 1: *Who gets to vote?*, by identifying its main conclusion, intermediate conclusions and counter-assertions. [6]

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

**CA** – We do have these laws for a reason (– nobody wants to see a toddler behind the wheel of a car)

**MC** – (but) age should not be used as a criterion in deciding who should select the next government.

**IC** – Voting is (different from other issues and) far too important to be based on such an arbitrary measure as a person’s age.

**CA** – Many politicians have advocated lowering the voting age

**IC** – (This just shows that) teenagers will vote for the candidate they perceive to be on their team, rather than consider the policies on offer.

**IC** – In terms of deciding anything, age is largely meaningless (anyway.)

**IC** – (So) there should not be a lower age limit.

**CA** – (there has to be some way of deciding who votes.) Babies can’t do it and age is at least easy to apply.

**IC** – Alternative systems are practical (, though.)

**IC** – (That way) the people who get to vote are those who deserve to.

*Credit only 1 CA.*

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- 3 Give a critical evaluation of the strength of Trib’s argument in Document 1: *Who gets to vote?*, 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 2

The author’s use of the term ‘arbitrary’ *begs the question*.

*Assumption* – that drinking, relationships and driving do not affect other people.

*Assumption* – that in order to take politics etc. into account one needs a full understanding of politics etc.

*Inconsistency* – here politics etc. are said to be necessary for those who vote, whereas the proposal in paragraph 6 says that general knowledge and cognitive ability are the necessary requirements.

*Sorites flaw* – while true that understanding of politics etc. does not appear overnight, that does not deny the possibility that sufficient understanding will have accrued by the time of that birthday.

### Paragraph 3

*Straw man* – politicians may have more admirable reasons for lowering the voting age than wanting to show that they are in touch with young people (*could be expressed as Ad hominem*).

*Conflation* – of (caring) less with insufficient (caring).

*Generalization* – from the behaviour of the Middlesbrough youth voters to conclusion about how teenagers “will” behave in general.

*Assumption* – that students voted for the candidate from their own school / that the candidate who won would not have won had he/she been a student at a different school.

*Assumption* – that the winning candidate was not clearly the best candidate / that the votes cast were based on tribalism rather than desert.

*Contradiction* – most of the argument is about the inappropriateness of age as a criterion but this paragraph seems to be arguing that teenagers should not be allowed to vote.

### Paragraph 4

*Weak analogy* – there are significant differences between the situations being compared, e.g. the influence of one person on an interview panel far outweighs the influence of one voter in an election.

*Restricting the options* – the author presents only two possible alternatives when others are likely to exist.

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**Paragraph 5**

*Weak analogy* – there is likely to be less of a correlation between height and decision-making competence than there is between age and decision-making competence.

*Weak analogy* – the reasoning behind not having an upper age limit is likely to be different from the reasoning behind having a lower age limit.

*Assumption* – that eligibility to vote should be based on ability.

**Paragraph 6**

*Assumption* – that an appropriate test could be devised.

*Assumption* – that such a test would measure ‘desert’.

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4 'The age at which people are allowed to vote in elections should be 21.'

Construct a reasoned argument to support or 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	<p>Precise conclusion and accomplished argument structure with consistent use of intermediate conclusions. Likely to include at least two of the following:</p> <ul style="list-style-type: none"> <li>• strands of reasoning</li> <li>• suppositional reasoning</li> <li>• analogy</li> <li>• evidence</li> <li>• examples</li> </ul> <p>Argument is structured so the thought process is made clear. Uses vocabulary of reasoning appropriately and effectively to support argument.</p>	7–8	<p>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. Very few significant gaps or flaws.</p>	7–8	<p>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 <b>evaluative</b> references to documents). Able to combine information from two or more documents and draw a precise inference.</p>	7–8	<p>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.</p>	5–6
3	<p>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.</p>	5–6	<p>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.</p>	5–6	<p>Relevant and accurate use of documents which supports reasoning. References 3+ documents. Some evaluation <b>and</b> comparison of documents to support reasoning. Inference drawn from at least 1 document.</p>	5–6	<p>Consideration of key counter arguments and effective response to these. Response uses own ideas or is developed from documents. Some use of appropriate terminology.</p>	3–4

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

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### Example Level 4 Answers

Support (868 words)

Deciding who runs the country is an important job so the selection process should be taken seriously. Although Document 1 has many shortcomings, this point still stands. We want the people who govern us to be competent, intelligent and highly qualified. In business or other public service organisations, the people who appoint leaders are themselves, almost universally, experienced and qualified. In many ways running a country is more important than running a large business, so the age at which people are allowed to vote in elections should be 21.

In most countries the current voting age is 18. However, at this age very few people have even begun a university course, while (depending on where you live) very many 21-year-olds have. More education means better decision-making skills.

Even if you have not been to university you have gained more experience of life – read more newspapers, spoken to more people, watched more news broadcasts, seen governments come and go – and are able to form considered opinions.

At the age of 18 many people are idealistic; they have not had the responsibility and dose of reality that comes with age. Acting responsibly and being able to consider things in the long term and how they will affect other people are qualities we would all desire from those who govern us. So they should also be present, as far as is practical, in those who decide who governs us.

Of course, these and other qualities, such as common sense, do not necessarily increase with age but, taking the population as a whole, 21-year-olds are more experienced, more responsible and obviously better educated than 18-year-olds. As Doc 4 states “This is the age at which people should be able to think through their political ideas and change them at will, debate and try out policies without having to act on them and without having to take responsibility for their ideas.” Doc 1 argues against the use of age as a criterion for voter selection but the alternative it suggests, a questionnaire, would create more problems than it solves. The opportunity for legal challenge to such a scheme, and the associated public costs, would be enormous. Who would agree the questions? Would they change every year? If so, how would comparability between years be ensured? These are just some of the questions one could ask of such a scheme. An age-based system is the *status quo* and there are always fewer problems associated with retaining an existing system than implementing a new one.

Doc 2 suggests that the high voting age in Italy, 25, has led to governments favouring the elderly and has placed burdens on the young; it implies that this is responsible for Italy’s poor economic record in comparison with other European countries. However, it would be foolish to generalise from one example. Indeed, this line of reasoning itself exaggerates cause and effect – lowering the voting age is not likely to solve all of Italy’s problems. Indeed, the high voting age seems only to be for one house – one could argue that raising the voting age for the other house would solve all Italy’s problems. Doc 2 further undermines its own case by comparing Italy to Estonia, presumably Estonia has been picked to exaggerate the scale of Italy’s debt but the comparison is meaningless unless Estonia is otherwise very similar to Italy in terms of economy, geography, political system etc. The usefulness of Doc 2 is further undermined by the rather obvious fact that nobody is suggesting raising the voting age as high as 25.

Doc 3 mostly supports a lowering of the voting age but comments on a blog are notoriously unreliable. JM claims that there is a downward trend in voting age and therefore it is inevitable that the age will be lowered. This appeal to tradition is not supported by any valid reason and is contradicted by the even weaker appeal to consistency from AS who quotes only 4 countries, in one of which 16-year-olds cannot vote in general elections.

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The counter-position which political parties seem most concerned about is that of public engagement with politics. This is hinted at by CG in Doc 3 and admitted in Doc 4. However, Doc 4 claims that lowering the voting age would reduce the percentage of the electorate who vote. This is supported by the graph in Doc 5 which suggests that percentage turnout increases with age. If this trend was continued to 16, the overall percentage of non-voters would increase. If parties are really worried about turnout, this graph would suggest the higher the age the better.

Without a vote many hard-working, tax-paying people in their late teens might begin to feel disenfranchised. This need not be the case. Their views could still be heard. The example of the youth parliament, mentioned in Doc 1, could be developed to formally canvass the views of young people. The fact that Doc 1 generalises from a negative example does not mean that the idea is a bad one. It would be foolish of any political party to dismiss the views of the under-21s entirely as they would soon become the responsible, informed and experienced electorate of the future.

### *Challenge (809 words)*

The ages of sixteen, seventeen and eighteen are big landmarks. It varies from country to country but, considering Documents 1, 3 and 4, it seems that 16-year-olds in various states and sovereign countries throughout the world can drink alcohol, get married, pay taxes, drive cars and join the armed forces. It is certainly true that 18-year-olds can do this almost universally. All these things are aspects of life in the societies in which we live that are considered appropriate for adults but inappropriate for children. It seems logical then, that the cornerstone on which that adult society is based – democracy – should be extended to a similar demographic. The age at which people are allowed to vote in elections should not be 21, as, in most cases, this would represent a rise and therefore a removal of adult rights.

Imagine the injustice of an 18-year-old, recently married with a pregnant wife, being sent to some war zone on the other side of the world by a government he is not allowed to vote for. Late teenagers live in the same society as everyone else so should have an equal say in how it is run.

One could ask, “Where will it all end? Will we have 11-year-olds voting?”, but most countries have an age at which citizens are legally regarded as adults and most of these occur in the late teens. One has to draw the line somewhere.

Doc 2 supports a lowering of the voting age. Italy is a large and important country in Europe but has massive youth unemployment and public debt and a struggling economy. It has the 5<sup>th</sup> highest public debt, presumably in Europe although the document is not clear, and the author argues strongly that this is likely due to the unusually high voting age. The voting age is different for the two houses of the Italian parliament and the make-up of these two houses seems to reflect this voting age difference. It can be inferred therefore that age does make a difference to who gets elected. If finance laws in Italy seem to favour the older generation, it follows that lowering the voting age will produce a fairer distribution of wealth across the age range.

History is on the side of votes at an age below 21. In the past there were few democracies. Over time the extent of democracy in the world has increased. As countries became democratic in the past they often offered the vote only to men, or only to landowners and taxpayers – this is corroborated by Doc 3. Gradually, votes were extended to certain women and all men above a certain age. Gradually those ages have been coming down – from 30 to 21 to 18 for women in Britain, according to JM in Doc 3. The trend of progress seems to favour lower voting ages and the reference in Doc 3 to some countries allowing votes at 16 is consistent with the UK’s electoral commission considering votes at 16, mentioned in Doc 4.



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Germany has a similarly well-developed society and economy to most of the major successful countries in the western world. Within that group of countries Germany is, by many measures, the most successful. Germany is one of those countries in which 16-year-olds are trusted to influence the outcome of important state elections.

Docs 1 and 4 argue against a lowering of the voting age. Document 1 treats voting age as an irrelevance but when it is discussed it descends into generalisation and contradicts the main thrust of Trib's argument anyway. Doc 4 argues more strongly against lowering the voting age to 16 but does not state that it should be as high as 21. The author's suggestion of 25, although not really meant to be taken seriously, is indicative of a general attitude among older people: "Maybe people younger than me should not get to vote, but I certainly should". A great many 18-year-olds could say the same thing.

The main argument of Doc 1 is against the use of age as a criterion for voter selection at all but the alternative it suggests, a questionnaire, would create more problems than it solves. The opportunity for legal challenge to such a scheme, and the associated public costs, would be enormous. Who would agree the questions? Would they change every year? If so, how would comparability between years be ensured? These are just some of the questions one could ask of such a scheme. An age-based system is the *status quo* and there are always fewer problems associated with retaining an existing system than implementing a new one.

Decisions taken in elections now, such as how to cope with increasing population and climate change, will affect young people much more than those in their 60s. For that reason alone, the voices of under-21s need to be heard.