



RAFFLES INSTITUTION  
2021 Year 6 Preliminary Examination  
Higher 2

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## Knowledge and Inquiry

**9759/02**

Paper 2

**21 September 2021**

**2 hours**

Additional Materials: Answer Booklet

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### READ THESE INSTRUCTIONS FIRST

Do not turn this sheet over until you are told to do so.  
Write your name and CT group on all the work you hand in.  
Write in dark blue or black ink.  
Do not use staples, paper clips, highlighters, glue or correction fluid/tape.  
Start each section on a fresh sheet of paper.

#### Section A

Answer **Question 1**.

#### Section B

Answer any **two** questions.

Begin each response on a new page.

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

## 2 Section A

You **must** answer question one.

- 1 Many people think that experimentation is the best way of gaining knowledge of the world because of the success of science in the past two centuries. Don't get me wrong: I love science and where it has brought us. Without it, we would not have magnificent architecture, advanced technology or even the hope of getting to the moon. But the success of science aside, experimentation cannot tell us everything about how everything works.

Practically speaking, experimentation is not always possible. We cannot move a planet or change the conditions of a planetary system just to isolate a variable in order to test some hypothesis we have about the universe. We cannot tell people to abort more babies just to see if an increase in abortion rate leads to a decrease in crime rate. That would not only be unethical but impossible to control. Similarly, we cannot go back in time to find out if it was the shame and persecution Germany underwent post-WWI that started Hitler on a warpath as opposed to his rejection from the Academy of Fine Arts Vienna, in a bid to fulfill his dream to be a painter.

In fact, even if experimentation were possible, it is not the best way to justify knowledge. The artificiality of experiments done in a laboratory vitiates any possibility of generalizability beyond the confines of the laboratory, especially with regard to claims in social science. The results of our experiments also cannot objectively determine our theory choice. Take for example the phenomenon of rain. Science tells us that rain occurs when there is a sufficient build-up of moisture in the air, but an Amazonian tribe could easily point to a rain dance shaman holding the belief that his dance convinced the rain gods to release rain. There just is no way to determine between these theories because they are empirically equivalent. To make matters worse, we can never falsify enough hypotheses to claim that we are getting closer to the truth.

Similarly, no amount of experimentation can prove that the sum of the angles in a triangle is 180 degrees, that  $1+1=2$ , or tell us what we ought to do in life. Smoking is bad for our health, but it is not always clear that we should avoid things that are bad for our health. Going to war is clearly hazardous but could well be the just thing to do. Reasoning our way around problems can help us find answers and is an equally valid, if not superior, way of justifying knowledge.

Furthermore, we do not need experiments to tell us what we have already known all along: centuries of everyday wisdom have told us that the over-consumption of fat is unhealthy long before any scientist came along to 'prove' that. If you ate fried chicken every day for a year, you wouldn't really need a scientist to tell you that you put on weight or will face serious health issues in the future.

So far, we have been operating on the assumption that our senses are not being deceived by an evil demon, which could entirely be possible. If true, then experimentation becomes clearly inferior to others forms of justification like common sense and intuition, since experimentation necessarily involves empirical observation. It is common sense to know that every even integer is the sum of two prime numbers – we know this to be true even if it remains unproven. And, frankly, who cares if it remains unproven? As Stephen Jay Gould said, "We live with poets and politicians, preachers and philosophers. All have their ways of knowing, and all are valid in their proper domains. The world is too complex and interesting for one way to hold all the answers."

*Critically evaluate the above argument with reference to the role of experimentation in the construction of knowledge. Respond with your own critical comments to support or challenge the author's position.*

[30]

**3**  
**Section B**

Answer any **two** questions.

- 2** Humans have eaten meat for centuries, but that tide is changing. Millions of people in wealthier countries are already cutting back on animal products, since it is the healthier and more sustainable way to go. People who consume enormous amounts of red meat suffer more severe diseases and health complications than those who do not.

Morally speaking, it is simply wrong and cruel to subject animals to the living hell that is factory farming – where animals are stuffed in a small, confined space that causes painful physiological and psychological problems – and take their lives just so we can enjoy fresh meat. Animals have rights too. Also, if we live by an ethics that states that we should avoid causing suffering or death if it can be avoided, veganism very much falls in line. The reason why veganism can *seem* unusual is that we are not accustomed to examining these topics, and the impact of our choices are hidden and distant from us.

There are also environmental arguments for veganism. It is well known that livestock farming is one of the biggest contributors to global warming, since the methane that livestock produce severely impacts the ozone layer. Land is also being cleared at a rapid rate to allow more room for livestock farming, but this results in biodiversity loss, and air and water pollution. Throw in free-range farming, and animal agriculture becomes very hard to defend. If we are truly genuine about conserving the planet for future generations and campaign for reduced carbon emissions across the globe, we should be consistent and switch to a vegan diet.

Lastly, the affordability of food is an issue of social justice. Not only does meat cost many times more than tubers, beans, and leafy greens, it is also a symbol of the rich and powerful who flaunt their wealth by ordering buffet spreads of meat only to be unable to consume them all. It is a blatant waste of food and a massive injustice in the face of the many poor, starving, and homeless people around us.

*Critically assess the reasoning in this argument, explaining why you do or do not accept its conclusion(s).*  
[15]

- 3** The current depressive economy has cast the spotlight on pre-school education in America, as the country is widely divided on the pros and cons of implementing universal pre-school education in every state. Doing so will set the government back by at least \$75 billion. Some claim that this is money worth investing, since it means that more children would have access to high quality education right from the get-go. Children who come from disadvantaged backgrounds, such as those who learn English as a second language or who come from lower income families, can receive the same kindergarten readiness as other children from wealthier families. Getting children together in a structured learning environment can also create more opportunities for children to appreciate each other's uniqueness and learn empathy and inclusion.

But if the argument for universal pre-school education stems from mitigating the effects of inequality, then we should address inequality instead, and channel the billions of dollars to actually helping those from less fortunate backgrounds. Besides, pre-school is over-rated. All children under the age of 7 do not need to be taught how to play or interact with others, and are naturally racially blind, hence there is no need to teach them to be extra nice to people of a different skin colour. Children might need to learn multiplication tables, but parents can easily teach them that at home, or employ technology to help them. The worst thing about implementing state-sanctioned pre-school education is that it takes the parent out of the equation, since it encourages parents to be less involved in their child's development – both in the academic and non-academic realms. If parents are so uninvolved in their child's life from such a young age, what will become of their children when they become teenagers?

*Critically assess the reasoning in this argument, explaining why you do or do not accept its conclusion(s).*  
[15]

- 4 Some say that conscription allows for a reliable batch of new recruits in an uncertain geopolitical environment, especially since there can only be an expectation to defend one's country if there are enough trained soldiers. But why bother putting your chips in with conscription if you are not preparing for war? Any sane person can acknowledge that the likelihood of mass invasion and total war is off the table, especially in the 21<sup>st</sup> Century. So, what are we afraid of? Besides, you should not be forced to take orders from some vulgarity-spewing officer who wants you to shoot at the foreigner you have no quarrel with. People should have the freedom to decide whether they want to take up arms in the first place. In a democratic country, forcing citizens to do what the government wants is involuntary servitude. Coercion also has more damaging consequences than just a violation of free will; it creates resentment and bitterness. The major wars of the past, such as the Vietnam War and the Falklands War, show us the type of demoralisation and psychological damage that comes with a draft.

Beyond coercion, conscription is a fear-mongering tactic employed by those in power. Some argue that conscription is the great equaliser, since children of vastly different social and economic status can end up fighting side by side. Politicians voting for war would finally have some skin in the game since whatever they decide would also affect their children. However, the repeated replaying of the narrative that we are under constant threat merely awards more power to those already in authority. It is well known that children of the affluent will never make it to the front lines; their officers know better than to incur the wrath of the rich and famous. Instead of conscription, governments should channel a large part of the huge military budget to providing their citizens with necessities such as healthcare, housing and food.

*Critically assess the reasoning in this argument, explaining why you do or do not accept its conclusion(s).*  
[15]

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**END OF PAPER**