IB THEORY OF KNOWLEDGE MAY 2014

Unpacking the Essay Questions

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It is important to stress that this document is my personal exploration of possible interpretations and approaches…….My notes are NOT essay plans! ToK essay questions can be approached in many ways and as long as the explorations and approaches are rigorous several interpretations may be equally valid. For each question four possible KIs are identified but many more could be valid; a question format has been used:

As the *Instructions to Candidates* emphasises, your focus must be on *Knowledge Issues.* Where appropriate you should refer to other parts of your IB programme and your experiences as a knower. Always justify your statements and provide relevant examples to illustrate your arguments. Address the implications of your arguments and consider any counter-arguments.

1. Ethical judgements limit the methods available in the production of knowledge in both the arts and the natural sciences. Discuss.

Possible knowledge issues:

- To what extent do ethical judgements vary according to differing philosophical principles?
- How are ethical judgements influenced by the Ways of Knowing?
- Should ethical judgements be the responsibility of those who use knowledge rather than those who produce it?
- In the process of challenging our perceptions, should artists have the freedom to ignore considerations?
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Possible content:

The alternative philosophical viewpoints behind ethical judgements should be considered, e.g.: Moral Reasoning; Moral Relativism; Self-interest Theory; Duty Ethics (Kant); Utilitarianism.

The roles of the WoKs in our ethical judgements need to be examined, especially *reason* and *emotion.* Reasoning often fails to produce a clear way forward and in the last resort we often fall back upon intuition (currently part of the emotion WoK in IB). Reference to ethical methods issues from your IB courses or your personal experiences would be beneficial here linked to philosophical ethical viewpoints.

The nature of the scientific method used by natural scientists needs to be explored with some examples of methods which have created ethical issues, both historical and present, e.g.: in the past scientists exploring how the body worked, in the hope of developing cures to illnesses, were often legally prevented from dissecting corpses and resorted to bodies supplied by grave robbers; the using of animal or human 'guinea pigs' to test the safety of medicines and cosmetics; the field testing of new GM crops; the use of 'fracking' to explore and develop new oil and gas reserves; research into the medical or energy uses of nuclear power which could also lead to further development of nuclear weapons; disturbing natural environments in the process of developing knowledge about the workings of their ecosystems. A scientist with Moral Relativist leanings might argue that there are no universal values and so ethical judgements should not limit methods. A scientist believing in Duty Ethics would be more likely to agree that he/she has moral obligations to make ethical judgments about the acceptability of methods.

Through imitation, communication and education, art aims to broaden our knowledge of the world, develop our empathy and challenge our perceptions. This has sometimes resulted in methods which have raised ethical judgements and in some cases have been banned or limited by governments and public opinion. Historically in the UK the Lord Chamberlain's Office censored the theatre; also in the U.K., until the Lady Chatterley's Lover controversy, literature was censored. Today there are still ethical discussions in the arts, e.g.: Damien Hurst's dead animal dissections 'pickled' in formaldehyde; Gunther von Hagens plasticised human body art exploring the effects of ageing and disease on humans. Also the issue of pornography in the arts and its acceptability is a constantly being addressed by the media and politicians.

In this essay you would need to develop your knower's perspective by presenting examples from your IB courses and your own experiences which explore argument and counter-argument. The influences of WoKs, especially reason and emotion, should be considered here. You would need to discuss the pros and cons of methods available in the production of knowledge being limited by law or public opinion. As this is a discussion essay you must come to your own justified opinions.

2. 'When the only tool you have is a hammer, all problems begin to resemble nails' (Abraham Maslow). How might this apply to ways of knowing, as tools, in the pursuit of knowledge?

The quote (there are a number of versions) is attributed to the behavioural scientist, Maslow, in the 1960s. The implication of the statement is that if you only have one ability or mind set you try to apply it to every situation, even if that situation calls for a different ability or mind set. Often people will find a method of solving problems and then insist on applying that solution to every other problem they encounter, even if it is totally unrelated. Maslow referred to the 'Law of the instrument' in which people and organisations often develop an over-reliance on one tool……e.g. the Birmingham screwdriver!

Possible knowledge issues:

- To what extent is the pursuit of knowledge dependent on solving problems?
- Can reliable knowledge only be obtained through the use of several WoKs?
- Does the IB's ToK focus on four WoKs limit the pursuit of knowledge?
- Is the choice of a suitable WoK/s fundamental to the accurate pursuit of knowledge?
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Possible content:

This question asks you to consider whether we are in danger of falsely exploring our development of knowledge by focusing on the role/s of one or more of the four WoKs. For a start the four WoKs in your IB course are ones arbitrarily prioritised by the people who wrote the specifications. There was no intention to limit thinking to 4 WoKs and there has been criticism of how these four WoKs may give students a distorted image of the development of knowledge. The new specifications the current Year 12 are embarking on (for examination in 2015) now identify eight WoKs; the current four plus: intuition; faith; memory and imagination. Even these 8 are a limitation; arguably there are many more!

You need to consider the statement in relation to two or three contrasting Areas of Knowledge, e.g. the natural sciences, history and the arts. In the natural sciences we tend to emphasise the roles of sense perception and reason as the key WoKs. In the arts we usually emphasise the roles of language and emotion. In history we often focus on language and reason.

However a lot of scientific knowledge may advance due to the emotional involvement of the scientist/s. In the interpretation of art we may use reasoning. The emotional bias of historians may be beneficial or damaging in the pursuit of knowledge. If we consider the

new IB WoKs: scientists may make big breakthroughs due to intuition; artists may use imagination to challenge our interpretations; memory may be very important in the development of historical knowledge, especially when using primary sources.

You need to develop your Knower's Perspective by exploring examples from your IB courses and your own experiences, which support or challenge the simplistic use of the four IB WoKs. An issue to consider is that the pursuit of knowledge is much more than solving problems, e.g.: the study of processes; the understanding of human behaviour; the identification of patterns. In trying to solve problems we might focus on the 'hammer, of one WoK but in the wider pursuit of knowledge we are likely to use groups of WoKs.

3. 'Knowledge is nothing more than the systematic organisation of facts'. Discuss this statement in relation to two areas of knowledge.

Possible knowledge issues:

- Is knowledge more than just a collection of facts?
- Can we only accept knowledge claims based on factual evidence?
- Is knowledge primarily the organisation of facts for a specific purpose?
- To what extent is knowledge subjective, dependent on the personal use of WoKs?
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Possible content:

Initially the nature of knowledge should be considered. It is generally accepted that there is a difference between knowledge and information. Although many subjects involve a lot of classification of factual information, e.g. plant species in biology, genuine knowledge is a lot more than just a heap of facts; it means being able to understand interrelationships, implications and utility. When studying an AoK we do not just learn facts but also background assumptions, theories and ideas, which help us to make personal sense of the facts, often through the WoKs of emotion and perception.

There are also important issues concerning knowledge and truth as a generally accepted definition is that knowledge is true belief. An *analytic* proposition is one that is true by definition; a *synthetic* proposition is any proposition that is not analytic. The link to experience is also important: a proposition knowable *a priori* is known to be true independent of experience; a *posteriori* proposition is one that cannot be known to be true independent of experience. There are important links to WoKs here and you could refer to suitable examples from your IB courses or you own experiences.

The two AoKs chosen should be contrasting, e.g.: mathematics or natural sciences as being seen as very factual; the arts or history as these are seen as being more a matter of personal interpretation. Mathematics is often seen as the science of rigorous proof; certainty in a world of doubt with every rational person arriving at the same conclusion. Mathematicians identify axioms and through deductive reasoning develop theorems. However, as Godel showed maths. can never be proved to be free from contradictions and therefore lacks complete certainty. A major historical debate has been whether maths. is empiric or analytic: the former implies it is generalisations based on a vast number of experiences; the latter that maths. calculations are true by definition. It is now generally accepted that when maths. is applied to the real world we have a choice of axioms and we can only find what is most useful by testing them against reality. Many subjects have gone through phases where there is a belief that to quantify issues gives us the best tool for making sense of reality but this has been increasingly questioned.

The contribution the arts have made to the development of human knowledge is far beyond factual information. The arts challenge our view of the world through developing our sense perception and emotion. Art imitates and influences the way we perceive the world, drawing our attention to possibly previously unnoticed features of reality. The arts communicate by developing 'languages ' to enable interpretation. Art educates and challenges our moral interpretations and in doing so influences our behaviour. The classic Plato versus Aristotle debate shows how art is much more than just information. Plato argued that art is bad as it appeals to emotion and weakens our ability to be rational. Aristotle saw art as positive, cleansing our emotions (catharsis) and enabling us to think more clearly and rationally. This debate still continues, e.g. over the influence of violence on TV and in films.

In answering this question you would need to use suitable examples from your IB courses and your own experiences to explore arguments and counter arguments in relation to the title. We tend to extend our knowledge by revisiting ideas and facts which means that our understanding develops over time with the benefit of experience. We tend to go through levels of knowledge: superficial grasp; good understanding; complete mastery. This is according to interest and need and the superficial stage may simply be the organising of facts. Much of our personal move beyond the superficial stage will involve using perception and emotion as WoKs.

Knowledge must therefore be seen as a personal process which continues to evolve. It cannot be separated from what we personally accept as truth. To know something we must believe it to be true; total certainty is rarely possible but we tend to be happy with our level of knowledge if we perceive something as being beyond reasonable doubt. Therefore knowledge is part of our personal beliefs justified through the WoKs.

4. 'That which is accepted as knowledge today is sometimes discarded tomorrow'. Consider the knowledge issues raised by this statement in two areas of knowledge.

Possible knowledge issues:

- To what extent does academic research produce a high degree of certainty in the knowledge produced?
- Is knowledge subject to being discarded because a lot of it is based on personal perception and emotion?
- To what extent is knowledge often amended / discarded due to changing social attitudes and political correctness?
- What types of knowledge may be lost / discarded over time?
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Possible content:

The choice of two contrasting AoKs is important here. It is a good idea to take one in which facts and theories appear to have a high level of certainty, e.g. the natural sciences, and the other where there are regularly changing interpretations, e.g. history.

The scientific method supposedly produces knowledge which is thoroughly tested and generally regarded as accurate and does not change. The process of experimentation, observation, identifying laws and establishing theories is an international approach continually challenged through falsification. However the reliability is far less than most people realise due to a wide range of problems. Hypothesis setting may be distorted through incorrect assumptions. Observations may be distorted by expectations and the observer effect. The interpretation of results may be incorrect due to complex statistics or confirmation bias. The identification of laws may be distorted through the problem of inductive reasoning; the results of a particular experiment put into the general context of the real world (moving from the observed to the unobserved). All these problems result in scientific knowledge continually changing and some being discarded.

Kuhn's proposition that science advances through two processes is very relevant to the exam question. He argued that science usually progresses through scientists improving on and refining knowledge within accepted paradigms. However occasionally, usually after heated debate within scientific circles and often huge public resistance, paradigms are changed or completely thrown out. Examples of this 'paradigm shift' are Darwin's evolutionary challenge to creationism and Einstein's challenge to Newtonian physics.

It is clear therefore that the statement is very relevant to science and knowledge issues like the scientific ones set out above need to be explored using examples from your IB courses and personal experiences. An interesting aspect of the statement in relation to science is the issue of pseudo sciences. There is a whole range of these, e.g. homeopathy; acupuncture; astrology. These have a vagueness and cannot be proven to have a high degree of certainty through the scientific method but their popularity and acceptability varies over time. The pseudo sciences highlight the issue that reason may be less important in the sciences than we think; we must not underestimate the importance of emotion in the acceptance of scientific ideas.

Regarding history, there are many reasons why knowledge may be discarded. History is the present interpretation of traces of the past and therefore subject to changing perceptions. There are many ways in which these interpretations may be incorrect or biased. The primary sources of evidence used may be subject to incorrect observation at the time, distorted by the social / political attitudes prevailing or even direct manipulation. Historians may be faced with too little information or too much. They have to decide the significance of events and which sources to use; these may be distorted by the historian's own subjectivity, e.g.: confirmation bias; his/her national / cultural / religious bias. However one of the main reasons for historical knowledge being amended or discarded is that social attitudes and political correctness change over time. The significance of historical events may change and how these are perceived. For example, 100 years ago the empire featured strongly in British historical writing and education with mainly very positive interpretations; today the loss of empire and anti-imperial thinking has relegated imperial history to a relatively minor area of study with often very negative interpretations. If using history as one of your AoKs you would need to explore examples of where events and / or interpretations have been discarded.

Clearly the statement raises important knowledge issues about the uncertainty of research findings and the subjective influence of personal perception and emotion, which may result in knowledge being discarded. However a knowledge issue relevant to both science and history is: to what extent is knowledge often amended / discarded due changing social attitudes and political correctness? This is a very significant knowledge issue and it leads into another very one: what types of knowledge may be lost or discarded over time? This may include languages, skills, religious views; scientific interpretations and historical events. The reasons are primarily that the knowledge is no longer practically useful or may have become politically unacceptable to the ruling elite.

5. 'The historians task is to understand the past; the human scientist, by contrast, is looking to change the future'. To what extent is this true in these areas of knowledge?

Possible knowledge issues:

- Can past events be fully understood and the knowledge obtained be used to change future ones?
- Can human science laws and theories be effectively used to predict and change the future?
- As the future is subject to unknown and chance factors is it possible to change it?
- Is the real benefit of academic research simply to improve the judgement of decision makers?
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Possible content:

Historians do claim that study of history is essential to understanding the modern world and therefore vital for future decision making. They claim that unless people understand the historical background to events and issues they cannot make effective decisions for the future, e.g.: the Middle East conflicts; Northern Ireland; the tension between India and Pakistan; Communism versus Capitalism; whether the UK should withdraw from the E.U.; the Scottish independence referendum. Can historians move beyond the argument that knowledge of the background to events is important and argue that historical knowledge can predict future events and therefore be used to change the future?

Many people would argue that as history is the present interpretation of traces of the past it is subject to changing perceptions which means it cannot be predictive. There are many ways in which historical interpretations may be incorrect or biased. The primary sources of evidence used may be subject to incorrect observation at the time, distorted by the social / political attitudes prevailing or even direct manipulation. Historians may be faced with too little information or too much. They have to decide the significance of events and which sources to use; these may be distorted by the historian's own subjectivity, e.g.: confirmation bias; his/her national / cultural / religious bias. Also even if historians have got their interpretations correct there is the important consideration that chance may be the most important reason events happened in the past and will happen in the future.

If you were answering this question you would need to explore the extent to which past events have been fully understood and may have predicted ones that followed. For example the artificial splitting of Ireland in the 1920s or the arbitrary creation of Israel in 1948 could arguably have been predicted to lead to future conflict encouraging political action to change the future……i.e. to try to prevent the conflict!

Are human scientists looking to change the future? Certainly in the past human scientists have fallen into the trap of developing predictive laws and theories. However as the human sciences rarely research in the laboratory there may inevitable be many weaknesses in their research, e.g: it is difficult to set up controlled conditions; questionnaires may have loaded questions; the observer effect may change questionnaire responses; measurements may be difficult and subject to statistical errors.

The predictive record of the human sciences has been poor and public opinion has drifted into seeing them as 'soft sciences', rather than the more reliable 'harder' natural sciences. In many human sciences predictive models have been developed, e.g. Geography with urban change, but today these are widely seen as so simplistic that they have little predictive use to assist planning decisions. Sometimes the models produced are so conflicting that they confuse future planning; a good example is demography where researchers have failed to come close to agreement about trends in world population growth during the next 50 years. Even once highly regarded model builders, such as Economists, have been much derided in recent years, e.g: the Phillips Curve disaster of the 1960s and 70s which wrongly predicted higher inflation would be beneficial in reducing unemployment; the economic chaos since the financial collapses of 2008 and the Eurozone crisis.

Much modern human science research has therefore moved away from predictive laws and theories. The focus is much more upon identifying and understanding trends in specific situations. Decision makers will hopefully find these useful in assisting their planning but with the realisation that their situation may be different from the one where the research was carried out. A popular research method to identify trends is for the researchers to put themselves into the situation being researched to try to experience it from the position of the people involved (.the Verstehen position).

If answering this question you would need to consider the predictive accuracy of human science research you have come across in your IB courses and its value in changing the future. It could be argued that the value of both history and human science research in decision making to alter the future is very similar. By studying the research decision makers will arguably widen their perceptions and improve their understanding and so be able to make better judgements and decisions which alter the future for the better.

6. A skeptic is one who is willing to question any knowledge claim, asking for clarity in definition, consistency in logic and adequacy of evidence'. (adapted from Paul Kurtz, 1994). Evaluate this approach in two areas of knowledge.

Possible knowledge issues:

- Can a knowledge claim ever be beyond reasonable challenge?
- Is the sceptic position tenable given that no knowledge can be totally certain?
- Is the sceptic position more tenable in some AoKs than others?
- Is the statement only really relevant when using reason in the pursuit of knowledge?
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Possible content:

A person must believe something to be true if they are to accept it as knowledge ……*justified true belief!* For example the BBC traditionally require two independent sources before reporting 'truths'. However, there are two schools of scepticism: those who argue that we can never really know; those who accept that although complete certainty is impossible we have to jump on one interpretation to be able to make decisions.

This question focuses on the WoKs as applied to two AoKs. The sceptic statement focuses on reason as a WoK and so an approach to answering this question would be to take an AoK where reason is very important, e.g. mathematics or the natural sciences, and one where other WoKs may be very relevant, e.g. the arts, ethics or religion. Another possible approach might be to compare the statement across the natural and human sciences, where people are often a lot more sceptical of the latter. In this document I will take the first approach.

Mathematics and the natural sciences have a high status in public opinion because they are seen to be very stringent in their methods and accurate in their theories, leaving less room for sceptics than in other AoKs. Both focus on reasoning and perception and follow rigid analytical processes: maths. goes from axioms through deductive reasoning (proofs) to conjectures and theorems; natural sciences use the scientific method of assumptions, experimentation, observation, interpretation of results, laws and theories.

However there is room to be sceptical of maths. and natural science research. In maths. there is the continual debate over whether the subject is empirical generalisations, based on a vast number of experiences, or analytic, simply unpacking the truths already there. As Godel showed, it is impossible to prove that a formal maths. system is free from contradiction.

The scientific method supposedly produces knowledge which is thoroughly tested and generally regarded as accurate and does not change. The process of experimentation, observation, identifying laws and establishing theories is an international approach continually challenged through falsification. However the reliability is far less than most people realise due to a wide range of problems. Hypothesis setting may be distorted through incorrect assumptions. Observations may be distorted by expectations and the observer effect. The interpretation of results may be incorrect due to complex statistics or confirmation bias. The applicability of laws may be distorted through the problem of inductive reasoning; the results of a particular experiment put into the general context of the real world (moving from the observed to the unobserved).

If you were answering this question you would need to have examples of where maths. or natural science theories may be very certain and others we can be sceptical about. You should also refer to the important roles of language and emotion as Woks within these two subjects, which may arguably increase the degree of scepticism.

In the arts, religion and ethics, reasoning is important but the roles of other WoKs are arguably a lot more significant. In the arts emotion and sense perception are vital but the use of languages is also important. Artistic judgement involves the intentions of the artist, the quality of the work, the response of spectators. Personal perception and emotion are important here but there is an objectivity resulting from understanding the language of the medium.

Most religions allow no room for scepticism; they demand belief in fundamental truths. Emotion, belief and faith are the basis for arguments for the existence of God, such as religious experience and the design of nature. However there is much use of reason in religious argument, e.g.: Pascal's Wager where through rational thought he argued that a rational gambler would bet on the existence of God. The IB have recognised the importance of faith by making it one of the eight WoKs in the new specifications.

In ethics there are many well reasoned standpoints, e.g.: moral relativism, self-interest theory; duty ethics; utilitarianism. However which one you support basically comes back to your moral thinking based on emotion and perception from your own experiences.

If you were answering this question you would need to explore examples from your IB courses and your own experiences of where scepticism in one of these three subjects is more or less relevant. It needs to be stressed that IB's current narrow use of four WoKs probably strengthens the sceptical case. The widening to eight WoKs in the new specifications undermines the sceptic's requirements for clarity in definition, consistency in logic and adequacy of evidence. In the last resort the acceptability of knowledge is individual to the knower, e.g. Descartes famous statement regarding the only thing he was certain of: 'I think, therefore I am'!