UNIVERSITY OF MALTA

THE MATRICULATION CERTIFICATE EXAMINATION
INTERMEDIATE LEVEL

SYSTEMS OF KNOWLEDGE

May 2009

EXAMINERS' REPORT

MATRICULATION AND SECONDARY EDUCATION
CERTIFICATE EXAMINATIONS BOARD

IM SYSTEMS OF KNOWLEDGE
MAY 2009 SESSION
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Part A

Statistical Information

Table 1: Number of students (2009)

Male	Female	Total
994	1458	2452

Table 2: Results by Subject and Gender (2009)

Subjects	A	B	C	D	E	F	Abs	Total
SOK	56	418	1264	246	30	429	9	2452
% of total	2.28	17.05	51.55	10.03	1.22	17.50	0.37	100.00
Females	31	253	780	139	16	234	5	1458
Males	25	165	484	107	14	195	4	994

General Comments

The examination paper was divided into four sections, with two questions in each section. Questions were set in both the Maltese and English language. Most students prefer to answer in the English language. The opinion of the chairperson is that students' knowledge tends to be of a general nature, and they find it difficult to engage deeply with the set questions.

Part B

Examiner's Reports.

The SOK papers are corrected by a number of examiners. Examiners for each section are asked to write a report on their respective sections. The following are their comments:

Section A

Section A offered a choice between discussing the concept of democracy (Q1) and the concept of citizenship (Q2). There was no marked preference for any one of these questions. The students who opted for question 1 may be categorised in two groups. One group showed that they had studied the literature prescribed for their course and presented the general outline of democracy such as freedom of speech, of movement, of religious belief and universal suffrage. They did not really discuss but stated the usual defining features of democracy. The other group went further than the first by offering a discussion of options and alternatives to those stated in the question although they concluded their piece with their firm support for a democratic way of life. From the four criteria laid down by the examiners for marking scripts the first and fourth were generally followed fairly well. The second and third proved more difficult and demanding.

The second question focused on citizenship. Most of the students who chose this question did well in the first of the four criteria. However the fine difference in emphasis presented by the three definitions escaped a large number of students. The third and fourth were easier it seems than the second. It is important that students familiarise themselves with the difference between being a citizen of a state and being one of a democratic state.

Section B

Many essays show evidence of 'model' answers that supposedly fit all sorts of questions. Some candidates simply presented a summary 'history of art', regardless of the specific nature of the question. This was especially the case with many candidates who answered question B2, and also, to a slightly lesser extent, those who answered B1. Some candidates picked on a single word or phrase in the question, such as the brief reference to perspective or the word 'aesthetically' in B1, and developed their essays around these terms, almost ignoring more central ideas in the questions. Other problems encountered are the absence of examples of works of art (required in both questions) and incorrect historical details related to specific artists or periods in the history of art. On the other hand, essays that obtained good grades gave several relevant examples, showed evidence of a good knowledge of history and artistic influences and, more importantly, were able to relate this knowledge to a strong, well-structured argument about either the 'content of the work of art' in B1 or 'creativity' in B2.

The following criteria were used in correcting this section of the paper:

- Both questions require some knowledge of the history of art as well as argumentative and critical skills.

- Candidates answering either of the questions are expected to illustrate their arguments by referring to works of art. Specific works of art are not mentioned in the titles; hence, candidates are free to refer to different examples of their own choice as long as these examples are relevant to the arguments being made in the question.

- In question B1, candidates should also show that they have developed some skills in artistic appreciation (understanding the relationship between content and formal qualities of a work of art) and an ability to compare different approaches to the making of art in different historical periods.

- Comparative abilities are also central to question B2; here, candidates also need to be able to discuss the value of creativity and innovation in art in different historical periods.

Section C

As in previous years the examiners expected a general performance which everyone learns through his earlier education and when writing one's thoughts in an examination one is always expected to follow the rules which are summarised as follows.

- The work was to be coherent and focused on the subject in question and written in enough length that enables the projection of a good presentation including introduction, the expansion on the subject and conclusions in a natural and a sequential manner.
- All contributions were to contain logic and clarity on issues raised by the question and not what the student read in the teacher's notes.

- One should have argued issues giving relevant examples and not make general superficial statements that pad and act as fillers substitutes with no real substance on the relevant subject.
- While Systems of Knowledge subject is not a language examination, it was expected and imperative to be concise and precise in language format and the unwritten laws and traditional regulations of planning, neatness and cleanliness.
- Students were expected to suggest personal and own insightful analysis and not a modified regurgitation of the teacher's short notes.
- This year the highest marks were awarded to those who suggested appropriately their own relations between science and values.
- Also any advantages and disadvantages and consequences that arise without the use of values and ethics in the application of science and technology.

It is so unfortunate that many students did not fill the front page of the answer scripts as required, with many students failing to write on the front page what questions they attempted. Most of those who did, cramped their indication of the answered questions, in such a small zone, when they had a whole width of a page to separate the letters relevant to the question, thus giving room for the examiner to include the marks underneath the relevant letter describing the question.

Many students did not separate one question from another, and proceeded to the next question, on the same page, almost immediately after finishing the question. It is imperative that student acknowledge the importance that new answers should be commenced on new pages, with the description of the question clearly identified, for quick recognition by the examiner. There were many students who did not identify, nor describe the question and the examiner had to assess and presume which answer the student was attempting.

While no one is to stipulate how long and how much the student should write in his answer, it is expected for the student to write enough such that the whole contribution should project the ability of selling himself/herself to the examiner in a harmonious manner without the examiner having to look hard between the words of a short paragraph to try and increase a mark or two. A short letter to a friend necessitates one format, a letter applying for a working post, necessitates another format, a laboratory report needs its own special contents and a narration how one enjoyed his holiday, follows another path. Answering a question to show one's calibre and performance and depicting and illustrating abilities in style of writing should be a self judgement issue by each student.

Many students should improve the clarity of their handwriting so the examiner would be able to decipher and recognise all the written work before him.

Many students tended to regurgitate what they were told in class IRRESPECTIVE OF THE CONTENTS OF THE QUESTION.

Many students for some untidy reason insist on underlying the words in their sentences making the scenario very unclean.

The examiners were rather disappointed to see so many students writing the definitions they heard in class, rather than giving a personal insightful analysis of what the question asked for. Many students seem to hold on to the security found in the teachers' notes not being able to discuss the subject in their own words.

This year we still had the ritual of playing the repetitive old time tunes, including the old worn lyrics included in the following:

- The scientific research is based on the observation of natural phenomenon.
- Deductive and inductive methods are used to get results.
- The steps that science follows include the following.
- Observation and formulation.
- Hypothesis and precautions.
- Experimentation and result compilation.
- Theory compilation and conclusions.
- Discussion and publication of results.
- Feedback and modifying and development of imperfect issues.

As in previous years many students' answers included the description of what a scientist should be as, s/he should be honest, tell the truth, curious, creative, patient, he should be objective, loyal, cooperative moral and ethical, committed and a persevering person, he should work in a team preferably. In most cases these words were listed, but seldom did the student define in what ways a scientist could achieve all this, for example, how would a scientist be honest, and then to give examples of how a scientist could be dishonest and the consequences of it all.

Many students still dig bones from old graves to include in their answers historic facts, the names of old and modern scientists seem to instil a form of security in the student to mention men of great calibre versed in the details of science which the student never mentions. The names mentioned included the following.

Robert Pristig, Albert Einstein, Sir Isaac Newton, Galileo Galilei, Copernicus, Aristotle, Fernaid Braudel, Rachel Cousen, Ptolemy, Darwin, Karl Pepper and Karl Hopper!!, Pauling, Jemmings Bryan, Gravina, Dr Hweng, James Watson and Francis Crick(still with us), Rosalind Franklin, John Carsti, Rod Dreher, Dewy, Thomas Kuhn, Christopher Columbus, Alexander Fleming, Neil Bohr, Leonardo Da Vinci, Neil Armstrong, Obama, R.F. Skimmer, Harry Truman, Gordon Brown, Tony Blair, Bush, Peter Stringer, Berry J Marshall J. Robson.

Students just mention names without saying or mentioning any of the great achievements in detail that these scientists covered in their time, or their relation with what the examination question asks for.

There were many students who drew a cross like figure where at the four apexes of the cross were listed the four words, science, technology, morals and ethics.

Other students just sketched figures prepared beforehand, listing, observations, communications, theory, experimentation, adding preparatory stages, establishing data, crises stages, validation stages during scientific programmes, all prepared beforehand from the teachers' notes and irrelevant to the question being asked.

Padding and Fillers

Many students still cover their answers with what the examiners call unnecessary soft padding that contains no substance whatsoever. Students state issues without analysing them, here are a few examples found in the answer scripts:

- Science is based on faith. (the student never qualifying this statement)
- Observation is when scientists observe and then take details of what they are seeing. They use graphs and mathematics to describe what they see and formulate hypothesis. (the student never giving an example of what he says)
- Science is the research of natural phenomena and without science we would never know these phenomena. (with the student never describing or divulging a single phenomena)
- Everyone is made out of religion and beliefs. The actions one takes, reflect the values one consists of. Religion is one of the main influences of mankind. (with the student never depicting what any religion ever preaches to achieve such an aim)
- Values of life of a Christian are different from that of a Muslim or a Hindu or an atheist. (where the student never mention any one simple difference)
- God created man so man must have a sense of morality. (a general statement which does not cover everybody not believing in God)
- The most important thing and the basis of this subject is that technology was born from science. Technology gives the ability to human beings to invent or to create things which help the same human beings do their work efficiently in the best possible way possible. (with the student never mentioning one invention or its working principles)
- Stem cells this year were very popular and some included and argued intelligently about the ethics and morals of their use while others just regurgitated completely what their teachers told them.
- As in previous years many students wrote in the personal tense which should not be so in a university examination of this sort. Most students do not know how to answer in a general manner without introducing themselves, or any actions and personal behaviour of any member of the family into their writing. Here is how students followed the use of the letter I, I should, I would, I could, I can, I agree, I don't, I may, I do , I need, I think, I have, I did, I give, I am, I want, I see, I prefer, I believe, I disagree, I send , I hope, I generate, I do , I said, I switch I, make, I also, I love, I write, I cannot, I say, and one student said in his answers so many, I can___ . I can___. I can__. In one paragraph, that caused the examiner substantial emotional pity and compassion.
- Technology depends on science and nowadays science has also become dependent on technology such that they are independent (interdependent I guess). Morality and ethics also play an important role in science and technology and thanks to morality and ethics that scientific and technological progress is enhanced or supported. (It is to be noted that students like this actually never discuss how science is dependent on technology or how morality and ethics are used to control science, they just utter superficial statements without digging deep into them.)

- Moral and ethical issues are not just a contemporary issue as one might think. Since the beginning of philosophy great thinkers have brought up issues regarding…….. (such undetailed statements)
- Objectivity is a way of developing knowledge by reason solely based on facts in accordance with the laws of nature.
- Subjectivity is the method of acquiring knowledge based on personal views, opinions, beliefs, judgements. One may eliminate subjectivity by……..
- Many students gave the definition of Positivists.
- Morality, Ethics, Science and Technology all influence each other (the student never says how) and are all needed to conduct research. (Again the student never says why.) Each one contributes and influences the other in the cause of scientific and technological research. (Again the student, never, never stating how or why or when such influences occurs!)
- Some students talked about ethical rules and official permitted lawful loopholes as one may purchase, own, transport part of a gun, but not to put it together. Some students also suggested that in a democracy freedom hardly ever exists for there are so many laws to abide with that freedom is lost to well meaning laws as road driving regulations, one way streets, wardens, police, custom regulations and other democratic laws which repress good brains and encourage and even assist stupidity to develop at a faster rate in a democracy.

In general there were no improvements whatsoever in the answering of Question C. The best students are in the minority with the general standard dropping to that of a student who has to be told what to do all the time and when he is told, he simply regurgitates all that he has been told irrespective of the nature of the question asked in the examination.

The following criteria were used in correcting this section of the paper:

General Criteria for marking scripts

The essay written by the students should be a coherent and focused discussion on the issues raised by the question. It is recommended that students write not less than three pages to adequately substantiate their arguments.	10 marks
The text must display logic and clarity when identifying arguments that are in favour or against the issues raised by the question.	10 marks
It is expected that ALL arguments made are supported by relevant examples from literature or from life.	10 marks
The written text must show a concise and precise use of language throughout the essay.	10 marks
The work must be characterized by a personal, insightful analysis and not by regurgitation of notes or examples imparted in class.	10 marks

Specific Criteria for the Questions in Section C

Question C1

Students must be able to argue how science and values are related and that the extent of scientific research may depend on the values that people choose to adopt, their political agendas, religious and moral beliefs or other issues.	25 marks
Students must be able to argue about the consequences of having scientific research develop with or without the influences of values.	25 marks
Total	100 marks

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The written text must show a concise and precise use of language throughout the essay.	10 marks
The work must be characterized by a personal, insightful analysis and not by regurgitation of notes or examples that were given in class.	10 marks

Specific Criteria for the Questions in Section C

Question C2

Students must be able to give a definition of positivism.	10 marks
Students must be able to give examples that confirm or contradict the application of a positivist approach to research.	20 marks
Students must be able to argue intelligently on the benefits, weaknesses and efficiencies of balancing research approaches that involve both observable variables and unobservable human interests.	20 marks
Total	100 marks

Section D

Examiner 1

The first question in Section D referred to the proposal to build a new road going through Għadira that will replace the one close to the sea. The second question focused on whether an individual can make a difference in favour of the environment. Both questions are annexed to this report.

Question D1 was by far the most popular. The wide exposure in the press and other media must have contributed to the students opting for this question. They were familiar with the controversy and had covered environmental issues in their studies during the SOK course. As usual there was a wide range of skill in descriptive writing, building arguments and correct use of language. The majority of those who tackled question D1 did quite well. The students showed that they were aware of the complex nature of environmental issues, not only from a scientific point of view but also when contrasted with economic factors and the people's way and quality of life.

Those students who chose question D2 relied mostly on the document highlighting the nine principles published by the World Conservation Union. A number of students showed that they had studied this document but did not go far beyond that in their examination. The others added information and suggestions about NGOs and how their personal membership can contribute to address environmental issues.

Examiner 2:

This question in general was answered on the same lines as question C with the slight alterations of the definitions and tables as follows. The average students mentioning and regurgitating the following.

- Respect fort the community
- Improve human life.
- Conserve and sustain the earth.
- Minimise non reversible sources.
- Change attitude.
- Enhance community care for the environment.
- Rationalise frameworks.
- Create a global alliance.
- The 4 Rs were very popular in the form of Prevent, Reuse, Recycle, and Incinerate.

Common expressions covered, included

- Building programmes.
- Deforestations
- CFC gases and polluted air.
- Ozone and carbon dioxide.
- Pregnant women.
- Plastic bags.
- Bulk refuses.
- Going green.
- Fossil fuel. Exhaust of transport vehicles and not a single student ever mentioned sea transport which is the largest transport polluter.
- Climate change.

- Global alliance.
- Sewage toxic chemicals and materials.
- Sustained developments.
- Air driers instead of tumble driers.
- Switch off the lights and the water mains
- Light bulbs, electric cars, solar panels and hunting.
- Dumping waste.
- Gassijiet, Kaċċa, Sajd, Bubble baths were mentioned.
- Pope Benedict Advices came in a number of times.

When mentioning the above subject seldom any students discussed the issue in depth but threw this environmental jargon without ever assessing a particular situation in any depth.

Some popular padded answers to question D included the following.

- The world is changing and we must change with it. (the student never mentioning how and what to change)
- Science has made great advances and contributions on a lot of research... (with the student never mentioning one detail of any advancement)
- Ix-xjenza u t-teknoloġija ma għandhomx jindaħlu f'nofs il-moralità u l-etika. Iż- żewġ oġġetti għandhom jagħarfu meta jagħmlu dak li huwa kompetu tagħhom sabiex imexxu rwieħhom il-quddiem. *(sic)* (no detail of how this can be done was ever contributed in the student's answer, just such superficial statements.)
- However man has a duty to step these tensions by finding solutions which neither harm the environment nor have a loss of resources and still help pure society in the present and in future benefits. (no solutions were ever offered by students after saying that solutions had to be found. It was always left at that, for someone else to think about it and come up with a detailed solution. Our students just throw statements without details)
- The river Blakely at Manchester was found one morning to be covered with white foam and dead fish. (not one single student ever mentioned what the pollutants in the river might have been, to produce such foam which we also get in Malta on occasions. Not a single student described what one should do.)
- If I throw a paper in Vittoriosa and I come from Mosta, I still litter my motherland.
- Xummiemu was mentioned by his name but not for the spirit and soul he (it) represents. Such issues should be better described by a richer vocabulary of our students.

In general most students just regurgitated what they heard in class, irrespective of what the question ask for. Most students seem to be blindfolded when they read the examination questions, and as if in a trance, they output all that there is in their mind, feeling somewhat secure that to repeat what was in their notes, and to mention the name of a few famous scientists, that would earn then enough marks, Seldom on finds a student who shoulder his own responsibility and answers the question as expected to do.

Obviously we had good students but these seem to be in the minority. One very important issue to consider in the answers to System of Knowledge questions, is that, not a single student ever answer the Scientific and Technical Questions by using Graphs, Mathematical Modelling, Logic of any sort, or indeed introduce an argument where the student illustrates the methods of calculation of efficiencies quantitatively and all that the students seem to be aware of is, the regurgitating of superficial qualitative quotations without any quantitative awareness of anything they say.

Chairman
Examiners' Report

July 2010