

UNIVERSITY OF MALTA
THE MATRICULATION CERTIFICATE EXAMINATION
INTERMEDIATE LEVEL

SYSTEMS OF KNOWLEDGE

MAY 2011

EXAMINERS' REPORT

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**IM SYSTEMS OF KNOWLEDGE
MAY 2011 SESSION
EXAMINERS' REPORT**

1. General Statistics

Table 1 reports the number of candidates per grade (in terms of raw numbers and as a percentage) for the last May 2011 examination session and the previous May 2010 session. In both cases, the cumulative percentage is also presented.

Table 1. Summary of general statistical data – May 2011 and May 2010

Grade	2011			2010		
	Candidates		Cumulative	Candidates		Cumulative
	N	%	Percentage (%)	N	%	Percentage (%)
A	55	2.3	2.3	53	2.2	2.2
B	380	15.8	18.1	357	14.7	16.9
C	880	36.6	54.7	851	35.1	52
D	443	18.4	73.1	437	18	70
E	283	11.8	84.9	291	12	82
F	349	14.5	99.5	430	17.7	99.8
abs	12	0.5	100.0	6	0.2	100
Total	2,402	100.0		2,425	100	

Figure 1 presents a comparison of the percentage frequencies per grade for these last two May examination sessions, plotted on the same set of axes.

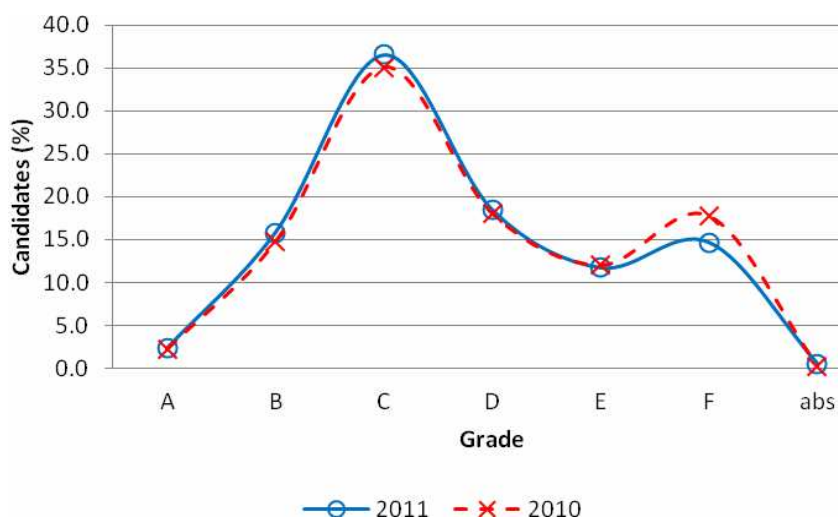


Figure 1. Comparison of the percentage frequencies per grade – May 2011 and May 2010

2. Statistical data per question and per Section

Table 2 depicts statistical data per question: the response frequency for each of the two questions – with a choice of one out of two – in every Section (in terms of raw numbers and as a percentage); the number of non-attempts per Section; measures of central tendency (the mean, the median and the mode); the difference in the mean mark of the questions in each section; and the standard deviation, which gives an indication of the spread of marks.

Table 2. Summary of statistical data per question and per Section – May 2011 exam session

	Section 1		Section 2		Section 3		Section 4	
	Qu. 1	Qu. 2	Qu. 3	Qu. 4	Qu. 5	Qu. 6	Qu. 7	Qu. 8
Response frequency (N)	283	2072	1459	882	826	1510	1788	560
Response frequency (%)	12.0	88.0	62.3	37.7	35.4	64.6	76.1	23.9
Total attempted	2355		2341		2336		2348	
Section not attempted	0		14		19		7	
Absent	47		47		47		47	
Total number of applicants	2402							
Mean mark (%)	52.6	51.9	57.1	52.9	54.6	56.3	56.6	54
Difference of means (%)	(Q1 – Q2 =) 0.6		(Q3 – Q4 =) 4.2		(Q5 – Q6 =) 1.7		(Q7 – Q8 =) 2.6	
Median (%)	51	52	60	55	57	57	58	56
Mode (%)	60	50	62	50	60	50	60	60
Standard deviation	13.3	11.3	15.7	14.7	17.7	16	9.7	9.3

Figure 2 compares the question choice (in percentage terms) within each of the four Sections.

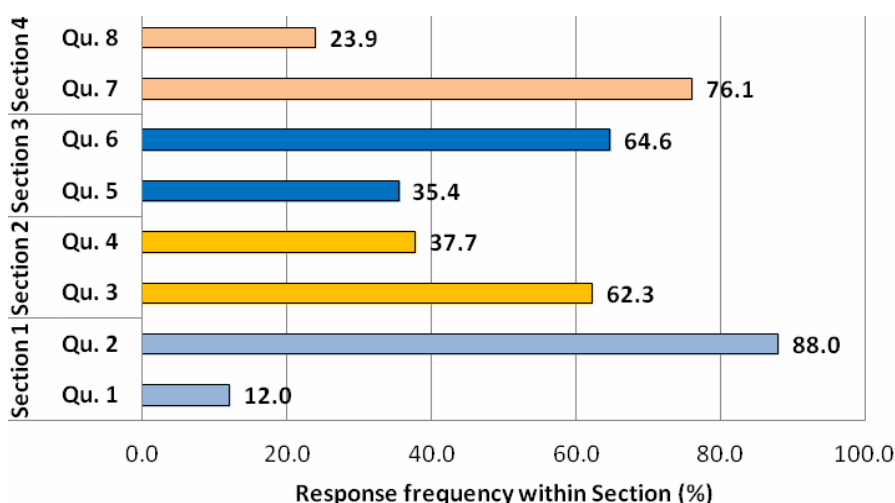


Figure 2. Comparison of the question response frequencies in each Section

Figure 3 shows the plot of the raw mean percentage mark for each of the eight questions in the paper and Figure 4 reports the number of non-attempts in each Section.

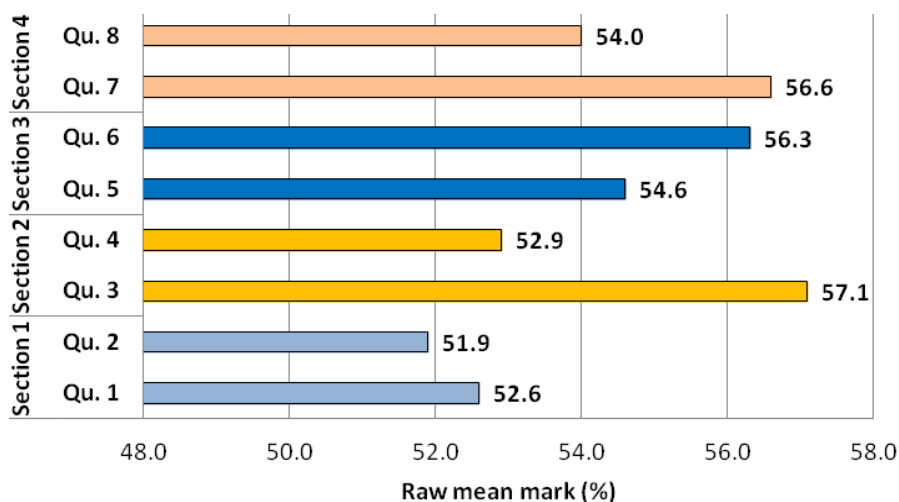


Figure 3. The raw mean percentage mark for each of the eight questions in the paper

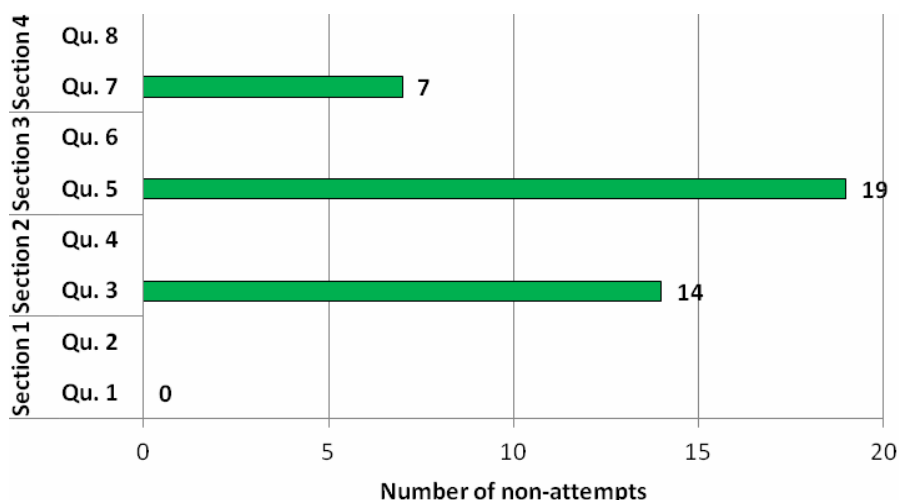


Figure 4. The number of non-attempts per Section

3. Comments on the responses by candidates

3.1 Section 1

For the main, the candidates interpreted the subject matter at hand correctly and demonstrated familiarity with the related study materials and syllabus topics. Candidates generally applied the study materials to the task at hand and not simply regurgitated their notes. This capacity for application, reflection and critical debate came to the fore more strongly in the some answers provided to question 2, which was quite thought provoking and required careful reflection and forethought before putting pen to paper. In the process, the candidates also demonstrated sensitivity to current issues and debates. Compared to previous years, most candidates avoided incorrect characterisations of democracy and simplistic contrasts between democracy-communism. Most candidates also put to use the considerable material they were taught at school.

A good number of candidates related the questions – particularly in the case of question 1 – to contemporary issues like the divorce issue. Many of them however, were not clear as to what loyalty to one's conscience, party-line and constituents entail (many also referred to one's personal interests as a

stake in such decision; taking it for granted that this is how things are/ought to be in politics). Moreover, when discussing the question as to which one of these three ought to take priority in case of conflict, many students failed to provide sound reasons backing their choices.

As to the second question, many students were quite simplistic with regards to the issue of equality of influence in a democracy. Many understood 'equality' in purely formal terms, or else they only thought about 'innocent' ways in which one could augment his/her influence. Many also confused influence with participation in democratic processes. Very few considered contentious ways in which an individual, a group or class can increase their influence, e.g. through controlling the media, education, etc. When referring to the media, a considerable number of candidates were also quite simplistic in that they only perceived dangers as coming from party media; the neutrality of and access to the so-called independent media were never questioned. This question called on the candidates' sensitivity to current affairs including the Facebook revolution in the Maghreb and it was heartening to see a number of exam candidates showing sensitivity to the plight of North Africans in their quest for freedom – showing a clear understanding of what liberal democracy is in the process.

3.2 Section 2

In question 3, candidates were expected to write a clear, well-structured comparative analysis of two historical periods, using some examples to illustrate their arguments. Generally, knowledge of the Renaissance and some of the more well-known artists of the period was satisfactory, but the medieval period proved to be a problem in many candidates' essays. The medieval period was occasionally confused with other periods in history and even prehistory, especially with the modern period. In this case, marks normally awarded for comparison between the two periods were lost.

A significant number of candidates failed to provide a comparative discussion on the subject due to the fact they only presented material on one of the periods referred to. In other cases candidates waffled through by largely presenting material from the question itself, whilst others simply wrote about periods in art history that had no relevance to those referred to in the question. Nonetheless, quite a few candidates provided good discussions, presenting relevant material and well chosen examples to support their points, and a number also elaborated the discussion in a critical fashion showing excellent knowledge of the subject concerned and fine analytical skills.

Fewer candidates attempted Question 4. Candidates who opted for this question were expected to reflect about the relationship between works of art and morality, politics, religion and other areas that could lead to controversial situations in which works of art are banned or censored. Some of the better essays presented an interdisciplinary approach to the problem, discussing works of visual art, literature and even film and offered critical arguments for or against censorship. A few essays made relevant references to the sociological background relating to values and tolerance of innovative ideas in the arts, or even the philosophical history of the issue, such as Plato in *The Republic*.

Weaker essays generally presented virtually no case for or against censorship or simply described a single controversial case in the arts, without discussing its deeper implications. Quite a few candidates submitted answers that were significantly lacking in content. Other shortcomings noticed were a digression from the focus on the arts and the failure to argue in terms of an international example as requested. However, some students turned to their general knowledge of current affairs and/or knowledge acquired from other areas of studies and effectively applied 'lateral thinking' to present rich and varied discussions on the subject, often using pertinent examples from different fields of the arts from both the local and the international scene.

This question about censorship, in a number of cases, reflected the mentality of non-alignment with traditional moral standards in a markedly evident way. Some candidates showed great maturity when presenting reasons why censorship should not be imposed. The level of English was rather poor in a significant number of cases, especially the grammar, vocabulary and spelling.

3.3 Section 3

There number of candidates who answered question 5 out of point was not insignificant. The argument on the existence of God was a common theme throughout many essays, even though this has nothing to do with the question given. A widespread misconception seen in several essays is that Charles Darwin "*chose to keep morality of his theory of evolution*" so as to avoid angering the Church. Disappointingly few candidates adequately discussed the role (or lack thereof) that science plays in determining moral truths, and instead chose to discuss the moral perils of abortion, cloning, genetically modified foods, IVF and nuclear war.

Many candidates either gave a short biography of Charles Darwin (with a reworded version of the question used as a conclusion) or described the process of natural selection as best they could. Although the question did not warrant a discussion on natural selection, the large proportion of candidates that did so provided quite an insight into the significant number of Sixth Form students that still hold major misconceptions regarding evolution. Examples of widespread misconceptions include the common "*humans come from monkeys*", "*you can't see evolution so it can't be proven*" and "*evolution is only a theory*". The latter highlights the misconceptions about the scientific meaning of the term 'theory' amongst candidates sitting for the Systems of Knowledge exam.

In question 6, many candidates provided overly simplistic descriptions of deductive and inductive approaches in the scientific method, e.g. "*deduction in theories leads to experiment*". Several misconceptions on the very nature of science were detected, such as "*science can only describe how, not why*", "*science is subjective since it only exists in people's minds*" and "*theories may have to be discarded since the environment is always changing*". Overall, the majority of candidates exhibited knowledge on important tenets of the scientific method such as objectivity, falsifiability and peer review. Several references to Popper, Kuhn, Casti and Durkheim were given, although disappointingly these were rarely any more than passing mentions. Many candidates made reference to Galileo and Copernicus to discuss the emergence of heliocentrism (with mixed success).

As with the prevailing misuse of the term 'theory', the scientific meaning of the term 'prediction' was also severely underappreciated. In the majority of cases, examples of predictions in science were relegated to predicting earthquakes and volcanic eruptions.

When discussing positivism, very few candidates actually addressed the relationship between the natural and social sciences, resulting in a multitude of confusing (and erroneous) statements. A common argument given against positivism was "*positivism implies we can predict tsunamis perfectly. Since this is impossible, positivism fails.*"

One points out a number of statements that indicate inherent misconceptions, as: "*No one has ever seen the Earth going around the Sun*"; "*The scientist observes what there is around him and writes it down in a notebook*"; "*However, indifference is itself a state of mind, hence science is subjective*"; "*If the hypothesis is proven, it becomes a theory and then a law*" (found very commonly). One also notes the presence and use of a number of incorrect terms, as "*scientific*", "*believes*" instead of 'beliefs', "*prooves*" instead of 'proofs', etc. apart from the overuse (and misuse) of the word "*aspect*", the usage of the word "*stuff*" and the inappropriate use of the expression "*came out with*" (as in, "*Galileo came out with the theory of the sun being at the centre.*")

3.4 Section 4

Question 7 attracted the large majority (76.1%) of students, while the other 23.9% chose question 8. The reason/s for this notable difference may be the open nature of question 7. It addressed general principles that impinge directly on people's quality of life, namely the economic and the environmental aspects. These issues would have been definitely covered and discussed during the course of studies at school and the students had to rely on memory and actual examples to illustrate their argument. In spite of the apparent 'easy' nature of the question, there were a number of candidates who built arguments for the environment without referring to the threats from economic sectors or/and the reasons why economic progress cannot be frozen without hurting people and lowering their quality of life. Students need to be

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constantly helped to realise – throughout their course of studies – that they need to address the question as is, rather than just throw in pro-environment arguments.

Question 8 presented a bigger challenge to the students. They could rely directly on their coursework much less than they could for Question 7. The issue was a specific situation that, in spite of being real, required a higher dose of spontaneous reasoning rather than just memory work. The quality of the responses from the 23.9% who chose question 8 varied greatly. As was the case with answers to question 7, some students discussed the issues arising from one (or two) options mentioned in the question when the number of options was four.

It is hereby being suggested that during their course of study, students are presented with as many controversial issues – ones that are not easily resolved neither physically (practically) nor conceptually – as possible. One expects that the greater and the more frequent the challenges presented, the sharper the students' thinking and reasoning skills will become.

The Chairperson
Board of Examiners

November 2011