

UNIVERSITY OF MALTA

**THE MATRICULATION EXAMINATION
INTERMEDIATE LEVEL**

**COMPUTING
May 2014**

EXAMINERS' REPORT

**MATRICULATION AND SECONDARY EDUCATION
CERTIFICATE EXAMINATIONS BOARD**

**Computing
Intermediate Level
May 2014**

Part 1: Statistical Information

A total of 124 students applied for the May 2014 Intermediate Computing examination session. Nine candidates did not present their coursework exercise, two of whom were also absent for the written paper.

The weight of the written component is 80% of the global examination mark while the remaining 20% is carried by the coursework exercise. For this session, the mean mark for the written paper was 49.6 while that of the coursework amounts to 16.4.

Chart 1 and Table 1 below show the distribution of the global marks (written paper plus coursework) as scored by the candidates.

Chart 1

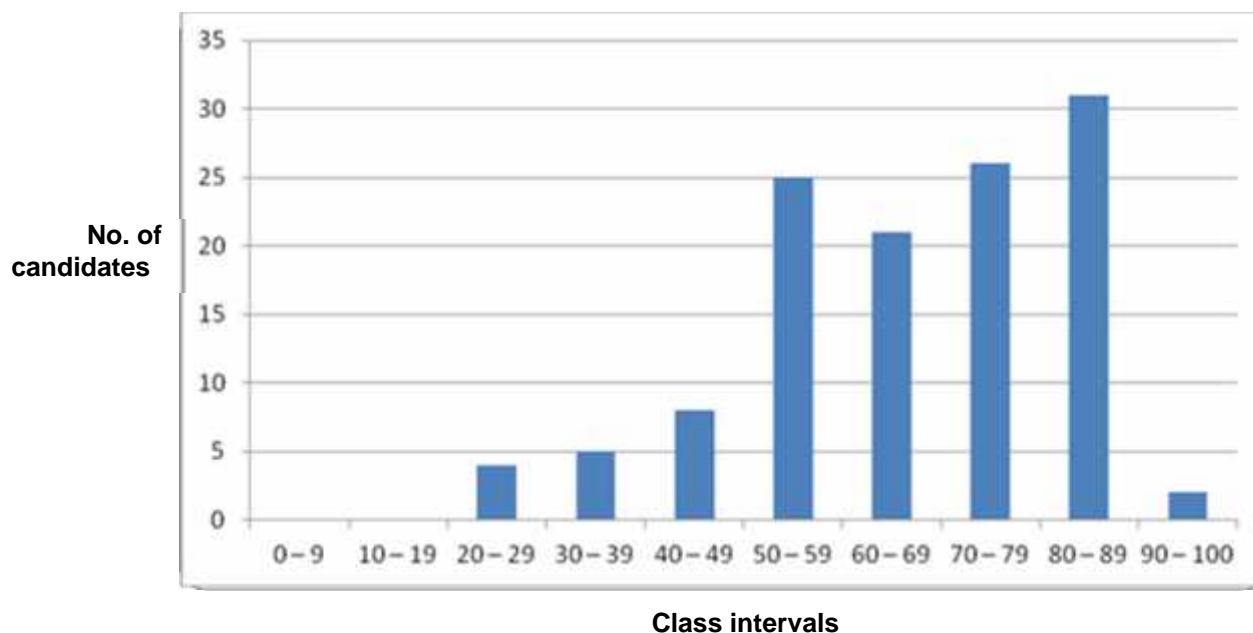


Table 1

Class intervals	Frequency
0 – 9	0
10 – 19	0
20 – 29	4
30 – 39	5
40 – 49	8
50 – 59	25
60 – 69	21
70 – 79	26
80 – 89	31
90 – 100	2

Table 2 below shows the grades obtained by the candidates and the percentage of each grade.

Grade	Number of candidates	Percentage of candidates
A	5	4.0%
B	21	16.9%
C	43	34.7%
D	29	23.4%
E	12	9.7%
F	12	9.7%
Absent*	2	1.6%
Total	124	100%

Table 2

* Candidates who did not present their coursework AND did not turn up for the written paper.

Part 2: Comments regarding candidate's performance

The Coursework Component

During the coursework moderation exercise, the moderators visited all the colleges that prepared candidates for this examination session. The moderators' feedback was that, in all colleges, the marks allotted by the tutor were fair and therefore these marks were retained.

All private candidates were asked to attend for an interview regarding the coursework they presented to the board.

Item Analysis of Written component

Table 3 below shows the Maximum mark that could be scored for each of the 12 items in the written paper, the Mean mark scored and the Standard Deviation for each item. The table also shows the Facility Index for each item – the index may range from 0, for an item in which candidates obtained 0 marks, to 1.0 for an item in which all candidates scored full marks.

Item Number	Maximum Mark	Mean	Standard Deviation	Facility Index	Choice Index
A1	6	5.1	1.9	0.8	
A2	6	4.2	2.3	0.7	
A3	6	4.2	1.5	0.7	
A4	6	2.5	1.7	0.4	
A5	6	2.9	1.6	0.5	
A6	6	4.4	1.5	0.7	
A7	6	3.6	1.3	0.6	
A8	6	4.1	1.3	0.7	
A9	6	4.0	1.6	0.7	
A10	6	2.6	1.7	0.4	
B1	20	12.2	4.5	0.6	0.1
B2	20	13.7	3.4	0.7	0.9

Table 3

The Choice Index given in the table above is a measure of the popularity of an item – an index of 0 indicates that an item was not chosen by any candidate; while an index of 1.0 shows that an item was selected by all candidates. The choice index only applies to the two items in Section B because the items in Section A are compulsory.

Chart 2 below shows the Facility Indices in graphical format.

Chart 2

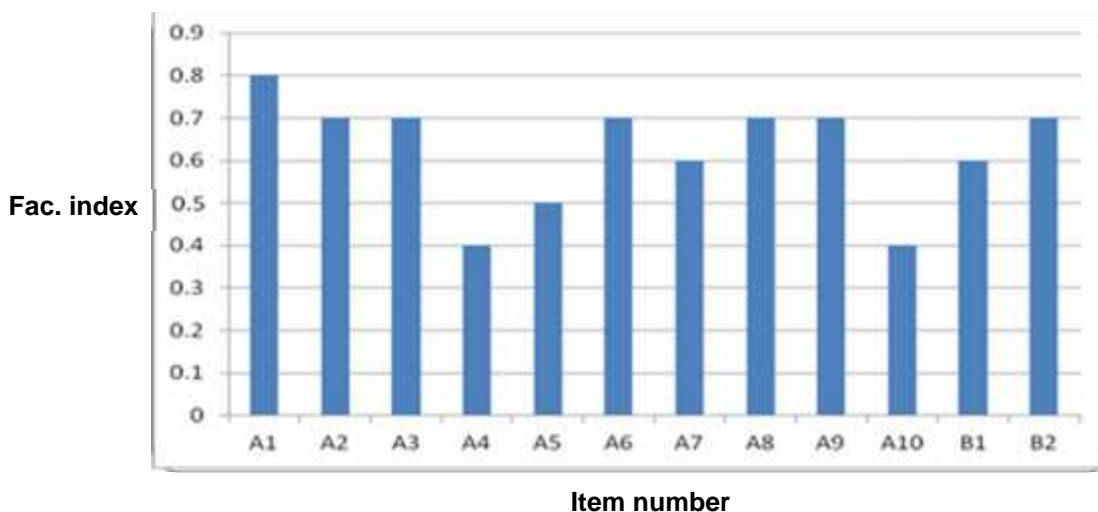


Table 4 below shows the items in decreasing order of facility, together with the topic that the item tested.

Table 4

Item Number	Facility Index	Topic tested
A1	0.8	Computer logic
A2	0.7	CPU architecture
A3	0.7	Computer processing modes and OS's
A6	0.7	Networks
A8	0.7	Number systems
A9	0.7	Social implications
B2	0.7	Database concepts
A7	0.6	Computer communications
B1	0.6	OOP
A5	0.5	Databases
A4	0.4	Assembly language and translation
A10	0.4	Programming concepts

Markers' Comments on the written component

The markers' comments on individual items are being reproduced below:

- A1 Most candidates had sound knowledge of De Morgan's laws and thus answered correctly both (a) which showed the equivalency of the law and (b) the justification using truth tables.
- A2 A good percentage of candidates answered correctly this question. They knew the difference between the half adder and full adder, and also answered correctly (b) and (c) giving the truth table and logic circuit of the half adder.
- A3 Many candidates answered this question correctly by distinguishing between the types of OSs and by giving a suitable application. Only few candidates could not define the types of OSs but still gave good applications.
- A4 Most candidates answered incorrectly part (a) – they were unable to name and explain the three addressing modes. As regards part (b) most candidates defined correctly source code and object code, but very few knew what is Linking.

- A5 Many candidates confused a flat file with a manual file, text file or spreadsheet. As regards part (b), very few candidates managed to give four adequate advantages of databases over traditional file systems.
- A6 The majority of candidates gave correct replies to these questions, though quite a few lost some marks due to vague replies to part (c) and the role of a hub.
- A7 Quite a few candidates were unable to give the unit of measurement of baud rate. Candidates fared much better in parts (b-d)
- A8 This question tended to be one in which most candidates did very well. However there were relatively very few correct replies to part (d).
- A9 Some candidates mixed the Data Protection Act with Copyright, however generally replies to part (a) were correct. Replies to part (b) were often vague. Answers to parts (c-e) were mostly correct.
- A10 Candidates fared extremely poorly in this question. The majority gave no response or a totally incorrect response to part (a) suggesting very poor attainment in this topic. Candidates did generally better in part (b).
- B1 Very few candidates attempted this question and of these fewer still fared very well. Replies to parts (b) and (f) tended to be far poorer than to the rest of the questions.
- B2 The vast majority of candidates opted for this question. Many candidates could define the data dictionary, but then could not identify four items found in it (part a). Very few candidates could differentiate between DDL and DML (part b). As regards part (c), no student managed to give correctly the 8 terms, but quite a few had 6 or 7 correct answers. As regards part (d), most candidates managed to give the 3 tables and gave correct answers for the relationships.

Chairperson
2014 Examination Panel