



External Assessment Report 2009

Subject	Technological Studies
Level	Standard Grade

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the Examination.

Comments on candidate performance

General comments

The 2009 External Assessment was found to be fair, balanced and set at a comparable level to previous years and as a result the grade boundaries remained at a similar level. This produced an increase in the overall awards which was somewhat reflected in the improved performance in the directly graded AT element and in the teachers' estimates.

It was satisfying to see that the number of candidates presented in 2009 was only slightly lower than 2008 and it is hoped that this level of presentation can be maintained in future years.

Areas in which candidates performed well

General paper

Q1 electronic component symbols and Universal System diagram

Q3 energy

Q4 system electronics

Credit paper

Q5 drive systems

Q6 flowchart.

Areas which candidates found demanding

General paper

Q5 (a) piping of a pneumatic circuit to produce AND and OR control

(b) identification of the shuttle valve

Q6 (f) calculations involving voltage divider

Q8 (d) function of microcontroller sub-systems

Credit paper

Q1 (c) output driver

Q2 (b) energy losses

Q3 (a) piping of the pneumatic circuit

(e) pneumatic time delay.

Advice to centres for preparation of future candidates

Centres may wish to address the following areas where poor performance was noted:

- Candidates tend to list characteristics when answering questions on function. For example, the function of RAM is to store data such as a count, rather than, RAM is volatile memory and the content is lost on power down.
- It is apparent that many candidates attempt to complete a PBASIC program without reference to the Data Booklet and as a result mistakes are common with *if...then* decisions, there is confusion between the *let pins* and *let dirs* commands, and the use of binary is often incorrect.
- Candidate's knowledge and understanding of pneumatics is generally weak and this area would benefit from additional emphasis.
- Knowledge of TTL and CMOS IC families is generally insufficient.

Statistical information: update on Courses

Number of resulted entries in 2008	1405
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Number of resulted entries in 2009	1364
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Statistical Information: Performance of candidates

Distribution of overall awards

Grade 1	36.0%
Grade 2	26.8%
Grade 3	20.5%
Grade 4	9.9%
Grade 5	2.6%
Grade 6	2.6%
Grade 7	0.9%
No award	0.7%

Grade boundaries for each assessable element in the subject included in the report

Assessable Element	Credit Max Mark	Grade Boundaries		General Max Mark	Grade Boundaries		Foundation Max Mark	Grade Boundaries	
		1	2		3	4		5	6
KU	45	34	25	40	27	19	40	16	n/a
RNA	45	34	27	40	30	24	40	19	n/a