

Principal Assessor Report 2003

Assessment Panel:

Technical Education

Qualification area

**Subject(s) and Level(s)
Included in this report**

Revised SG Technological Studies

Statistical information: update

Number of entries in 2002 (Old course – F/G/C)	
Pre appeal	2,659

Number of entries in 2003 (Revised Course – G/C only)	
Pre appeal	2,244

General comments re entry numbers

This being the first year of presentation for the revised course, it was encouraging to see such a small reduction in numbers, even though Foundation level has been removed.

Grade boundaries at C, B and A for each subject area included in the report

Grade boundaries

KU	RNA
1 – 29	1 – 33
2 – 20	2 – 24
3 – 27	3 – 26
4 – 19	4 – 18
5 – 16	5 – 15

Comments on grade boundaries for each subject area

The new course has significant changes to the content, assessable elements and exam weighting. In addition, Foundation level has been removed. As a result, a direct comparison between this and the previous course cannot be made.

At Credit level the grade boundaries are lower in KU than RNA while at General the KU boundaries are marginally higher than for RNA.

Comments on candidate performance

General comments

The General paper appeared fair and accessible with no problem questions. It was noted that General candidates tended to perform slightly better in KU than RNA.

At Credit level feedback indicated that the paper was balanced and fair although slightly challenging for the less able candidates. Question 4 (b), was consistently poorly answered (1 KU mark). In most cases the Credit candidates performed better in RNA than KU and it was encouraging to note that calculations were generally well done.

Certain aspects of the new course were consistently poorly answered particularly Programmable Control and Systems questions. In addition, some candidates, particularly at Credit, appeared unprepared for the breadth and depth of treatment of the topics.

Areas of external assessment in which candidates performed well

The Energy questions across the levels were well answered.

At General level the piping of the pneumatic circuit was well done, as was the question on resistors in parallel.

Areas of external assessment in which candidates had difficulty

Systems was consistently poorly answered. This included many candidates being unable to name a sub-system and the system boundary or describe the operation of an error detector in a closed loop control situation.

Feedback from the markers indicated that across both levels there were many poor responses from candidates when asked to complete PBASIC programs, although it was noted that there was little evidence of the use of Extended PBASIC. At Credit level there was a disappointing response to the question which asked for an explanation of how Pulse Width Modulation can be used to control a motor's speed.

At General level many candidates showed a lack of knowledge for the need to restrict exhaust air in speed control. It was also evident that a small number of centres appear to be teaching different names for pneumatic components from those issued with the revised Arrangements.

At Credit level there was a poor response to descriptive and calculation-type questions relating to voltage dividers.

A small but significant number of candidates used 10 or 9.8 for 'g' rather than 9.81 as stated in the Data Booklet.

Recommendations

Feedback to centres

It was apparent from the candidates' responses that many centres had embraced the shift in methodology associated with the revised Arrangements and had prepared their students well for assessment. However, it was also evident that some centres had relied too much upon the LTS support notes to guide them on the required breadth and depth of treatment. It is worth directing all centres to the revised Arrangements, Specimen papers and now the 2003 Question Papers for definitive information on the breadth of content and rigour associated with the assessment of KU and RNA.

As outlined previously in this report there are several areas of weakness that centres may wish to address.

- Developing the PBASIC program from a flowchart
- Pulse Width Modulation and the reason for its use in motor speed control
- Voltage divider theory and associated calculations
- Pneumatics - use of correct terminology (as issued with the revised Arrangements) to describe components and speed control using restriction on the exhaust air
- The value quoted for 'g' in the Data Booklet is '9.81' and not 10 or 9.8 as used in some other courses.