

Principal Assessor Report 2002

Assessment Panel:

Construction Technician

Qualification area

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

Structural Engineering – Higher

Statistical information: update

Number of entries in 2001	
Pre appeal	3
Post appeal	3

Number of entries in 2002	
Pre appeal	8
Post appeal	Not available

General comments re entry numbers

18 candidates in two centres began this course.

General comments

The overall standard was maintained this year.

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

Grade	Lowest mark (from 200)
Upper A	170
Lower A	140
B	120
C	100

General commentary on grade boundaries

Notional percentage cut-offs for each grade

Question papers and their associated marking schemes are designed to be of the required standard and to meet the assessment specification for the subject/level concerned.

For National courses the examination paper(s) are set in order that a score of approximately 50% of the total marks for all components merits a grade C (based on the grade descriptions for that grade), and similarly a score of 70 % for a grade A. The lowest mark for a grade B is set by the computer software as half way between the C and A grade boundaries.

Comments on grade boundaries for each subject area

There was no evidence to support departure from the a priori marks.

Comments on candidate performance

General comments

Overall the candidates produced a lot of material and appear to have spent a lot of time completing their projects. Similar to last year all the candidates chose Brief 1, based on a two-storey building to be designed in Structural Steel and Reinforced Concrete. Again, all the candidates complained of lack of time to fully complete the project. In fact two of the candidates only had time to complete the Structural Steel Analysis and design and failed to produce any of their own detailed drawings.

The quality of the detailed work presented was generally good and the overall presentation standard was higher than last year. A few candidates produced a contents page outlining the location and content of each part of the project. However about half of the candidates did not fully explain how they were going to tackle the detailed design or give outline descriptions/sketches for the basis for their designs. Most of the candidates satisfactorily explained the construction process with reference to site restrictions and construction plant and safety.

All the candidates produced a reasonable plan of action. However all of them underestimated the amount of time allocated to certain tasks, especially the Analysis of Design and the Drawings in the Development section of the report.

The work, which was presented by the candidates produced information on soils investigations, which had been carried on the proposed site, but no one used this information to describe and choose possible foundation types. All the candidates displayed a good knowledge of structural design and submitted details of both manual and computerised calculations. A few of the candidates did not supply enough information on how they arrived at the loading figures for the structural members. A lot of work had been put into the production of drawings and sketches and most of the candidates produced drawings showing good structural details of connections and reinforced concrete details. However, apart from a couple of exceptions, the drawing numbers, descriptions and sequences were not very clear. Most of the candidates produced some sort of layout drawing showing the overall dimensions of the brief area of 550 m² and a grid gratifying the individual structural members of the building. None of the candidates produced reinforcement bar schedules, presumably because of lack of time.

All the candidates reasonably attempted the evaluation section of the project, pointing out the problems with lack of time and their individual strengths and weaknesses.

Areas of external assessment in which candidates performed well

Detailed work was good and overall presentation was of a high standard.

Good knowledge of structural design.

Drawing and sketches – a lot of work put into them.

Areas of external assessment in which candidates had difficulty

All of the action plans underestimated the amount of time for certain tasks.

Explanation of how detailed design would be tackled was lacking in some projects.

Drawing numbers, descriptions and sequences were not clear in all but a few projects.

Recommendations

Feedback to centres

It appears that, as in last year's project the candidates felt that there was insufficient time to fully complete the work asked for in brief. I would suggest that, if the Project Unit descriptor is to be reviewed this year, the scope of the project brief should be reduced, so that each candidate produces a design in a material of their choice, giving reasons for their choice. I would also suggest that the reinforced bar schedule item in the Development section of the project be omitted.