

The Institution of Structural Engineers Chartered Membership (Part 3) Examination

A Reminder to Candidates from the Examiners

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THE PART 3 EXAMINATION

Read this reminder from the Examiners – NOW

Digest, remember and implement the recommendations.

They are intended to provide help and guidance to candidates for the examination. They highlight the major reasons for failure quoted time after time by the marking examiners. The same points are also emphasized in the consolidated Chief Examiners report published in the Structural Engineer each autumn. Candidates would be well advised to read these reports in conjunction with the relevant past papers.

THE MAJORITY OF THE FAILURES IN THE EXAMINATION CAN BE GROUPED WITHIN THREE BASIC AREAS.

1. NON COMPLIANCE WITH THE NOTES TO CANDIDATES

Specific instructions are clearly printed in the notes on the front of the question paper:

Attempt one question only.

Each question has two compulsory parts:

Part 1 - 40 marks: Part 2 - 60 marks.

To pass the examination candidates must satisfy the examiner in both parts.

It is therefore essential that candidates apportion their time to allow effective completion of BOTH PARTS of the question.

Recommendation

Candidates should establish an appreciation of the work they can realistically complete in the seven hour examination period, by practice against the clock on past questions.

To maximize their chance of success, candidates should allocate appropriate time and effort to both parts of the selected question.

Candidates will be allowed to use their own A3 size drawing boards. The required general arrangement layout and details are to be produced on the sheets of A3 size squared paper provided. Candidates should therefore ensure that their examination preparation includes experience of such work.

A REMINDER ON CODES OF PRACTICE

"Any Design Code or Standard may be used to answer the questions in the paper, as long as reference to that code is consistent throughout and any assumptions made or design data adopted (including loadings other than those specified in the question) are stated at the beginning of the answer."

2. LACK OF EXPERIENCE OR ABILITY IN PRESENTING THE SOLUTION IN SUITABLE FORM

An essential feature of success in the examination is the ability of the candidate to communicate his intentions to the examiner in the simplest and clearest manner.

Poor solutions may contain:

- (a) Unsafe structural schemes;
- (b) Rambling essays that provide no clear picture of the structural integrity or viability of the schemes;
- (c) Design statements which are then contradicted by the calculations and/or details;
- (d) Unnecessary re-writing of the question or extracts from Codes of Practice and Standards;
- (e) No identification of scheme choice or reasons for selection;
- (f) Too much time spent on non critical or unrealistic loading cases;
- (g) Too many repetitive calculations;
- (h) Poor general arrangement layout and details;
- (i) Answers to the final sections of Parts 1 and/or 2 which are composed of generalities and do not relate specifically to the problem stated.

Recommendation

Candidates should develop an understanding of the importance of:

Approximate design methods.

The elimination of unnecessary writing and calculation.

Coherent presentations of both parts of the answer.

Part 1 Use of clear statements to highlight stability, load transfer and critical load combinations.

Illustration by means of neat single line general arrangement sketches, showing clearly bracing, shear walls, stiff cores etc.

Part 2 Logically arranged non repetitive calculations for significant elements of the solution. General arrangement layout and details illustrating and conforming with the design statement and calculations.

3. NON COMPLIANCE WITH THE CLIENT'S BRIEF STATED IN THE QUESTION OR LACK OF ABILITY/EXPERIENCE IN JUSTIFYING THE PROPOSED SOLUTION

Non compliance with the question brief is a major cause of the outright failure of too many candidates.

For example:

- (a) Overall instability of the proposed scheme;
- (b) Encroachment of columns into specified clear areas of buildings, road or pavement areas;
- (c) Lack of access provision to carparks, warehouses, workshops;
- (d) Omission of critical loads particularly where structures are susceptible to wind;
- (e) Lack of provision of specified headroom or clearances.

In many cases answers reflect a lack of understanding of the purpose and form of the examination together with a lack of sensible preparation, rather than the genuine absence of technical skill.

The paper does not require a highly specialized skill in particular forms of structural work. It does require an understanding of the basic principles of the various forms coupled with the ability to express or communicate those principles.

Above all the paper is not simply a numerical "design of elements" exercise.

Recommendation

Candidates should use the allowed 15 minute reading time effectively, read the chosen question carefully and highlight the salient points, particularly - loading, clear span, clear opening, headroom, construction period or any other features which may affect design and construction.

Candidates should ensure that their proposed solutions are safe and structurally stable.

Candidates should recognize that the justification of the scheme requires explanation or illustration of the structural arrangement, load transfer, member sizes, details and construction of the work.

The Part 3 Examination represents the ultimate stage in achieving a respected professional qualification.

Its standard is therefore rigorously maintained to ensure its continuing high regard and recognition.

You would be well advised to take note of these recommendations which are intended to help you achieve success at this final stage.

Best wishes for success