



May 2025

# Chief Examiner Report – Level 3

Design, Engineer, Construct



# Introduction

This report covers TQUK's Level 3 Diploma in Design Engineer Construct! The Digital Built Environment. It is designed to help you understand the overall learner performance in the exam. For each question, there is a brief feedback of learner responses.

The June 2025 exam series addressed both Level 2 and 3 qualifications with centres taking advantage of entering their learners for this exam series. This was an opportunity to re-sit the exam taken in the January series.

It has been very encouraging to see so many centres positively embracing the examination aspect of the qualifications across Level 3, to allow their learners to demonstrate their knowledge across the assessment criteria.

The Level 3 exam paper comprised of 10 questions, with no changes to the structure from previous years. In addition, the exam was accompanied with a resource document.

## Administration

All centres are praised for submitting all exam scripts and associated evidence promptly to support the assessment process. There were no delays in the submission or the exam scripts.

## Resource document

It was evident learners were able to positively engage with all aspects of the scenario and brief content with differing outcomes. It is apparent centres have prepared their learners using previous examinations and the associated resource documentation.

## Learner engagement

Positive learner engagement was demonstrated with a high majority of learners attempting all questions. This demonstrated learner confidence and also evidenced the centres' ability to address the whole of the specification, rather than focusing less attention on certain areas due to a lack of subject specific knowledge. This had been apparent in previous exams. Both learners and teachers are praised for their continual development and improvement.

Highlights at Level 3 - learners demonstrated clear knowledge and understanding when answering questions regarding materials. This was apparent across many questions regarding sustainable practices in sourcing and the identification of an appropriate structural form related to the scenario. In addition, it is evident from scores recorded, learners engaged well when questions were linked to the resource document.

## Learner performance

Learners should be familiar with the full range of content from the specification and should be able to apply these concepts to different scenarios. In addition, the ability to recognise the demands of a question is also important. Learners should understand the different responses required for different command words. For example, identify, explain, discuss and evaluate.

At Level 3, the grade boundaries remained stable, evidencing a consistency in the challenge of the exam paper. Grade boundaries for A, B & D remained the same. For grade A\* & C there was an increase by one mark, and a decrease of one mark for grade E. Learner performance improved at A\*, A and B. (This comparison is drawn against January 2025 exam outcomes).

## Areas to work on

With all subject content there is a need to be aware of specific technical language. To access more marks, especially at the lower grades, learners are encouraged to demonstrate their understanding of the technical language to support their ability to improve their attainment. Furthermore, learners should be careful not to give more responses than requested. This happens rarely, but in a scenario where a learner is asked for two responses but offers three or more, only the first two responses are assessed. Further responses, even if correct will not be awarded any marks as the question explicitly asked for a specific number of answers. For example, 'State two properties of...'.

## Conclusion

In conclusion, the paper provided questions that presented learners the opportunities to demonstrate their knowledge across the qualification specification via a range of different context-based questions. The paper offered a range of differentiated questions and a full range of marks were observed.

## Commentary on individual questions

**Question 1** was aimed to assess the understanding of hydrological surveys and other site surveys, plus tools or pieces of equipment used. Subject Content Coverage 1.3.1 & 1.3.5

Learners were required to show their understanding of the data collected from hydrological surveys, identify other types of data associated with site surveys and to identify tools or pieces of equipment used.

Learner performance– Almost all learners were able to achieve full marks in the first part of the question. Over three quarters were able to gain full marks in the other sections to demonstrate their clear understanding of the role of the site survey and the tools or pieces of equipment used.

**Question 2** was aimed to assess the understanding of structures and materials. Subject Content Coverage 3.2.1. & 3.2.5

Learners were required to identify features of a shell structure, advantages and disadvantages of a mass structure and properties of steel.

Learner performance – Two thirds of learners were able to identify the features of a shell structure successfully. Three quarters achieved two or three marks when addressing the features of steel, and two thirds of learners were able to provide advantages and disadvantages of a mass structure. Almost, all learners were able to gain over half marks throughout this question overall.

**Question 3** was aimed to assess the understanding of responsible procurement and ethical sourcing, minimising waste, then concluding in the impact of large-scale construction projects. Subject Content Coverage 1.2.4, 1.2.3 & 1.2.1

Learners were required initially to identify responsible procurement and environmental reasons to use ethical sourcing practices. Then, to explain why a construction company would want to minimise waste. Finally, in relation to the scenario, to identify positive and negative impacts the project could have on a local community.

Learner performance – Most learners were able to provide the correct answer for the first part of question 3a, and two thirds were able to achieve 2 marks or more. Four fifths were able to successfully explain reasons why a construction company would want to minimise waste. Finally, three quarters were able to identify the positive and negative impacts upon the local community of a large-scale construction project identified in the resource document. Learners demonstrated positive engagement with this question scoring highly, evidencing their knowledge and understanding.

**Question 4** was aimed to assess the understanding of occupant comfort and addressing calculations linked to the scenario presented in the resource document. Subject Content Coverage 3.3.1 & 3.3.3.

Learners were required to describe occupant comfort and factors that contribute. Then, calculate areas of spaces in the auditorium, lumens and the number of bulbs required.

Learner performance – The majority of learners were able to access full marks when addressing what is occupant comfort and almost all were able to gain full marks when identifying factors that contribute to it.

Regarding **Question 4b**, over three quarters of learners were able to secure 2 marks or more, with over half achieving full marks. Differing methods of calculations from those recorded in the mark scheme written by learners were positively rewarded.

For the remaining tasks in the question nearly all learners recorded full marks. The formula was included in the question stem to positively support.

**Question 5** was aimed to assess the understanding of BIM and facilities management, the handover to the client, and finally setting targets of consumption. Subject Content Coverage 5.1.1, 5.1.2, 5.1.3 & 5.1.5.

Learners were required to identify one way Building Information Modelling (BIM) supports the operation, management or maintenance of a sustainable building project during its lifecycle, and to identify benefits of involving the Facilities Manager early in the design process. In addition, the importance of the handover to the client and benefits of setting targets for energy and / or water consumption.

Learner performance – Three quarters of learners achieved full marks when identifying how BIM can support the operation, management or maintenance of a sustainable building project. Three quarters achieved half marks and above when addressing the benefits of involving a Facilities Manager in the design process. Similarly, three quarters achieved half marks or above when explaining the importance of the handover process to the end user. Many learners demonstrated a clear understanding of the importance of the handover process for different reasons. Finally, two thirds of learners were able to gain half marks or above, with a third achieving 4 out of 6 marks. Learner responses demonstrated a clear knowledge and understanding of issues around energy and water usage issues.

**Question 6** addressed building orientation, calculating a U-value, and a glazing allowance based on the scenario. Subject Content Coverage 2.2.4

Learners were required to calculate the total glazing allowance for the extension, extracting data from the resource document. Secondly, they were required to calculate a U-value for a wall from data provided in the question. Finally, address building orientation and its effect on solar gain and natural ventilation.



Learner performance – Regarding the glazing allowance calculation question; a quarter of learners achieved full marks, with three quarters scoring 3 marks and above from a total of 6 available marks. Differing methods from those recorded in the mark scheme employed by learners were positively rewarded. Over two thirds achieved full marks when calculating the U-value for the wall. The formula was provided for support. For both calculation tasks there was a small number who did not attempt either task. Nearly two thirds achieved full marks when identifying how building orientation of a building affects solar gain and natural ventilation.

**Question 7** was aimed to assess the understanding of costs in a construction project. Subject Content Coverage 5.2.3, 5.3.3 & 5.3.1

Learners were required to identify the following costs; fixed, variable and capital.

Learner performance – Learner responses differed across each area of the question. Two thirds of learners were able to successfully identify both fixed and capital costs, but just under half were unable to correctly identify a variable cost. There were many repeated answers across this question which demonstrated for some learners, a lack of knowledge with regards to the different categories of costs.

**Question 8** was aimed to assess the understanding of a sustainable construction, structural methods, materials, the sourcing of materials and off-site production. Subject Content Coverage 6.1.3, 6.1.1, 6.1.4 & 6.1.2

Learners were required to demonstrate their knowledge of how methods of sustainable construction could impact the energy performance of the completed construction project and discuss the impact it could have on the Grade II listed building. Then, to describe a suitable structural method for the auditorium and propose an appropriate material with reasoning. In addition, to suggest a way the material can be sustainably sourced. Finally, to provide a positive and negative impact of MMC on operating costs.

Learner performance – Most learners recorded 2 to 4 marks for **question 8a** from a possible total of 8 marks. To access further merit, there was a requirement to link the suggested feature to the energy performance of the building. Few learners achieved this. Popular responses addressed insulation improvements.

For **question 8b**, three quarter of learners recorded marks regarding a suitable structural form with over half achieving full marks. Three quarters gained full marks regarding an appropriate material and identification of how the chosen materials can be sustainably sourced. The most popular response was steel as an appropriate material.

Finally, **question 8c**; three quarters scored half marks, with half of the learners achieving full marks when addressing the impact of MMC on operating costs. Learners demonstrated positive engagement with this part of the question scoring highly.

**Question 9** was aimed to assess the knowledge and understanding of a feasibility study, a schedule of accommodation and client responsibilities. Content Coverage 2.3.3, 3.1.4 & 2.1.2

Learners were required to identify what a feasibility study should include, state three benefits of creating a schedule of accommodation, and explain responsibilities of the client in a construction project.

Learner performance – Regarding question 9a, half of learners recorded one mark or more for this question, with many responses addressing alternative types of studies. For question 9b, over half of the learners gained 2 to 3 marks. For the final part of the question, three quarters achieved over half marks with most recording 4 out of 6 marks. Learners demonstrated positive engagement with this question scoring well.

**Question 10** was aimed to assess the understanding of the materials and their aesthetic appeal. Subject Content Coverage 6.1.1

Learners were required to address the combination of glass, concrete, aluminum and steel materials and compare an advantage and disadvantage of each material to the aesthetic appeal of the completed project.

Learner performance – Over a third of the learners scored 6 from a total of 8 marks available. With three quarters achieving over half marks. Learners were able to provide both advantages and disadvantages of each material. Learners which did not achieve full marks did not address the aesthetic appeal of the material but tended to address the properties of the material. Overall, learners demonstrated positive engagement with this question scoring highly.