

8711-032 MONTH 2022 T Level Technical Qualification in Onsite Construction (8711)

Onsite Construction Core (8711-30) – Theory exam (2) (8711-032)

If provided, stick your candidate barcode label here.

Date of exam (TBC) Duration (2 hours)

Candidate name (first, last)		
First		
Last		
Candidate enrolment number	Date of birth (DDMMYYYY)	Gender (M/F)
Assessment date (DDMMYYYY)	Centre number	Candidate signature and declaration*

- If additional answer sheets are used, enter the additional number of pages in this box.
- Before taking the examination, **all candidates** must check that their barcode label is in the appropriate box. Incorrectly placed barcodes may cause delays in the marking process.
- Please ensure that you staple additional answer sheets to the **back** of this answer booklet, clearly labelling these with your full name, enrolment number, centre number and qualification number in BLOCK CAPITALS.
- All candidates need to use a **black/blue** pen. **Do not** use a pencil or gel pen, unless otherwise instructed.

• If provided with source documents, these documents **will not** be returned to City & Guilds, and will be shredded. Do not write on the source documents.

*I declare that I had no prior knowledge of the questions in this examination and that I will not divulge to any person any information about the questions.

General instructions

- Use black or blue ball-point pen.
- The marks for questions are shown in brackets.
- This examination contains **24** questions. Answer **all** questions.
- Answer the questions in the spaces provided. Answers written in margins or on blank pages will **not** be marked.
- Cross through any work you do not want to be marked.

The exam has been split into **two** sections.

Below details the types of questions and marks available for each section. Please allow time for each section accordingly.

Section A is made up of **60** marks and includes **20** low tariff and medium tariff, short answer questions, which target recall of knowledge, demonstration of understanding **and** application of knowledge and understanding.

Section B is made up of **30** marks and includes **3** extended response questions, which target application of knowledge **and** understanding and analysis and evaluation of information and issues.



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Section A 1 State two principles of material science that must be considered during the construction design process. (2 marks) 2 State the two factors, along with Force, used to determine the mechanical power required to move a load. (2 marks) During the design stage there are various methods used to display the overall finished 3 look of a project. State **two** of these methods. (2 marks) State **two** pieces of information that can be obtained from a Gantt chart. (2 marks) 4 5 State **two** materials that would reduce the transmission of sound. (2 mark)

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6	Give one advantage and one disadvantage that the use of a laser level has over traditional levels.	(2 marks
7	Describe how a critical path network is used to plan specific tasks within a construction project.	(2 marks)
8	A 1000 mm deep trench, 300 mm wide and 2500 mm long, has been dug for a strip foundation. The original plans detailed a 300 mm deep layer of concrete, but it has been decided to fill the trench to the top.	
	Calculate how much extra concrete will be required, rounded to two decimal places.	
	Show your workings below.	(2 marks)
9	Give two examples of how construction companies can incorporate corporate social responsibility (CSR) into construction projects.	(2 marks)

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Give two examples of where conflict can arise between a client and their main contractor during a domestic construction project and the conflict management techniques used to resolve them.	(4 mark
Describe two ways that sound can enter a building from the outside and two design features that will help keep sound out of the building.	(4 mark

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12	Describe two behaviours, putting each into context, that would help maintain good relationships with customers during domestic construction projects.	(4 ma
13	Explain two effects moisture can have on construction materials.	(2 ma
14	Calculate the energy required to raise a 20 kg mass a distance of 15 m.	
	Show your workings below.	(2 ma

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15	Explain how photovoltaic energy is generated in a domestic dwelling.	(5 marks)
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16	 Four resistors with values of 10 Ω, 25 Ω, 30 Ω and 45 Ω are connected in Parallel to a 110 v supply. Calculate: a) Total power dissipated by the circuit. b) The power dissipated by the 30 Ω resistor. 	
	Show your workings below.	(5 marks)
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17	During the design stage of a new build project, your client enquires about the use of 'Smart Concrete'.	
	Describe the usage and benefits of this new technology.	(2 mai
18	A new build office is to be illuminated. The client is considering the installation of light tunnels in the roof space to allow for natural lighting and has asked for your opinion.	
	Describe four benefits of utilising natural lighting in a building with regards to a	
	person's health.	(4 ma
	person's health.	(4 ma
	person's health.	(4 mai

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19	As part of a design process for a new inner-city medical centre, you are asked to assess the building performance of similar projects in other cities.	
	Whilst assessing a building's performance, various criteria are used. Describe two criteria.	(4 marks)
20	You are working as a site manager in charge of a large refurbishment project of an	
	NHS hospital. Explain the actions you will take to ensure you adhere with your responsibilities for	
	overseeing health and safety of employees working on site in line with the Health and Safety at Work Act 1974.	(6 marks)

Section **B**

21 A contractor has been appointed to the design, development and implementation of the planning and construction of a community-based project.

Analyse and evaluate the corporate and social responsibilities of the contractor. (9 marks)





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Analyse and evaluate, using examples, how collaborative working impacts the completion of a construction project.	(9)

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23 You are working on an international construction project, with many colleagues from different countries.

Analyse the different types of measurement methods and discuss how the importance of communicating accurate measurements can impact on the project.

(12 marks)



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