



TQUK Level 3 Certificate in Design, Engineer, Construct: The Digital Built Environment (RQF)

(603/2052/7)

Paper ID: KNIL - 10 Certificate

Assessment date: PASTPAPER1

Please complete the details below using black or blue ink.

Use BLOCK CAPITALS.

You must use the Resource Document provided.

Learner Name: _____

Learner Number: _____

Learner Signature: _____

Centre Name: _____

Centre Number: _____

Student instructions:

- Use **black** or **blue** ink.
- Read each question carefully.
- Answer **all** questions.
- You should have **2** documents on your desk: this Examination Paper and the Resource Document.

Student information:

- You may use a calculator.
- The total mark for this paper is **60 (sixty)** marks.
- The marks for **each** question are shown in brackets.
- The use of dictionaries is **not** permitted.
- Use the Resource Document alongside the questions
- Additional writing space can be found on pages **17** and **18**. If you use this, clearly indicate which question number you are answering.

Time allowed: 1 hours.

This paper **MUST** be invigilated in accordance with TQUK Invigilation Requirements.

Do not open this examination paper until you are told to do so.

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Past paper

Question 1

- 1a.** Identify **one** element that should be included in a mission statement.

Answer:

[1]

- 1b.** What does 'ethical sourcing' mean?

Answer:

[1]

- 1c (i).** What does 'sustainability monitoring and reporting procedures' for the lifecycle of the project mean?

Answer:

[1]

Questions continue on the following page

- 1c (ii).** State a benefit of sustainability monitoring and reporting procedures on the lifecycle of a construction project.

Answer:

[1]

- 1d.** Identify **two** ways an eco-building project team could commit to minimising construction waste.

Answer:

[2]

Question 2

- 2a (i).** Identify **one positive** and **one negative** of using larch for an eco-house construction.

Positive answer:

[1]

Negative answer:

[1]

Total for Question = 2 marks

- 2a (ii).** Identify **one positive** and **one negative** of using oak for an eco-house construction.

Positive answer:

[1]

Negative answer:

[1]

Total for Question = 2 marks

Questions continue on the following page

2a (iii). Identify **one positive** and **one negative** of using bamboo for an eco-house construction.

Positive answer:

[1]

Negative answer:

[1]

Total for Question = 2 marks

2b. Choose **one** material from **either** bamboo, larch, **or** oak to clad the exterior of an eco-build house.

Explain **two** reasons why you have chosen the material.

Answer:

[4]

Question 3

3a. Explain **two** purposes of a hydrology study.

Answer:

[2]

3b (i). Identify **two** objectives of a geotechnical survey during the initial planning stages of a project.

Answer:

[2]

Questions continue on the following page

3b (ii). Identify **two** methods of study in a geotechnical survey.

Answer:

[2]

3b (iii). Explain the importance of a geotechnical survey in construction.

Answer:

[2]

- 3c (i).** Identify **two** objectives of a topographical survey in the initial planning stages of a construction project.

Answer:

[2]

- 3c (ii).** Identify **two** methods of study in a topographical survey in construction.

Answer:

[2]

Questions continue on the following page

3c (iii). Explain the importance of a topographical survey in construction.

Answer:

[2]

Question 4

4a. Identify **two** different aspects of occupancy comfort.

Answer:

[2]

4b. Look at the Resource Document.

Calculate the average total lumens required for the footprint of **Plot 3**.

You **must** show your workings.

Answer:

[2]

Questions continue on the following page

4c. Look at the Resource Document.

The average room height for a private home is 2,400mm.

Using the equation:

$$\text{air change per hour} = \text{airflow rate (m}^3/\text{h)} \div \text{room volume (m}^3\text{)}$$

Calculate the air change per hour for the footprint of **Plot 3**.

Give your answer to **one** decimal place.

You **must** show your workings.

Answer:

[4]

- 4d.** Identify the meaning of **each** of the symbols in the formula.

$$U = Q \div (A \times \Delta T)$$

You **must** write your answers in the table below.

Where:

U =	
Q =	
A =	
ΔT =	

[4]

Questions continue on the following page

Question 5

5a. Explain **two** advantages of an organogram in a construction project.

Answer:

[2]

5b. Identify **two** fundamentals of a construction design brief.

Answer:

[2]

- 5c.** State **two** ways building information modelling (BIM) is used by an integrated project team.

Answer:

[2]

Past paper

Questions continue on the following page

Question 6

- 6a.** Name the legislation used to decide if planning permission is required for a **new** development.

Answer:

[1]

- 6b.** Planning permission is a **six-stage process**.

Identify the **three** missing stages in order in the table below.

Stage 1	Pre-application advice.
Stage 2	Application submission.
Stage 3	
Stage 4	
Stage 5	
Stage 6	Implementation.

[3]

6c (i). Identify **three** purposes of Building Regulations.

Answer:

[3]

6c (ii). Identify **three** reasons why you should apply for Building Regulations.

Answer:

[3]

Questions continue on the following page

6c (iii). Discuss **one** impact of **non-compliance** with Building Regulations.

Answer:

[2]

Past paper

Extra Writing Paper

Please use the page below if you require additional space for answers. Clearly indicate which question number and part you are answering.

[illegible]

Extra Writing Paper

Please use the page below if you require additional space for answers. Clearly indicate which question number and part you are answering.

Past paper

This is the end of the assessment.

Question	Marks	Question	Marks
1a		3c (ii)	
1b		3c (iii)	
1c(i)		4a	
1c(ii)		4b	
1d		4c	
2a (i)		4d	
2a (ii)		5a	
2a (iii)		5b	
2b		5c	
3a		6a	
3b (i)		6b	
3b (ii)		6c(i)	
3b (iii)		6c(ii)	
3c (i)		6c(iii)	

Total	
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