



TQUK Level 2 Certificate in Design, Engineer, Construct: The Digital Built Environment (RQF) (603/1992/6)

Paper ID: NAYER - 10 Certificate

Assessment date: PAST PAPER 1

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 **80 (eighty)** 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 **18** and **19**. If you use this, clearly indicate which question number you are answering.

Time allowed: 1 hour 30 minutes.

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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Question 1

1a. What does 'benchmark costs' mean?

Answer:

[1]

1b. The space for the community centre has approval for a design with a **footprint of 1,760m²**

Calculate the build cost of the community centre footprint **only**.

You **must** show all your workings.

Answer:

[2]

Questions continue on the following page

1c. Look at the Resource Document.

Using your answer to question **1b**.

Calculate the build cost of the community centre footprint **and** the external works allowance.

You **must** show all your workings.

Answer:

[2]

Past Paper

1d. Look at the Resource Document.

Using your answer to question **1b**.

Calculate the additional costs of the community centre.

You **must** show all your workings.

Answer:

[3]

Questions continue on the following page

Question 2

2. State **four** pieces of legislation relevant to a construction project.

Answer:

[4]

Past Paper

Question 3

3. Identify **four** ways a 3D model can be used to test a building design.

Answer:

[4]

Question 4

- 4a. It is important for a construction project proposal to be compatible with existing infrastructure.

Identify **two** reasons why this is important.

Answer:

[2]

Questions continue on the following page

4b. Identify **two** impacts on biodiversity when completing an eco-build project.

Answer:

[2]

Question 5

5a. Explain the term 'user experience'.

Answer:

[1]

5b. Look at the Resource Document.

The aesthetic and / or sensory features of the community centre building project would impact the user's experiences.

Give **four** examples how.

Answer:

[4]

Questions continue on the following page

- 5c.** It is important to consider the energy efficiency of the lighting during the design stage.

Identify **three** eco-build lighting features that can be included in the design of the community centre.

Answer:

[3]

Question 6

- 6a.** Give **two** accessibility and / or inclusivity features that can be used in the design of the community centre.

Answer:

[2]

- 6b.** Provide **one** example of a feature the community centre could use to conserve water.

Answer:

[1]

- 6c.** The community centre should meet all fire safety regulations, including having fire exits.

Identify **two other** fire safety methods that should be included in the building design.

Answer:

[2]

Questions continue on the following page

Question 7

7a(i). Explain what '**qualitative data**' means.

Answer:

[1]

7a(ii). Explain what '**quantitative data**' means.

Answer:

[1]

7b. Identify the **two** requirements needed to calculate the required lighting levels for a specific room or area.

Answer:

[2]

- 7c.** When procuring the lighting system for a building project, state **two** benefits of using smart light-emitting diodes (LEDs).

Answer:

[2]

Past Paper

Questions continue on the following page

- 10w (watt) LED lamps (100 lumens per watt), average 4 hours use per day
- number of fixtures = lumens required \div lumens per fixture (round up to the nearest whole number)
- total power consumptions = number of fixtures x watt per bulb
- daily energy consumption (kWh) = total power consumption x hours.

Calculate the average daily energy requirements to light the **activity studio**.

You **must** show all your workings.

Answer:

Fast Paper

[10]

- 8a.** Identify and explain how a comprehensive design brief helps prevent mistakes from happening during the construction of a building.

Answer:

[2]

- 8b.** Identify **one** type of specialist that would need to be contracted from **outside** the construction team.

Answer:

[1]

Questions continue on the following page

Fast Paper

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Question 10

- 10a.** One benefit of improving a building's energy performance is to reduce energy costs.

Identify **one other** benefit to improving the building's energy performance.

Answer:

[1]

- 10b.** State **three** ways the end user of a construction project can improve the building's energy performance.

Answer:

[3]

10c(i). Identify **four** benefits of evaluating stakeholder feedback on a sustainable construction project.

Answer:

[4]

10c(ii). Explain how **each** benefit identified in question **10c(i)** can help inform future build projects.

Answer:

[4]

Questions continue on the following page

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

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		7a(i)	
1b		7a(ii)	
1c		7b	
1d		7c	
2		7d	
3		8a	
4a		8b	
4b		8c	
5a		9a	
5b		9b	
5c		10a	
6a		10b	
6b		10c(i)	
6c		10c(ii)	

Total	
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