



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

Paper ID: NAYER - 11 Certificate

Assessment date: PAST PAPER 2

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 **20** and **21**. 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 'inclusive design' mean?

Answer:

[1]

1b. Look at the Resource Document.

The new Norwood Park facility is designed to be an inclusive sports centre, and it must comply with all safety regulations.

Identify **two** inclusive features that should be included in its design.

Answer:

[2]

Questions continue on the following page

- 1c.** State **two** benefits of the Building Research Establishment Environmental Assessment Method (BREEAM).

Answer:

[2]

- 1d.** What is the 'right to light'?

Answer:

[1]

Question 2

- 2a.** Effective communication between the construction team members and the client can prevent mistakes from being made.

Explain **four** reasons why.

Answer:

[4]

Questions continue on the following page

2b. Identify **four** issues that can cause a project to go over budget.

Answer:

[4]

Question 3

- 3a.** Identify **one** specialist who manages: detailed cost estimation, budgeting and the financial planning of a project.

Answer:

[1]

- 3b.** Identify **one** specialist who advises on operational and maintenance needs during the design phase.

Answer:

[1]

- 3c.** Identify **one** specialist who designs and integrates systems, such as solar panels or geothermal heating.

Answer:

[1]

Questions continue on the following page

Question 4

- 4a.** Identify **two** procurement options that will have a positive **environmental** impact.

Answer:

[2]

- 4b.** Identify **two** procurement options that will have a positive **social** impact.

Answer:

[2]

4c. Identify **two** procurement options that will have a positive **economic** impact.

Answer:

[2]

Question 5

5a. State **one** benefit of 'optimising performance' in a building project.

Answer:

[1]

Questions continue on the following page

5b. Look at the Resource Document.

Identify **four** technologies which could be integrated into the sports facility design to optimise energy performance.

Answer:

[4]

5c. Identify **four** potential issues associated with the build stage of a construction project.

Answer:

[4]

Question 6

6a. Look at the Resource Document.

Calculate the **total build cost** of the sports facility (**excluding** additional costs).

Use: total build cost = build cost per m² x internal floor area

You **must** show all your workings.

Answer:

[2]

6b. Look at the Resource Document.

Calculate the amount of money from the budget that will cover the **internal fit-out costs**.

Use: fit-out costs = internal floor area x (build cost per m² x fit-out cost %)

You **must** show all your workings.

Answer:

[2]

Questions continue on the following page

6c. Look at the Resource Document.

Calculate the **total cost** to build the new Norwood Park Sports Centre, including **all additional** costs.

You **must** show all your workings.

Answer:

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[6]

Question 7

7a. Look at the Resource Document.

Calculate the lumens needed for the **function room**.

Use: lumens = lux x area.

You **must** show all your workings.

Answer:

[2]

7b. Look at the Resource Document.

The building design for the Norwood Park Sports Centre includes smart LED lighting.

The lighting uses 6-watt lamps. **Each** lamp provides a minimum of 400 lumens.

Calculate the number of lamps required to light the **function room**.

Use: total lamps = lumens ÷ lamp brightness in lumens

You **must** show all your workings.

Answer:

[2]

Questions continue on the following page

7c. Identify **two** purposes of a Construction, Design and Management Plan.

Answer:

[2]

Past paper

- Answer:**

First paper

[8]

13

Question 8

8a. Identify **three** investigations to complete during a feasibility study.

Answer:

[3]

Past paper

- Answer:**

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Answer:

15

- 9b.** Identify **three** examples of how an organogram can benefit a design and build project.

Answer:

[3]

Question 10

- 10a(i).** Identify the importance of feedback during a construction project.

Answer:

[1]

10a(ii). Explain **one** way feedback can be used for improvements in future projects.

Answer:

[2]

10b(i). Define the term 'aesthetic experience' for the user.

Answer:

[1]

Questions continue on the following page

10b(ii). Give **three** examples of aesthetic experiences.

Answer:

[3]

10c(i). Define the term 'sensory experience' for the user.

Answer:

[1]

10c(ii). Give **three** examples of sensory experiences.

Answer:

[3]

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

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

Total	
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