



General Certificate of Secondary Education  
2023

Centre Number

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Candidate Number

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# Construction and the Built Environment

Unit 1

Introduction to the Built Environment



[GCN11]

\*GCN11\*

**MONDAY 5 JUNE, MORNING**

## TIME

1 hour.

## INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

**You must answer the questions in the spaces provided.**

**Do not write outside the boxed area on each page or on blank pages.**

Complete in black ink only. **Do not write with a gel pen.**

Answer **all six** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

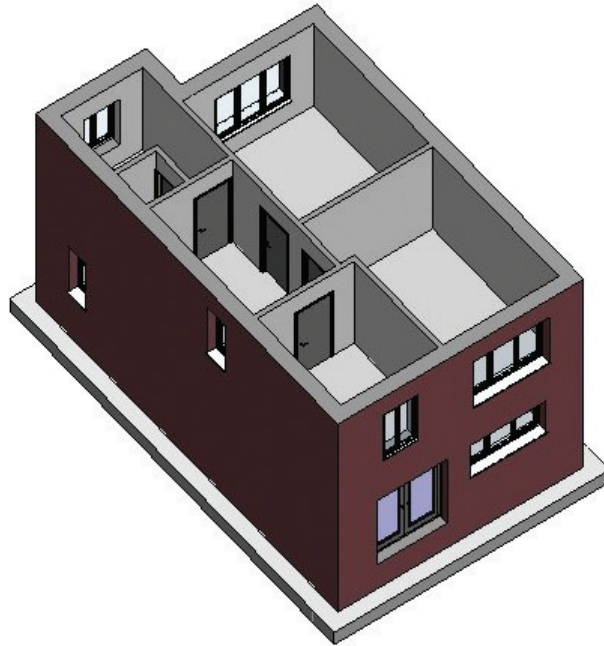
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in question **3(c)**.



Answer **all** questions

- 1 **Fig. 1** shows a three-dimensional view of the basic structure commonly used in the construction process for domestic construction.



**Fig.1**

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- (a) Name the **type** of structure shown in **Fig. 1**.

\_\_\_\_\_ [1]

- (b) **Three** distinguishing characteristics of this type of structure are:

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]



(c) List **three common** materials normally used in its construction.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

3. \_\_\_\_\_ [1]

(d) Explain how structural stability is achieved in this structure.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

[Turn over







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**[Turn over**



\*20GCN1105\*

2 A client has appointed an architect as the project leader for a **prestige housing development** of 20 town houses and a five-storey apartment block.

(a) State the **name** of the commonly used construction cycle the architect will follow to ensure the successful completion of this project.

\_\_\_\_\_ [1]

(b) State the **year** in which the commonly used construction cycle came into use.

\_\_\_\_\_ [1]

(c) How many **stages** are in this cycle?

\_\_\_\_\_ [1]

(d) Describe what occurs at the **Preparation and Brief stage** of this cycle.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

(e) Describe what occurs at the **Concept Design Stage** of this cycle.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]



(f) Describe what occurs at the **Technical Design Stage** of this cycle.

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[2]

(g) Describe what occurs at the **Construction Stage** of this cycle.

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[2]

(h) State **two** of the main characteristics of town houses the architect will design and manage.

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[2]

[Turn over



(i) Identify **three** of the main roles that an **architect** would have.

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

[3]







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\*20GCN1109\*

3 Timber framed construction is commonly used as a modern method to construct domestic housing in the United Kingdom. Much emphasis is put on the thermal insulation of such properties as enforced by the Building Regulations.

(a) State **two** materials that are commonly used as external cladding for timber framed construction and describe how they are secured to the timber frame.

Material 1:

\_\_\_\_\_ [1]

\_\_\_\_\_

\_\_\_\_\_ [2]

Material 2:

\_\_\_\_\_ [1]

\_\_\_\_\_

\_\_\_\_\_ [2]



(b) Describe the following timber frame terminology.

1. Platform frame

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[2]

2. Balloon frame

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[2]







**4 Finance** is an important resource which is required in order for a project to run efficiently. List **three** other **resource considerations**, explaining each, and giving an example for each one.

1. \_\_\_\_\_ [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3]

2. \_\_\_\_\_ [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3]

3. \_\_\_\_\_ [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3]

[Turn over



5 Health and Safety Legislation has been introduced to keep workplaces safe.

(a) State the name of the **Health and Safety Legislation** that has been introduced in **Northern Ireland**.

\_\_\_\_\_ [1]

(b) Under this legislation, list **two** duties of the **employee** on any construction site.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

(c) Describe the duties of the **designer** as stated in the legislation.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

(d) List **two** pieces of personal protective equipment (PPE) that must be worn on all construction sites.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]



(e) **Electricity** is very dangerous and can cause fatalities or start fires. It is very important that all power tools are safe to use. Explain **three** checks that should be adopted before using a power tool.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [2]

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<b>For Examiner's use only</b>	
<b>Question Number</b>	<b>Marks</b>
1	
2	
3	
4	
5	
6	

<b>Total Marks</b>	
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**Examiner Number**

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