



General Certificate of Secondary Education  
2013

## Construction and the Built Environment

### Assessment Unit 1: The Construction Industry for the 21st Century

[GCB11]

WEDNESDAY 15 MAY, AFTERNOON

StudentBounty.com

Centre Number

71

Candidate Number



#### TIME

1 hour 30 minutes.

#### INSTRUCTIONS TO CANDIDATES

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

Write your answers in the spaces provided in this question paper. Answer **all ten** questions.

Questions **1, 2, 3** and **9** should be answered in relation to the enclosed house drawings and specifications previously issued as pre-release material.

You should not bring any of the material previously issued into this examination.

You will be provided with a clean copy of the pre-release material.

#### INFORMATION FOR CANDIDATES

The total mark for this paper is 120.

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 Questions **8** and **10**.

**A scale rule is required.**

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

<b>Total Marks</b>	
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**Section A**  
Answer **all** questions

Examiner Only	
Marks	Remark

Use the pre-release material to assist with answering questions 1, 2, 3 and 9.

- 1 (a) What is the name given to the type of external wall construction used in the dwelling shown in the pre-release material?
- \_\_\_\_\_ [1]
- (b) List below the type of material from which each of the following building elements is made.
1. Window frames \_\_\_\_\_ [1]
2. Gutter \_\_\_\_\_ [1]
3. External finish \_\_\_\_\_ [1]
4. Doors \_\_\_\_\_ [1]
- (c) The dwelling shown in the pre-release material has non load bearing walls to divide the rooms upstairs.
1. What is the correct name for these walls?
- \_\_\_\_\_ [1]
2. Give the name of **one** suitable material from which the structural members of these walls could be made.
- \_\_\_\_\_ [1]
3. What is the correct name of the material normally used to sheet the outside of these walls before plastering?
- \_\_\_\_\_ [1]

2 The type of roof construction used in the house shown in the pre-release material is a timber cut roof which can accommodate rooms in the roof space.

Clearly state what you understand by the following **six** items that could be used in the house construction shown in the pre-release material. State what their **function is** and **where they would be located** within the roof.

1. Common rafter

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[2]

2. Purlin

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[2]

3. First floor joist

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[2]

4. Ridge board

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[2]

5. Bargeboard

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[2]

6. Soffit

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[2]

Examiner Only	
Marks	Remark



4 (a) List **four** of the most common types of fatal accidents which can occur on a construction site.

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

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

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

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

(b) List **two** of the injuries that are likely to be caused by the incorrect manual handling of construction resources.

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

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

Examiner Only	
Marks	Remark

5 (a) List **five** performance requirements of doors.

1. \_\_\_\_\_ [1]
2. \_\_\_\_\_ [1]
3. \_\_\_\_\_ [1]
4. \_\_\_\_\_ [1]
5. \_\_\_\_\_ [1]

(b) Sketch in the space below a framed, ledged, braced and sheeted door.

[8]

Examiner Only	
Marks	Remark

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**(Questions continue overleaf)**

6 (a) Identify **two** different types of travel infrastructure.

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[2]

(b) Identify the type of structures shown in the pictures below from the list provided.

- Historic building of special interest
- Terraced houses
- Detached houses
- Multi storey apartments
- Commercial properties.



© T Heaney/CCEA

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

[1]



Joe Gough/ IStock/Thinkstock

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

[1]

Examiner Only	
Marks	Remark





7 (a) Fig. 1 shows a section through a cavity wall close to the base of the foundation.

Add the following labels to the drawing below (Fig. 1):

- Insulation
- Outer skin of cavity
- Inner skin of cavity
- Wall tie
- Damp Proof Course

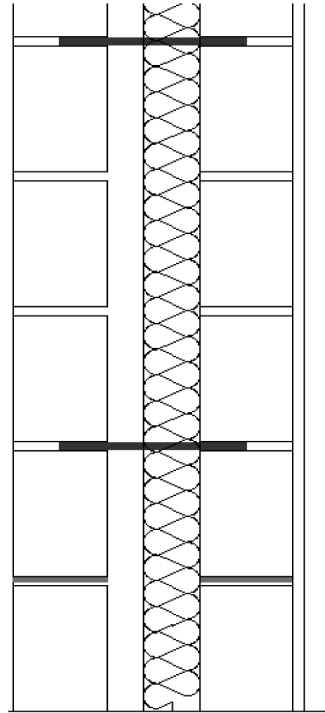


Fig. 1

[5]

(b) List the advantages and disadvantages of using cavity wall construction for new domestic buildings compared with solid brick walls constructed from Flemish bond.

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Examiner Only	
Marks	Remark

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[5]

Examiner Only	
Marks	Remark



9 Fig. 2 below shows an incomplete eaves detail which is to be used for the house shown in the pre-release material.

Complete the drawing and include labels from the list below:

- |                          |                          |
|--------------------------|--------------------------|
| Gutter                   | Outer skin of block work |
| Inner skin of block work | Roofing membrane/felt    |
| Fascia board             | Roofing slates           |
| Rafter                   | Soffit                   |
| Ceiling Joist            | Slating lathes           |

10 marks for labels and 10 marks for drawings [10]

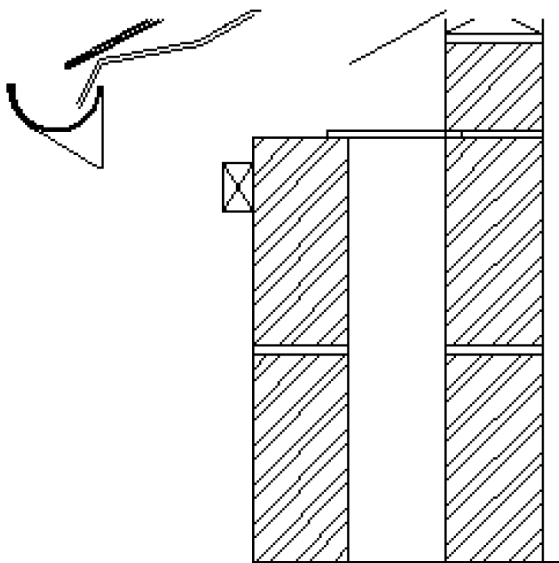
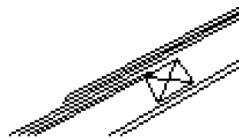


Fig. 2

[10]

Examiner Only	
Marks	Remark





(b) How does this structure transfer its load to the foundations?

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[2]

(c) Identify clearly **two** different methods of joining the steel members and state clearly where each method would be used.

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[4]

(d) How would you advise the client to increase the structural stability of a rectangular framed structure using **three** different building elements/components?

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[4]

Examiner Only	
Marks	Remark



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**THIS IS THE END OF THE QUESTION PAPER**

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