

General Certificate of Secondary Education Summer 2016

Construction and the Built Environment

Assessment Unit 1 The Construction Industry for the 21st Century

[GCB11] MONDAY 13 JUNE, AFTERNOON

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 **7** and **9**.

A scale ruler is required.



Centr	e Nu	mb	er



Candidate Number





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

		Section A		Examin Marks	er Only Remark
		Answer all questions			
		Use the Pre-Release Material to assist with answering Questions 1, 2, 3 and 9.			
1	(a)	What type of external wall construction is used for the house shown in the Pre-Release Material?			
			[1]		
	(b)	The house shown in the Pre-Release Material has been designed using Cellular Construction. List two of the main characteristics of Cellular Construction.			
		(i)	[1]		
		(ii)	[1]		
	(c)	List below eight of the main functional requirements of walls.			
		(i)	[1]		
		(ii)	[1]		
		(iii)	[1]		
		(iv)	[1]		
		(v)	[1]		
		(vi)	[1]		
		(vii)	[1]		
		(viii)	[1]		

2	(a)	Identify three of the main roles that an Architect would have in relato the design and construction of the house shown in the Pre-Release Material.	tion	Examine Marks	er Only Remark
		Architect			
		1			
		2			
		3			
			[3]		
	(b)	Identify three of the main roles that the following personnel would have for the project shown in the Pre-Release Material.			
		Bricklayer			
		1			
		2			
		3			
			[3]		
		Plasterer			
		1			
		2			
		3			
			[3]		

3	(a)		ng the attached Pre-Relea m dimensions in millimetre		erial give the following internal		Examin Marks	er Only Remark
		Son	ne dimensions may need t	to be sc	aled.			
		(i)	The length and width of the	ne mast	er bedroom.			
			Length	_ mm	Width mm	[4]		
		(ii)	The overall width of the h	ouse.				
					Width mm	[2]		
		(iii)	The length and width of the	ne hall.				
			Length	mm	Width mm	[4]		
	(b)		w many internal doors are iched Pre-Release Materia		complete house shown in the			
					doors	[2]		
	(c)	What what where the second sec		nal doul	ble doors from the kitchen/dini	ng		
					mm	[2]		

Aw	ide variety of different materials are used in the construction industr	ту.	Examine Marks	er Only Remark
(a)	What is the name of the most common sheet metal used to waterp valleys in buildings?	roof	Marks	Keinark
		_ [1]		
(b)	List two other metals commonly used in the construction industry a give two common uses of the metal when constructing a large domestic house.	and		
	(i) Common metal	[1]		
	Common use	_ [1]		
	Common use	_ [1]		
	(ii) Common metal	[1]		
	Common use	[1]		
	Common use	_ [1]		
(c)	What is normally manufactured from Polybutylene?			
		[1]		
(d)	List two materials commonly used to make windows.			
	(i)	[1]		
	(ii)	[1]		



(d)	Complete the drawing of the truss rafter shown in Fig. 3 . This truss is to be used on a roof of equal pitch at either side.	Examine Marks	er Only Remark	
	You should show the following as part of your drawing:			
	Overall span of the truss Overhang either end Include all struts, rafters and ties The likely position of the wall plate on either side.			
	Fig. 3 [8]			



Defi Fig.	ne the following terms as they relate to the window shown in 4 .	Examiner Only Marks Remark
(i)	Head	
		_ [1]
(ii)	Sill	
(iii)	Stile	
()		
(iv)	Transom	
(v)	Mullion	
(vi)	Fixed Light	
		_ [1]
(vii)	Opening casement	[4]
		_ [1]

Examiner Only Marks Remark

Frimary school which will have The total cost of the project	ave seven classrooms and supporting facil t will be £5.2 million.	Ities.
		_ [10]

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(Questions continue overleaf)





(h) Make a sketch in the box below to show how the horizontal and vertical members of the material used in Fig. 5 can be joined together on site.



Examiner Only

Marks Remark

Pre-Release Material, suggest ways in which the fabric of the struc could be improved in order to increase the energy efficiency rating.	sture	
	[10]	

10	Discuss the principal activities of the construction industry under the following headings.	Examine Marks	er Only Remark
	Building Civil Engineering Building Services		
	[10]		

THIS IS THE END OF THE QUESTION PAPER

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Construction and the Built Environment

Pre-Release Material EXAMINATION COPY

Assessment Unit 1 The Construction Industry for the 21st Century

[GCB11] **MONDAY 13 JUNE, AFTERNOON**

You must use this clean copy of the Pre-Release Material in the examination and not your own annotated copy.

NOTE: Students will require the use of a scale ruler during the examination.



Introduction

A copy of the Pre-Release Material for this examination is included in this paper and three associated drawings.

The materials contain drawings and specifications relating to a house which is to be constructed locally. This house forms part of a mixed use development constructed from facing brickwork. The site currently employs 25 people.

NOTE Students will require the use of a scale ruler during the examination.



Pre-release material January 2016 - Summer 2016 SCALE: 1: 50

Ground Floor Plan View Drawing No 1

GCSE Construction and the Built Environment



Pre-release material January 2016 - Summer 2016 SCALE: 1: 50

First Floor Plan View Drawing No 2

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9998.03

Grey concrete interlocking roof tiles. White powder coated aluminium

White uPVC fascia and barge board. White uPVC windows and front door. Precast concrete window sills. Precast concrete chimney coping.

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Front Elevation Drawing No 3

Pre-release material January 2016 - Summer 2016 SCALE: 1:50