

Write your name here	
Surname	Other names
Edexcel Principal Learning	Centre Number
	Candidate Number
Construction and the Built Environment Level 1 Unit 4: Create the Built Environment: Methods and Materials	
Monday 11 January 2010 – Afternoon Time: 1 hour	Paper Reference CB104/01
You do not need any other materials.	Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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Answer ALL questions.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

- 1 You have just started your new job in construction and have been placed in the Human Resources Department to learn about different job roles.

Which **five** of the following are classified as craft or trade roles?

A	Civil Engineer	<input type="checkbox"/>
B	Painter and Decorator	<input type="checkbox"/>
C	Quantity Surveyor	<input type="checkbox"/>
D	Plumber	<input type="checkbox"/>
E	Carpenter	<input type="checkbox"/>
F	Architect	<input type="checkbox"/>
G	Site Agent	<input type="checkbox"/>
H	Plasterer	<input type="checkbox"/>
I	Bricklayer	<input type="checkbox"/>
J	Groundworker	<input type="checkbox"/>

(Total for Question 1 = 5 marks)



2 You are now working in the design office and are consulting with the Sustainability Officer.

(a) One feature of sustainability is the preservation of energy and:

(1)

A	resources	<input type="checkbox"/>
B	results	<input type="checkbox"/>
C	research	<input type="checkbox"/>

(b) Which of the following is one way of reducing the environmental impact of a construction project?

(1)

A	Using cheap materials	<input type="checkbox"/>
B	Using new materials	<input type="checkbox"/>
C	Using reclaimed materials	<input type="checkbox"/>

(c) To minimise a construction project's environmental impact, materials should be sourced:

(1)

A	locally	<input type="checkbox"/>
B	internationally	<input type="checkbox"/>
C	nationally	<input type="checkbox"/>



(d) The design team should consider the building's life cycle:

(1)

A	factor	<input type="checkbox"/>
B	pattern	<input type="checkbox"/>
C	cost	<input type="checkbox"/>

(e) The time a project takes can be reduced by using modern construction:

(1)

A	plant	<input type="checkbox"/>
B	workers	<input type="checkbox"/>
C	regulations	<input type="checkbox"/>

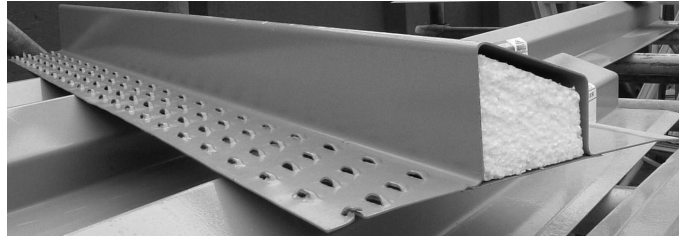
(Total for Question 2 = 5 marks)



3 You are spending time working with the Buyer in order to learn about different building materials and components.

Identify each of the following images by putting a cross ☒ in the correct box.

(a)



(1)

A	Wall plate	<input checked="" type="checkbox"/>
B	Lintel	<input type="checkbox"/>
C	Joist	<input type="checkbox"/>

(b)

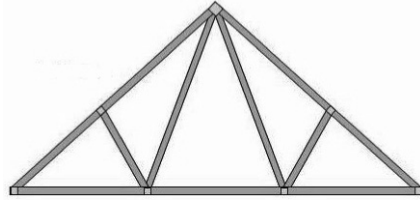


(1)

A	Facing bricks	<input type="checkbox"/>
B	Concrete blocks	<input checked="" type="checkbox"/>
C	Cavity liner	<input type="checkbox"/>



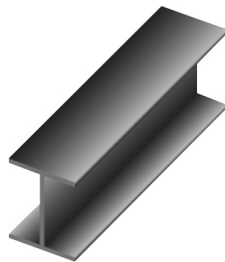
(c)



(1)

A	Braced rafter	<input type="checkbox"/>
B	Purlin	<input type="checkbox"/>
C	Trussed rafter	<input type="checkbox"/>

(d)



(1)

A	Steel beam	<input type="checkbox"/>
B	Steel channel	<input type="checkbox"/>
C	Wall plate	<input type="checkbox"/>

(Total for Question 3 = 4 marks)



H 3 4 9 7 7 A 0 7 2 4

7

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4 You are now working in the general office to broaden your construction knowledge.

(a) MDF is an abbreviation for Medium Density:

(1)

A	Flex	<input type="checkbox"/>
B	Fibreboard	<input type="checkbox"/>
C	Finish	<input type="checkbox"/>

(b) Which of the following can be recycled and reclaimed?

(1)

A	Cement	<input type="checkbox"/>
B	Fibreglass	<input type="checkbox"/>
C	Timber	<input type="checkbox"/>

(c) The construction professional with responsibility for costing a project is the:

(1)

A	Quantity Surveyor	<input type="checkbox"/>
B	Buyer	<input type="checkbox"/>
C	Site Manager	<input type="checkbox"/>



(d) Which of the following is often used to provide insulation in a building?

(1)

A	PVC	<input type="checkbox"/>
B	MDF	<input type="checkbox"/>
C	Fibreglass	<input type="checkbox"/>

(e) Which of the following is a type of construction plant?

(1)

A	Excavator	<input type="checkbox"/>
B	Drill	<input type="checkbox"/>
C	Saw	<input type="checkbox"/>

(Total for Question 4 = 5 marks)



5 Assisting the Site Manager, you have been asked to identify the materials required for a number of construction activities.

Draw a straight line to connect each material to the most appropriate location.

Each location may only be used once.

Material	Location
Mortar	Roof flashing
Lead	Internal doors
uPVC	Floors
Chipboard	Fascia boards
Steel	Lintels
	External brickwork

(Total for Question 5 = 5 marks)



6 You are working in the Human Resources Department again and learning more about different job roles.

Draw a straight line to connect each job classification to the most appropriate job.

Each job may only be used once.

Job classification

Job

Professional

Ganger

Craft

Groundworker

Technician

Steeplejack

Supervisory

Architect

Operative

Site Engineer

Plumber

(Total for Question 6 = 5 marks)



7 Whilst working with the Buyer, you are learning about different types of construction materials.

In the table below, put a cross ☒ in the correct box to indicate whether each material is timber-based, clay-based or neither.

	Clay	Timber	Neither
Fibreglass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bricks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chipboard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(Total for Question 7 = 3 marks)



8 Working with the Plant Manager, you are now learning about different plant, tools and equipment.

Draw a straight line to connect each item of plant/tool/equipment to the most appropriate type.

Each type can be used more than once.

Plant/Tool/Equipment

Type

Dumper

Jigsaw

Tenon saw

Electric drill

Compressor

Hand tools

Portable power tools

Plant

(Total for Question 8 = 5 marks)



9 Whilst updating your work diary, you are reflecting on the knowledge you have gained so far.

(a) To improve the sustainability of a project, the contractor should purchase timber sourced from:

(1)

A	national forests	<input type="checkbox"/>
B	large forests	<input type="checkbox"/>
C	managed forests	<input type="checkbox"/>
D	rainforests	<input type="checkbox"/>

(b) RICS is an abbreviation of Royal Institution of Chartered:

(1)

A	Solicitors	<input type="checkbox"/>
B	Site Managers	<input type="checkbox"/>
C	Steelworkers	<input type="checkbox"/>
D	Surveyors	<input type="checkbox"/>



(c) Crafts people working in the construction industry should hold a Construction Safety Certification Scheme:

(1)

A	card	<input type="checkbox"/>
B	warrant	<input type="checkbox"/>
C	certificate	<input type="checkbox"/>
D	plan	<input type="checkbox"/>

(d) Using low maintenance materials can reduce a building's long-term environmental:

(1)

A	gains	<input type="checkbox"/>
B	power	<input type="checkbox"/>
C	impact	<input type="checkbox"/>
D	weight	<input type="checkbox"/>

(Total for Question 9 = 4 marks)



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10 Working in the design office, you are developing your knowledge of materials/ components and their primary functions.

In the table below, put a cross ☒ in the correct box to indicate whether each component **mainly** provides shelter, insulation or aesthetics.

	Shelter	Insulation	Aesthetics
Windows	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External walls	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fibreglass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Masonry paint	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Roofing slates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(Total for Question 10 = 5 marks)



11 You are updating your work diary and reflecting on the knowledge you have gained to date.

(a) The Building Surveyor is a construction:

(1)

A	operative	<input type="checkbox"/>
B	technician	<input type="checkbox"/>
C	professional	<input type="checkbox"/>
D	supervisor	<input type="checkbox"/>

(b) Which of the following is considered good practice in sustainability terms?

(1)

A	The use of brownfield sites	<input type="checkbox"/>
B	The use of rural sites	<input type="checkbox"/>
C	The use of greenfield sites	<input type="checkbox"/>
D	The use of woodland sites	<input type="checkbox"/>



(c) Which of the following can be used to provide fire protection for structural steelwork?

(1)

A	Plywood	<input type="checkbox"/>
B	Copper	<input type="checkbox"/>
C	Emulsion	<input type="checkbox"/>
D	Plasterboard	<input type="checkbox"/>

(d) The Bill of Quantities is produced by the:

(1)

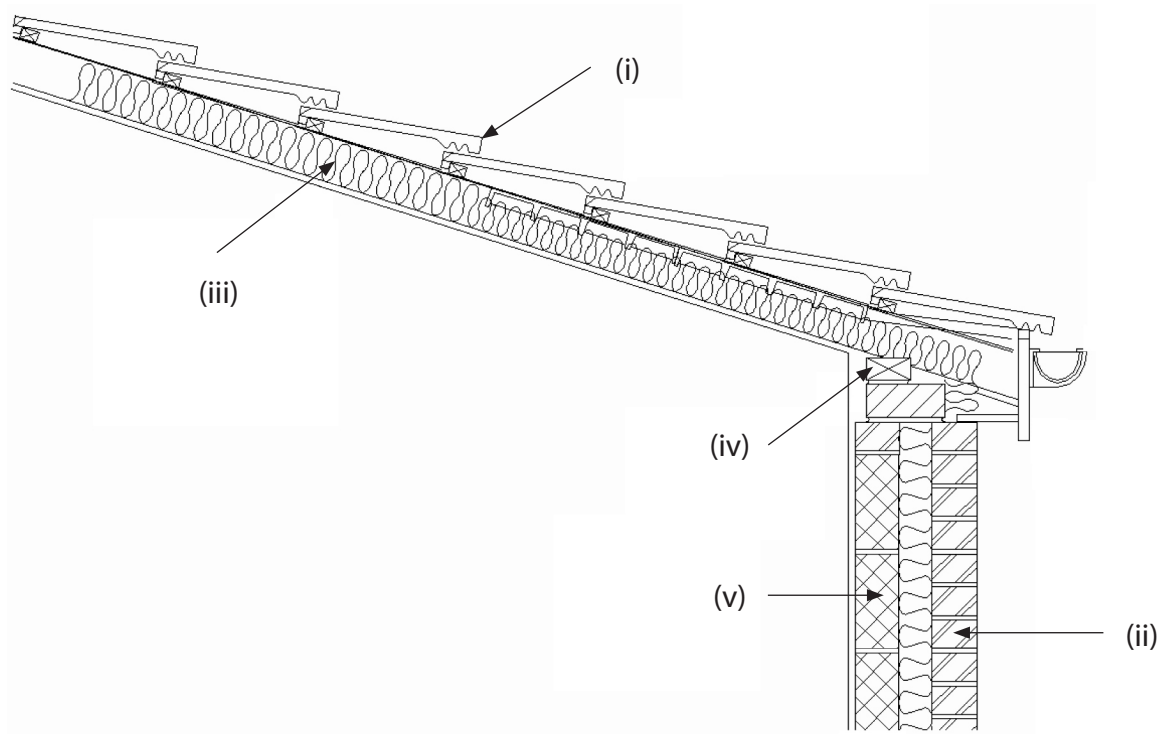
A	Quantity Surveyor	<input type="checkbox"/>
B	Materials Buyer	<input type="checkbox"/>
C	Site Manager	<input type="checkbox"/>
D	Quantity Engineer	<input type="checkbox"/>

(Total for Question 11 = 4 marks)



12 You are working in the design office and learning how to read drawings.

The diagram below shows a section through a roof at eaves level.
Identify the different parts labelled (i) to (v) by putting a cross ☒ in the correct box.



(a) Label (i) shows:

(1)

A	Soffit	<input type="checkbox"/>
B	Tile	<input type="checkbox"/>
C	Felt	<input type="checkbox"/>
D	Insulation	<input type="checkbox"/>



(b) Label (ii) shows:

(1)

A	Blockwork	<input type="checkbox"/>
B	Fascia	<input type="checkbox"/>
C	Stonework	<input type="checkbox"/>
D	Brickwork	<input type="checkbox"/>

(c) Label (iii) shows:

(1)

A	Felt	<input type="checkbox"/>
B	Wall plate	<input type="checkbox"/>
C	Insulation	<input type="checkbox"/>
D	Battens	<input type="checkbox"/>

(d) Label (iv) shows:

(1)

A	Sawn softwood	<input type="checkbox"/>
B	PSE softwood	<input type="checkbox"/>
C	Hardwood	<input type="checkbox"/>
D	PVC	<input type="checkbox"/>



(e) Label (v) shows:

(1)

A	Brickwork	<input checked="" type="checkbox"/>
B	Blockwork	<input checked="" type="checkbox"/>
C	Plasterwork	<input checked="" type="checkbox"/>
D	Stonework	<input checked="" type="checkbox"/>

(Total for Question 12 = 5 marks)

13 The Gantt chart below shows a programme for a construction project.

Activity	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct
1. Site set up	█									
2. Excavations		█								
3.		█								
4. Erect steel frame			█							
5.			█							
6. Brickwork to external walls			█	█						
7.				█	█					
8. First fix					█	█				
9.						█	█			
10. Second fix							█	█		
11.									█	
12. External works and drainage					█	█	█			█
13. Snagging and handover										█



Identify the **five** activities missing from the Gantt chart.

(a) Activity 3 is:

(1)

A	Concrete to foundations	<input type="checkbox"/>
B	Plastering and dry lining	<input type="checkbox"/>
C	Outline planning	<input type="checkbox"/>
D	Cladding and roofing	<input type="checkbox"/>
E	Internal walls and partitions	<input type="checkbox"/>

(b) Activity 5 is:

(1)

A	Decorations	<input type="checkbox"/>
B	Concrete to foundations	<input type="checkbox"/>
C	Plastering and dry lining	<input type="checkbox"/>
D	Electrical first fix	<input type="checkbox"/>
E	Cladding and roofing	<input type="checkbox"/>

(c) Activity 7 is:

(1)

A	Concrete to foundations	<input type="checkbox"/>
B	Decorations	<input type="checkbox"/>
C	Commission mechanical services	<input type="checkbox"/>
D	Internal walls and partitions	<input type="checkbox"/>
E	Plastering and dry lining	<input type="checkbox"/>



(d) Activity 9 is:

(1)

A	Decorations	<input type="checkbox"/>
B	Plastering and dry lining	<input type="checkbox"/>
C	Cladding and roofing	<input type="checkbox"/>
D	Internal walls and partitions	<input type="checkbox"/>
E	Concrete to foundations	<input type="checkbox"/>

(e) Activity 11 is:

(1)

A	Third fix	<input type="checkbox"/>
B	Cladding and roofing	<input type="checkbox"/>
C	Internal walls and partitions	<input type="checkbox"/>
D	Decorations	<input type="checkbox"/>
E	Plastering and dry lining	<input type="checkbox"/>

(Total for Question 13 = 5 marks)

TOTAL FOR PAPER = 60 MARKS

