

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	
Thursday 20 May 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 specialist trade roles?

A	Architect	<input type="checkbox"/>
B	Floor layer	<input type="checkbox"/>
C	Quantity Surveyor	<input type="checkbox"/>
D	Shopfitter	<input type="checkbox"/>
E	Site Engineer	<input type="checkbox"/>
F	Estimator	<input type="checkbox"/>
G	Thatcher	<input type="checkbox"/>
H	Buyer	<input type="checkbox"/>
I	Steeplejack	<input type="checkbox"/>
J	Partition fixer	<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) Sustainable construction projects help to preserve energy and resources for future:

(1)

A	generations	<input checked="" type="checkbox"/>
B	contractors	<input checked="" type="checkbox"/>
C	clients	<input checked="" type="checkbox"/>

(b) By using reclaimed materials, the environmental impact of a construction project can be:

(1)

A	increased	<input checked="" type="checkbox"/>
B	stopped	<input checked="" type="checkbox"/>
C	reduced	<input checked="" type="checkbox"/>

(c) To encourage sustainability, whenever possible materials should be sourced:

(1)

A	locally	<input checked="" type="checkbox"/>
B	privately	<input checked="" type="checkbox"/>
C	cheaply	<input checked="" type="checkbox"/>



(d) Life cycle costing is an important factor to be considered by a building's:

(1)

A	neighbour	<input type="checkbox"/>
B	designer	<input type="checkbox"/>
C	cleaner	<input type="checkbox"/>

(e) The use of modern construction plant can help to increase the construction project's:

(1)

A	cost	<input type="checkbox"/>
B	length	<input type="checkbox"/>
C	efficiency	<input type="checkbox"/>

(Total for Question 2 = 5 marks)



3 You are spending time working with the Plant Manager in order to learn about different construction plant.

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

(a)



(1)

A	Power drill	<input type="checkbox"/>
B	Jack hammer	<input type="checkbox"/>
C	Compressor	<input type="checkbox"/>

(b)



(1)

A	Pallet truck	<input type="checkbox"/>
B	Telescopic handler	<input type="checkbox"/>
C	Forklift truck	<input type="checkbox"/>



(c)



(1)

A	Telescopic handler	<input type="checkbox"/>
B	Tower crane	<input type="checkbox"/>
C	Mobile crane	<input type="checkbox"/>

(d)



(1)

A	Vibrating roller	<input type="checkbox"/>
B	Road press	<input type="checkbox"/>
C	Steam roller	<input type="checkbox"/>

(Total for Question 3 = 4 marks)



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

(a) Windows are often constructed using:

(1)

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

(b) DPM is an abbreviation of Damp Proof:

(1)

A	Matting	<input type="checkbox"/>
B	Membrane	<input type="checkbox"/>
C	Material	<input type="checkbox"/>

(c) The construction professional who carries out valuations of buildings is the:

(1)

A	Building Surveyor	<input type="checkbox"/>
B	Buyer	<input type="checkbox"/>
C	Architect	<input type="checkbox"/>



(d) DPC is an abbreviation of Damp Proof:

(1)

A	Cover	<input type="checkbox"/>
B	Coating	<input type="checkbox"/>
C	Course	<input type="checkbox"/>

(e) The role of Assistant Site Engineer is classified as a:

(1)

A	technician role	<input type="checkbox"/>
B	supervisory role	<input type="checkbox"/>
C	management role	<input type="checkbox"/>

(Total for Question 4 = 5 marks)



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

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

Each location may only be used once.

Material/component

Location

Air brick

Roof coverings

Slate

Architraves

Copper

Electrical wiring

Fibreglass

External walls

MDF

Loft insulation

Foundations

(Total for Question 5 = 5 marks)



6 You are now working in the Human Resources Department 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

Operative

Electrician

Trade

Planner

Specialist trade

Ceiling fixer

Technician

Site agent

Management

Buyer

Drain layer

(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, cement-based or plastic-based.

	Timber	Cement	Plastic
PVC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MDF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mortar	<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 types of plant and the activities for which they are commonly used.

Draw a straight line to connect each plant to the most appropriate activity.
Each activity can be used more than once.

Plant

Activity

Plate vibrator

Working at height

Cherry picker

Telescopic handler

Moving materials

Tower crane

Compacting materials

Vibrating roller

(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 ensure the stability of a cavity wall, which of the following must the bricklayer use at regularly spaced intervals?

(1)

A	Wall ties	<input type="checkbox"/>
B	Retaining clips	<input type="checkbox"/>
C	Insulation	<input type="checkbox"/>
D	Bolts	<input type="checkbox"/>

(b) Professional Quantity Surveyors will be members of the:

(1)

A	RIBA	<input type="checkbox"/>
B	NAQS	<input type="checkbox"/>
C	RICS	<input type="checkbox"/>
D	CSCS	<input type="checkbox"/>

(c) Construction professionals are typically qualified to:

(1)

A	Advanced level	<input type="checkbox"/>
B	Higher level	<input type="checkbox"/>
C	Foundation level	<input type="checkbox"/>
D	Degree level	<input type="checkbox"/>



(d) The use of low maintenance materials can help to reduce the cost of a building over its full:

(1)

A	height	<input type="checkbox"/>
B	life cycle	<input type="checkbox"/>
C	costing	<input type="checkbox"/>
D	valuation	<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
Roof tiles	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Polystyrene	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Facing bricks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Roofing felt	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Gloss paint	<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) Plasterboard could be used on structural steelwork to provide protection from:

(1)

A	rust	<input type="checkbox"/>
B	fire	<input type="checkbox"/>
C	water	<input type="checkbox"/>
D	frost	<input type="checkbox"/>

(b) Everybody on a construction site is responsible for:

(1)

A	sustainability	<input type="checkbox"/>
B	costs	<input type="checkbox"/>
C	planning	<input type="checkbox"/>
D	safety	<input type="checkbox"/>

(c) To prevent the rising of moisture in external walls, it is important to incorporate a:

(1)

A	wall tie	<input type="checkbox"/>
B	cavity tray	<input type="checkbox"/>
C	DPC	<input type="checkbox"/>
D	lintel	<input type="checkbox"/>



(d) Which of the following helps reduce on site waste?

(1)

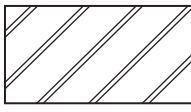
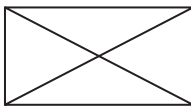
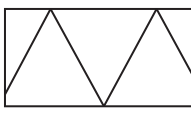

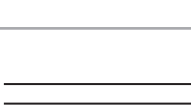
A	Drainage	<input type="checkbox"/>
B	Landscaping	<input type="checkbox"/>
C	Prefabrication	<input type="checkbox"/>
D	Excavations	<input type="checkbox"/>

(Total for Question 11 = 4 marks)



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

The table below shows a selection of fill types used on construction drawings. Identify the fill types labelled (i) to (v) by putting a cross ☒ in the correct box.

(i)	
(ii)	
(iii)	
(iv)	
(v)	

(a) Fill type (i) shows:

(1)

A	Blockwork	<input checked="" type="checkbox"/>
B	Brickwork	<input type="checkbox"/>
C	Glass	<input type="checkbox"/>
D	Concrete	<input type="checkbox"/>

(b) Fill type (ii) shows:

(1)

A	Prepared softwood	<input type="checkbox"/>
B	Blockwork	<input checked="" type="checkbox"/>
C	Brickwork	<input type="checkbox"/>
D	Sawn timber	<input type="checkbox"/>



(c) Fill type (iii) shows:

(1)

A	Prepared softwood	<input type="checkbox"/>
B	Stone	<input type="checkbox"/>
C	Concrete	<input type="checkbox"/>
D	Hardcore	<input type="checkbox"/>

(d) Fill type (iv) shows:

(1)

A	DPM	<input type="checkbox"/>
B	Glass	<input type="checkbox"/>
C	Asphalt	<input type="checkbox"/>
D	Screed	<input type="checkbox"/>

(e) Fill type (v) shows:

(1)

A	DPM	<input type="checkbox"/>
B	Plywood	<input type="checkbox"/>
C	Glass	<input type="checkbox"/>
D	Sawn timber	<input 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. Reduce levels		█								
3.			█							
4. Carry out excavations			█							
5.			█	█						
6.				█	█					
7.					█	█				
8. Erect roof structure						█	█			
9. Install doors and windows							█	█		
10. Internal decoration							█	█	█	
11.					█	█	█	█	█	█
12. Snagging and handover										█



Identify the **five** missing activities by putting a cross ☒ in the correct box.

(a) Activity 3 is:

(1)

A	Concrete to foundations	<input type="checkbox"/>
B	Set out building	<input type="checkbox"/>
C	Superstructure walls	<input type="checkbox"/>
D	External works and drainage	<input type="checkbox"/>
E	Substructure walls	<input type="checkbox"/>

(b) Activity 5 is:

(1)

A	Substructure walls	<input type="checkbox"/>
B	External works and drainage	<input type="checkbox"/>
C	Set out building	<input type="checkbox"/>
D	Concrete to foundations	<input type="checkbox"/>
E	Superstructure walls	<input type="checkbox"/>

(c) Activity 6 is:

(1)

A	Substructure walls	<input type="checkbox"/>
B	Superstructure walls	<input type="checkbox"/>
C	External works and drainage	<input type="checkbox"/>
D	Pour concrete foundations	<input type="checkbox"/>
E	Set out building	<input type="checkbox"/>



(d) Activity 7 is:

(1)

A	External works and drainage	<input checked="" type="checkbox"/>
B	Substructure walls	<input checked="" type="checkbox"/>
C	Set out building	<input checked="" type="checkbox"/>
D	Superstructure walls	<input checked="" type="checkbox"/>
E	Pour concrete foundations	<input checked="" type="checkbox"/>

(e) Activity 11 is:

(1)

A	External works and drainage	<input checked="" type="checkbox"/>
B	Pour concrete foundations	<input checked="" type="checkbox"/>
C	Set out building	<input checked="" type="checkbox"/>
D	Superstructure walls	<input checked="" type="checkbox"/>
E	Substructure walls	<input checked="" type="checkbox"/>

(Total for Question 13 = 5 marks)

TOTAL FOR PAPER = 60 MARKS

