

Centre No.						Paper Reference					Surname	Initial(s)			
Candidate No.						C	B	1	0	4	/	0	1	Signature	

Paper Reference(s)

CB104/01

Edexcel

Principal Learning

Construction and the Built Environment

Level 1

Unit 4: Create the Built Environment:
Methods and Materials

Friday 22 May 2009 – Morning

Time: 1 hour

Examiner's use only

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Team Leader's use only

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Question Number	Leave Blank
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
Total	

Materials required for examination
Nil

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) and signature. Check that you have the correct question paper.

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

Do not use pencil. Use blue or black ink.

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 (☒).

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2).

There are 13 questions in this question paper. The total mark for this paper is 60.

There are 24 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

You are reminded of the importance of clear and careful presentation in your answers. You are advised to read the questions carefully.

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Turn over

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Answer ALL the questions.

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.

In the table below, indicate which of the job roles identified are classified as **specialist trades** by placing a cross (☒) in the correct boxes. You should place a cross (☒) in **five** boxes only.

A	Drain layer	<input type="checkbox"/>
B	Shopfitter	<input type="checkbox"/>
C	Plant operative	<input type="checkbox"/>
D	Thatcher	<input type="checkbox"/>
E	Floor layer	<input type="checkbox"/>
F	Electrician	<input type="checkbox"/>
G	Plasterer	<input type="checkbox"/>
H	Ceiling fixer	<input type="checkbox"/>
I	Bricklayer	<input type="checkbox"/>
J	Steeplejack	<input type="checkbox"/>

(Total 5 marks)

Q1

3



Turn over

2. You are now working in a design office and have been consulting with the sustainability officer.

Place a cross (☒) in the box next to the correct word to complete each of the following sentences.

(a) Most of the energy that we use is produced by _____ fossil fuels such as coal and oil.

A	producing	<input type="checkbox"/>
B	mining	<input type="checkbox"/>
C	burning	<input type="checkbox"/>

(1)

(b) Purchasing materials _____ is considered good practice in sustainability terms.

A	late	<input type="checkbox"/>
B	locally	<input type="checkbox"/>
C	quickly	<input type="checkbox"/>

(1)

(c) Improving a building's insulation will help to _____ energy.

A	distribute	<input type="checkbox"/>
B	conserve	<input type="checkbox"/>
C	reserve	<input type="checkbox"/>

(1)



Leave
blank

(d) One way of helping to reduce the environmental impact of construction work is to use _____ sites.

A	brownfield	<input type="checkbox"/>
B	greenfield	<input type="checkbox"/>
C	non-contaminated	<input type="checkbox"/>

(1)

(e) A high specification, low _____ design can help to reduce the life cycle cost of a building.

A	budget	<input type="checkbox"/>
B	maintenance	<input type="checkbox"/>
C	efficiency	<input type="checkbox"/>

(1)

Q2

(Total 5 marks)



3. You are now working on site and have been asked to make some arrangements for plant hire.

The following images are of different construction plant. Identify each image by placing a cross (☒) in the box next to the correct answer.

(a)



A	Telescopic handles	<input type="checkbox"/>
B	Dumper	<input type="checkbox"/>
C	Excavator	<input type="checkbox"/>

(1)

(b)



A	Excavator	<input type="checkbox"/>
B	Bulldozer	<input type="checkbox"/>
C	Telescopic handler	<input type="checkbox"/>

(1)

(c)



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

(1)



Leave blank

(d)



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

(1)

Q3

(Total 4 marks)



4. You have been asked to meet with the Managing Director to talk about what you have learned so far.

Place a cross (☒) in the box next to the correct word to complete each of the following sentences.

(a) Different materials can be used together to provide _____ solutions.

A	composite	<input checked="" type="checkbox"/>
B	combined	<input type="checkbox"/>
C	complicated	<input type="checkbox"/>

(1)

(b) The use of reclaimed materials on construction projects helps to _____ the impact that construction has on the environment.

A	maximise	<input type="checkbox"/>
B	increase	<input type="checkbox"/>
C	minimise	<input checked="" type="checkbox"/>

(1)

(c) The construction professional with responsibility for producing building designs is the _____.

A	Architect	<input checked="" type="checkbox"/>
B	Site Manager	<input type="checkbox"/>
C	Project Manager	<input type="checkbox"/>

(1)



Leave
blank

(d) The construction professional who carries out monthly valuations is called a _____ Surveyor.

A	Quantity	<input type="checkbox"/>
B	Structural	<input type="checkbox"/>
C	Building	<input type="checkbox"/>

(1)

(e) _____ Engineers are construction professionals who supervise the construction of bridges, railways and roads.

A	Mechanical	<input type="checkbox"/>
B	Services	<input type="checkbox"/>
C	Civil	<input type="checkbox"/>

(1)

Q4

(Total 5 marks)



Leave blank

5. You are now working as an Assistant Buyer and need to develop your knowledge of different building materials and components.

In the left hand column below is a list of materials and components and on the right is a list of locations where they are **most commonly** used. Link the material or component on the left with the location on the right by drawing a straight line to link them. Each location should only be used once.

Material/Component	Location
	Roofs
PVCu	
	Foundations
Chipboard	
	Stud partitions
Thermal blocks	
	Windows
Trussed rafters	
	External walls
Aggregate	
	Floors

(Total 5 marks)

Q5



Leave blank

6. You are now working back in the human resources department to further your knowledge of different construction jobs.

In the left hand column below is a list of construction job classifications and on the right is a list of jobs. Link the job classification on the left with the job on the right by drawing a straight line to link them. Each classification has only one job.

Job classification	Job
	Groundworker
Specialist trade	
	Buyer
Operative	
	Decorator
Professional	
	Ceiling Fixer
Management	
	Structural Engineer
Technician	
	Site Agent

Q6

(Total 5 marks)



Leave
blank

7. Working with the Personnel Manager you are learning about different job classifications.

In the table below, place a cross (☒) in the correct box to indicate whether each job is classified as a professional, a technician or a craft role.

	Professional	Technician	Craft
(a) Assistant Site Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Joiner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Quantity Surveyor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Q7

(Total 3 marks)



Leave blank

8. You are now working with the Plant Manager to learn more about different types of construction plant.

In the left hand column below is a list of construction plant and on the right a list of their most common uses. Draw a straight line to link the plant on the left with the use on the right. Answers can be used more than once.

Plant	Use
Mobile crane	
Cherry picker	Access to work at height
Forklift	Moving materials
Piling rig	Foundation works
Scissor lift	

(Total 5 marks)

Q8



H 3 5 7 5 7 A 0 1 3 2 4

9. You are due to have your second progress review with the Managing Director and need to recap on the knowledge you have gained so far.

Place a cross (☒) in the box next to the correct word to complete each of the following sentences.

(a) DPM is an abbreviation for damp proof _____.

A	material	<input type="checkbox"/>
B	membrane	<input type="checkbox"/>
C	mortar	<input type="checkbox"/>
D	member	<input type="checkbox"/>

(1)

(b) Trussed _____ are commonly used when building domestic dwellings.

A	beams	<input type="checkbox"/>
B	joists	<input type="checkbox"/>
C	columns	<input type="checkbox"/>
D	rafters	<input type="checkbox"/>

(1)

(c) DPC is an abbreviation for damp proof _____.

A	course	<input type="checkbox"/>
B	cavity	<input type="checkbox"/>
C	construction	<input type="checkbox"/>
D	curtain	<input type="checkbox"/>

(1)



Leave
blank

(d) The part of a building below ground floor level is known as the _____.

A	megastructure	<input type="checkbox"/>
B	substructure	<input type="checkbox"/>
C	infrastructure	<input type="checkbox"/>
D	superstructure	<input type="checkbox"/>

(1)

Q9

(Total 4 marks)



Leave blank

10. Working in the role of Assistant Buyer you need to further your knowledge of different building materials.

In the table below is a list of building materials. Place a cross (☒) in the correct box to indicate whether each material is plastic based, wood based or cement based.

	Plastic	Wood	Cement
(a) MDF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Mortar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(c) PVCu	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Chipboard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(e) DPM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Q10

(Total 5 marks)



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11. You have been told to prepare for your final progress review with the Managing Director to discuss the knowledge you have gained to date.

Place a cross (☒) in the box next to the correct word to complete each of the following sentences.

(a) The use of timber from _____ forests helps to promote sustainability.

A	protected	<input checked="" type="checkbox"/>
B	managed	<input type="checkbox"/>
C	large	<input type="checkbox"/>
D	rain	<input type="checkbox"/>

(1)

(b) Prefabrication of construction components can help to _____ on-site construction time.

A	organise	<input type="checkbox"/>
B	increase	<input type="checkbox"/>
C	record	<input type="checkbox"/>
D	reduce	<input checked="" type="checkbox"/>

(1)

(c) Gantt charts are used by construction professionals when _____ construction projects.

A	completing	<input type="checkbox"/>
B	planning	<input checked="" type="checkbox"/>
C	designing	<input type="checkbox"/>
D	auditing	<input type="checkbox"/>

(1)



Leave
blank

(d) Many high rise buildings are constructed using _____ concrete frames.

A	cheap	<input type="checkbox"/>
B	heavy	<input type="checkbox"/>
C	recycled	<input type="checkbox"/>
D	reinforced	<input type="checkbox"/>

(1)

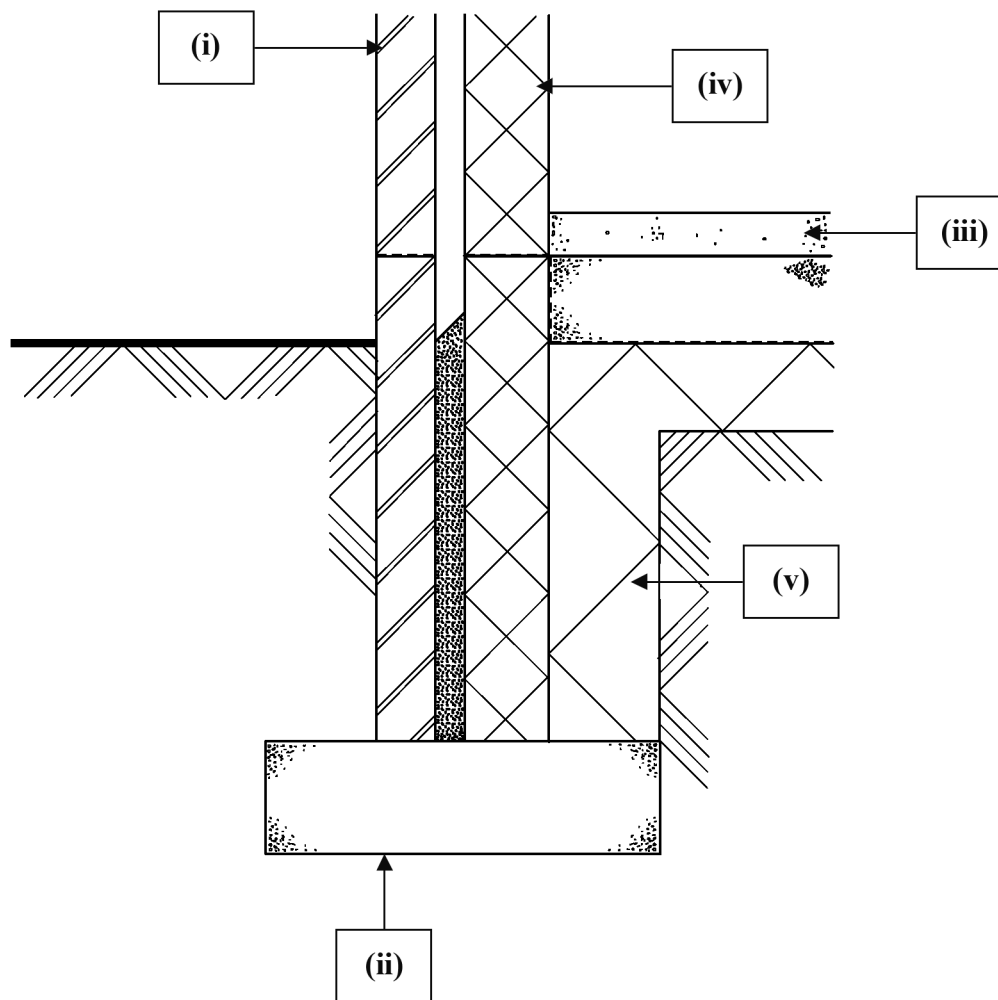
Q11

(Total 4 marks)



12. You are now working as part of the design team and need to show that you can interpret drawings.

The diagram below shows a vertical section. Identify the items labelled (i) to (v) by placing a cross (☒) next to the correct answer in the following tables.



(a) Label (i) shows:

A	brickwork	<input checked="" type="checkbox"/>
B	screed	<input type="checkbox"/>
C	blockwork	<input type="checkbox"/>
D	steel	<input type="checkbox"/>

(1)



(b) Label (ii) shows:

A	subsoil	<input type="checkbox"/>
B	steel	<input type="checkbox"/>
C	concrete	<input type="checkbox"/>
D	screed	<input type="checkbox"/>

(1)

(c) Label (iii) shows:

A	concrete	<input type="checkbox"/>
B	steel	<input type="checkbox"/>
C	blockwork	<input type="checkbox"/>
D	screed	<input type="checkbox"/>

(1)

(d) Label (iv) shows:

A	blockwork	<input type="checkbox"/>
B	concrete	<input type="checkbox"/>
C	brickwork	<input type="checkbox"/>
D	steel	<input type="checkbox"/>

(1)

(e) Label (v) shows:

A	steel	<input type="checkbox"/>
B	hardcore	<input type="checkbox"/>
C	concrete	<input type="checkbox"/>
D	subsoil	<input type="checkbox"/>

(1)

(Total 5 marks)

Q12



13. Your final placement is in the planning department where you have learned about the sequencing of construction activities.

The chart below shows the different stages in a construction project. Identify the five missing stages by placing a cross (☒) next to the correct words in the following tables.

Activity	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct
1.										
2. Excavations										
3. Foundations										
4. Erect steel frame										
5.										
6. Brickwork to external walls										
7. Internal walls and partitions										
8.										
9. Plastering and dry lining										
10. Second fix										
11.										
12. External works and drainage										
13.										



(a) Stage 1 is:

A	Decoration	<input type="checkbox"/>
B	Cladding and roofing	<input type="checkbox"/>
C	Site setup	<input type="checkbox"/>
D	First fix	<input type="checkbox"/>
E	Snagging and handover	<input type="checkbox"/>

(1)

(b) Stage 5 is:

A	Electrical work	<input type="checkbox"/>
B	First fix	<input type="checkbox"/>
C	Decoration	<input type="checkbox"/>
D	Cladding and roofing	<input type="checkbox"/>
E	Floor finishes	<input type="checkbox"/>

(1)

(c) Stage 8 is:

A	Snagging and handover	<input type="checkbox"/>
B	Floor finishes	<input type="checkbox"/>
C	Decorations	<input type="checkbox"/>
D	Cladding and roofing	<input type="checkbox"/>
E	First fix	<input type="checkbox"/>

(1)



Leave
blank

(d) Stage 11 is:

A	Decorations	<input type="checkbox"/>
B	Glazing	<input type="checkbox"/>
C	Snagging and handover	<input type="checkbox"/>
D	Third fix	<input type="checkbox"/>
E	Cladding and roofing	<input type="checkbox"/>

(1)

(e) Stage 13 is:

A	Snagging and handover	<input type="checkbox"/>
B	Glazing	<input type="checkbox"/>
C	Decorations	<input type="checkbox"/>
D	Floor finishes	<input type="checkbox"/>
E	Plumbing installation	<input type="checkbox"/>

(1)

Q13

(Total 5 marks)

TOTAL FOR PAPER: 60 MARKS

END

