

Write your name here

Surname					Other names					
Pearson BTEC Level 1/Level 2 First Award	Centre Number					Learner Registration Number				
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<h1>Construction and the Built Environment</h1> <h2>Unit 1: Construction Technology</h2>										
Monday 9 January 2017 – Morning						Paper Reference				
Time: 1 hour						21492E				
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 learner registration 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 50.
- 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.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

P48271A

©2017 Pearson Education Ltd.

1/1/1/1




Pearson

Answer ALL questions.

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

1 Low-rise buildings have specific performance requirements.

(a) Draw a line to match each material to its performance requirement.

Each material has only **one** performance requirement.

(2)

Material	Performance requirement
<input type="text" value="Intumescent paint"/>	<input type="text" value="Weather resistance"/>
<input type="text" value="Carpeting"/>	<input type="text" value="Strength"/>
	<input type="text" value="Fire resistance"/>
	<input type="text" value="Sustainability"/>
	<input type="text" value="Sound insulation"/>

(b) Identify **two** systems used for the specification of materials.

(2)

- A** British Standards
- B** Considerate Contractors Scheme
- C** Mood boards
- D** Thermal mass
- E** Strength classification

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



(c) Identify **two** ways in which cavity walls achieve their required strength and stability.

(2)

- A Grading of hardcore
- B Height restrictions
- C Sound insulation
- D Wall tie spacing
- E Hemp rendering

(d) Identify **two** methods used to slow the spread of fire in a building.

(2)

- A Smoke detection
- B Sprinkler system
- C Compartments
- D Refuge areas
- E Provision of ventilation

(Total for Question 1 = 8 marks)

2 Name **two** legal requirements that should be completed during the desk-based preconstruction phase of a construction project.

1

.....

2

.....

(Total for Question 2 = 2 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

3 Explain **two** control measures that should be used to reduce the risk of accidents when excavating to a depth of 1.5 m.

1

.....

.....

.....

2

.....

.....

.....

(Total for Question 3 = 4 marks)

4 (a) Name **two** types of timber rafter used in the construction of pitched roofs.

(2)

1

.....

2

.....

.....

(b) State **one** purpose of a timber wall plate used in roof construction.

(1)

.....

.....

(Total for Question 4 = 3 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



5 (a) State **two** functions of a foundation.

(2)

1

.....

2

.....

(b) Sketch a diagram of a cross-section through a short bored piled foundation.
In your diagram include the cavity wall up to damp-proof course (DPC) level.

You should annotate your diagram.

(4)

(Total for Question 5 = 6 marks)



6 Diagram 1 shows a section through a wall and timber upper floor.

Label the five components/materials of the wall and timber upper floor section shown in Diagram 1.

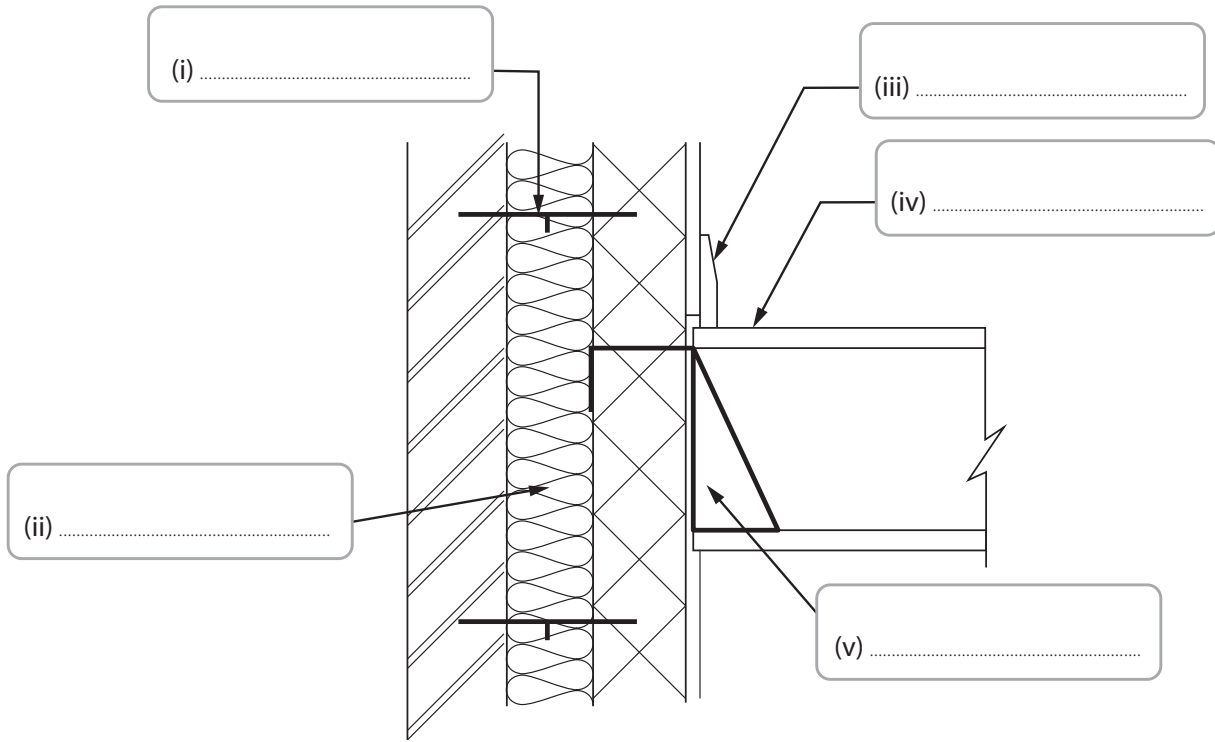


Diagram 1

(Total for Question 6 = 5 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



7 A local government has identified the need for 2000 sustainable homes that have to be completed within the next six months.

(a) Explain **one** benefit to the developer of using sustainable building techniques.

(2)

.....

.....

.....

.....

(b) Explain **two** ways the use of timber framed construction could help a developer to meet this demand of completing 2000 sustainable homes within six months.

(4)

1

.....

.....

.....

2

.....

.....

.....

(Total for Question 7 = 6 marks)

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



8 An architect has specified the use of suspended timber ground floors instead of solid concrete ground floors in the construction of a large housing estate on a level site. The development needs to proceed quickly in response to a housing crisis and any repairs and maintenance on its completion should be minimal.

Explain **two** disadvantages of using suspended timber ground floors instead of solid concrete ground floors for this housing development.

1

.....

.....

.....

2

.....

.....

.....

(Total for Question 8 = 4 marks)

9 A developer is proposing to build a new housing estate and has the choice of either a brownfield or greenfield location.

Explain **two** additional costs that could occur as a result of building on the greenfield site.

1

.....

.....

.....

2

.....

.....

.....

(Total for Question 9 = 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

QUESTION 10 BEGINS ON THE NEXT PAGE.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Area with horizontal dashed lines for writing.

(Total for Question 10 = 8 marks)

TOTAL FOR PAPER = 50 MARKS



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

