



Construction

Identify **two** preconstruction stage legal requirements.

- A** Informing the Health and Safety Executive (HSE)
- B** Reduction in construction wastage
- C** Prefabrication of elements
- D** Designing for functionality
- E** Risk assessments

(Total for Question 1 = 2 marks)

2 The installation of site accommodation is a site-based preconstruction activity carried out at the set-up stage.

Name **two** other site set-up activities required before construction work begins.

1

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2

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(Total for Question 2 = 2 marks)

3 (a) Identify **two** fire-resistant materials. (2)

- A** Plasterboard
- B** Blockwork
- C** Bitumen
- D** Timber
- E** Straw

(b) Buildings are insulated in order to reduce heat loss.

Identify **two** locations where thermal insulation may be installed.

(2)

1

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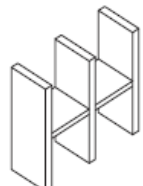
2

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The diagram shows a structural form used in the construction of low-rise buildings. (1)

Identify this structural form.

- A** Internal partitions
- B** Timber frame
- C** Cavity wall
- D** Cross-wall





Name **two** types of pointing used in facing brickwork.

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(Total for Question = 2 marks)

There are many hazards associated with sub-structure groundwork activities, such as damaging existing underground services. Identify **two** other hazards associated with sub-structure ground works. **(2)**

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2

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To enable construction work to start, existing services need to be located and protected. Explain **two** ways to locate existing underground electric cables. **(4)**

1

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Name **one** method used to permanently control sub-soil water. (1)

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Diagram 1 shows a sub-structure detail of a suspended timber ground floor. Label the components of the suspended timber ground floor shown in Diagram 1.

Diagram 1

(Total for Question 6 = 4 marks)

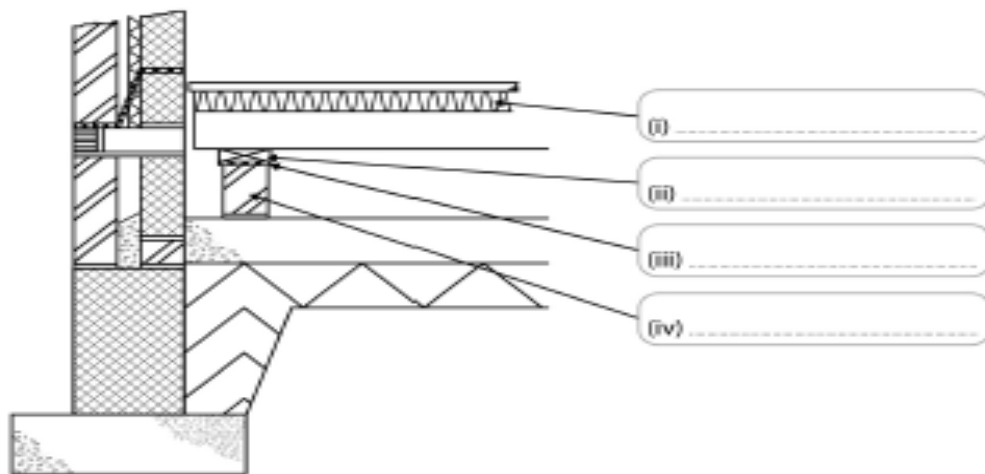


Diagram 1

One purpose of sound insulation is to resist the passage of sound through a building. Identify **two** other purposes of sound insulation for a building. (2)

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Describe **one** benefit of using sheep's wool in construction projects.

(2)

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Sketch a diagram of a cross section through a timber flat roof construction form. You should annotate your diagram

Accept fill patterns in place of annotation – one mark for each
label or fill pattern:
1 mark for stone
chippings/solar reflective
paint
1 mark for three layer built up
roofing felt/single ply
membrane
1 mark for decking
1 mark for furring (piece)/laser
cut insulation
1 mark for joist (falls could
also be achieved by sloping
joists, tapered joists, firrings
across the joist run and
reducing firrings)
1 mark for insulation /fill
pattern
1 mark for vapour barrier/fill
pattern
1 mark for plasterboard
1 mark for soffit
1 mark for fascia/verge
1 mark for wall plate
1 mark for holding down strap
1 mark for drip
1 mark for
waterstop/watercheck
1 mark for triangular



A low-rise building project is taking place on a brownfield site.

- (a) Explain **one** benefit to the environment of recycling the bricks from the brownfield site as hardcore for the new building. **(2)**

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- (b) Define the term embodied energy. **(1)**

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- (c) Explain **one** way in which each of the methods below can contribute towards a building's sustainability. **(4)**

Building orientation

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Prefabricated elements

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Explain **two** reasons why high-density blockwork is used in walls where sound insulation is required.

1

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2

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(Total for Question = 4 marks)

Sections of a new build office building will be rented to different businesses. The internal partitions will be constructed using metal studs. Explain **two** reasons why metal studs are suitable for this office building.

1

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2

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(Total for Question 10 = 4 marks)

ABC Housing Developments currently uses a traditional brick cavity wall structural form for all its housing projects. It is experiencing an increase in demand for its homes and would like to respond quickly. *ABC Housing Developments* is considering changing the structural form of its housing to timber frame construction.

Evaluate whether this change of structural form is the best way for *ABC Housing Developments* to meet the increase in demand quickly.

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[illegible]

Low-rise buildings have particular performance requirements.

(a) Match the material to its performance requirement for low-rise buildings.

(2)

Draw a straight line to match each material to its associated performance requirement.

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

Material	Performance requirement
	Strength
Flashings	Thermal insulation
	Stability
Sheep's wool	Security
	Weather resistance



(Complete the sentence about slump tests.

A slump test is used to measure a property of: (1)

- A steel
- B concrete
- C mortar
- D hardcore

Complete the sentence about stress grading. Stress grading indicates the strength of: (1)

- A mortar
- B blocks
- C bricks
- D timber

a) Identify **two** temporary earthwork support methods used to prevent the collapse of the sides of an excavation. Pick two answers (2)

- A Joists
- B Wall-tie spacing
- C Timbering
- D Steel trench sheets
- E Skirtings