New Specification

cea Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
2018

Construction and the Built Environment

Unit 1
Introduction to the Built Environment

GCN11

[GCN11]
WEDNESDAY 13 JUNE, AFTERNOON

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces
provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all six** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 80.
Figures in brackets printed down the right-hand side of pages indicate
the marks awarded to each question or part question.
Quality of written communication will be assessed in question **6(d)**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
Total Marks	

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Answer **all** questions

1 Health and Safety legislation has been introduced to keep workplaces safe.

(a) State the name of the Health and Safety legislation that exists in Northern Ireland.

_____ [1]

(b) Under this legislation list **three duties** of the **employer** on any construction site.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(c) Describe **three** duties of construction employees as stated in the legislation.

_____

_____

_____

_____

_____

_____ [3]

(d) List **three pieces** of personal protective equipment (PPE) that must be worn on all construction sites.

1. _____ [1]

2. _____ [1]

3. _____ [1]

(e) Describe the correct technique which should be adopted when manually lifting a 25 kg box of nails.

_____

_____

_____

_____

_____

_____

_____

_____ [5]

3

[Turn over

2 Identify **three** of the main roles that the following trade operatives would carry out on a housing project.

(a) Bricklayer

_____

_____

_____

_____

_____ [3]

(b) Plumber

_____

_____

_____

_____

_____ [3]

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4

3 Plant is an important resource consideration which is required for a project to run efficiently. List **three** other resource considerations. Explain what is understood by each, giving an example.

(a) _____ [1]

_____

_____

_____

_____ [2]

(b) _____ [1]

_____

_____

_____

_____ [2]

(c) _____ [1]

_____

_____

_____

_____ [2]

11726   **5**   **[Turn over**

4 Cavity wall construction is defined as a modern construction method.

(a) List **four materials** commonly found in this type of wall.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

(b) Describe the term self finish. State an advantage of using this type of finish.

_____

_____

_____

_____ [2]

(c) Describe the term applied finish. State a disadvantage of using this type of finish.

_____

_____

_____

_____ [2]

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(Questions continue overleaf)

5 A client has appointed an Architect as the project leader for a **speculative housing development** of 50 semi-detached houses with an overall budget of 7.5 million pounds.

(a) State the name of the commonly used construction cycle the Architect will follow to ensure successful completion of this project.

_____ [1]

(b) List the **eight stages** of this construction cycle.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

5. _____ [1]

6. _____ [1]

7. _____ [1]

8. _____ [1]

(c) Describe **two** processes that occur in the first stage of this cycle.

_____

_____

_____

_____ [2]

(d) Discuss **three advantages** of using such a cycle.

1. _____

_____

_____

_____ [2]

2. _____

_____

_____

_____ [2]

3. _____

_____

_____

_____ [2]

(e) State **two** of the main characteristics of semi-detached houses.

1. _____

_____

2. _____

_____ [2]

(f) Identify **three** of the main roles that a Quantity Surveyor would have for the **speculative housing development**.

1. _____

_____

2. _____

_____

3. _____

_____ [3]

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(Questions continue overleaf)

6 Various construction methods could be used to construct a ten storey office block in a city centre location.

(a) The Client will contribute significantly to this construction project. Identify **three** of the main roles of the Client.
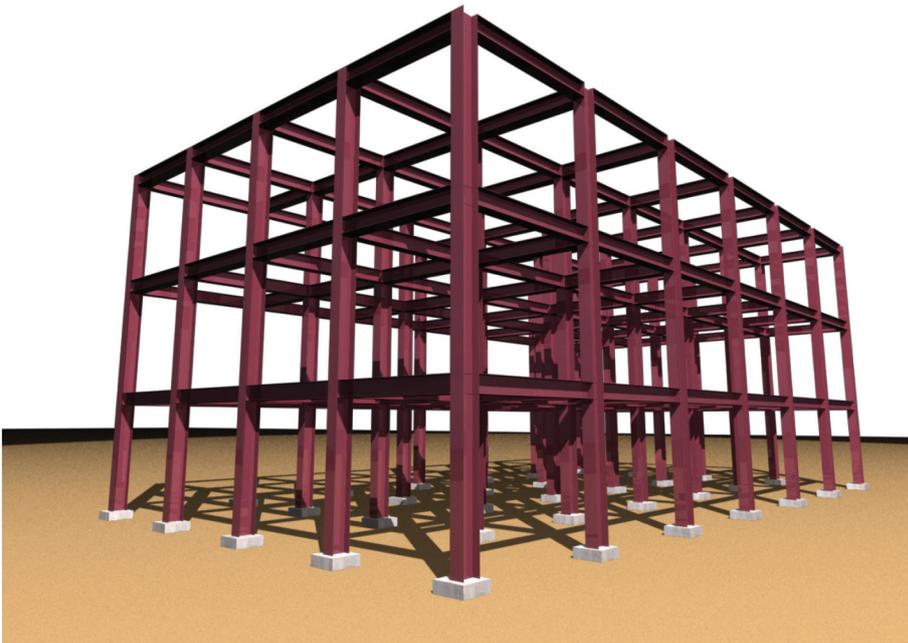
1. _____

_____

2. _____

_____

3. _____

_____ [3]

Fig. 1

© CCEA

(b) Identify the type of steel structure shown in **Fig. 1** above which could be used for the construction.

_____ [1]

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(c) Explain **two** methods of how this structure would be joined together.

_____

_____

_____

_____

_____

_____ [2]

13

[Turn over

(d) Discuss the advantages and disadvantages of using this type of structure to construct the office block.

Quality of written communication will be assessed in your answer.

_____

_____

_____

_____

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_____

_____

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_____

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_____

_____

_____ [10]

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(e) Describe **four ways** to increase the stability of the structure.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [4]

THIS IS THE END OF THE QUESTION PAPER

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