



ZIMBABWE

**MINISTRY OF HIGHER AND TERTIARY EDUCATION,
INNOVATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT**

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL CERTIFICATE

IN

BUILDING TECHNOLOGY

MODULE: Bonding Practice

**PAPER NO: 308/24/M04
308/22/M04**

DURATION: 3 Hours

NOVEMBER/DECEMBER 2025 EXAMINATION

REQUIREMENTS

- 1) Answer booklet
- 2) Drawing paper A4

INSTRUCTIONS TO CANDIDATE

- 1) Answer all questions in section A.
- 2) Choose any three (3) questions from section B.

This paper consists of 4 printed pages.

SECTION A: ANSWER ALL QUESTIONS

QUESTION 1

- a) Define the following:
- i) Composite wall (2 marks)
 - ii) Slenderness ratio (2 marks)
 - iii) Effective height (2 marks)
 - iv) Effective length (2 marks)
- b) Explain the function of mortar on a wall. (2 marks)

QUESTION 2

- a) Explain any two (2) paint defects and their causes. (4 marks)
- b) i) State the qualities of good mortar. (2 marks)
- ii) List any two (2) types of mortar. (2 marks)
- c) What is the use of a corner block. (2 marks)

QUESTION 3

- a) Justify the reasons for wetting bricks before laying them. (2 marks)
- b) Why is English bond considered the strongest bond? (2 marks)
- c) Define the following terms as they are used in stair construction:
- i) Tread (2 marks)
 - ii) Going (2 marks)
 - iii) Nosing (2 marks)

QUESTION 4

- a) What are the advantages of good house keeping on a building site. (2 marks)
- b) Outline four (4) causes of settlement of buildings. (4 marks)

- c) Using sketches show the difference between bonded and unbonded brickwork. (4 marks)

SECTION B: ANSWER ANY THREE (3) QUESTIONS FROM THIS SECTION.

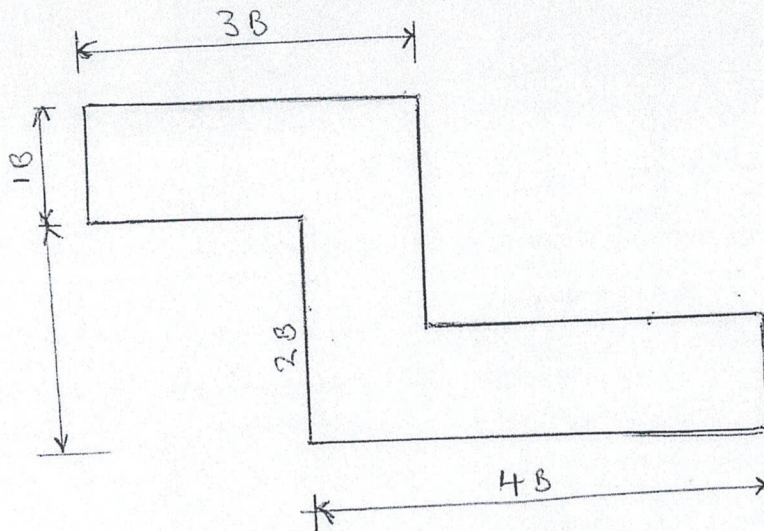
QUESTION 5

Using sketches which are four brick long and five (5) courses high, show the following bonding arrangements:

- | | |
|-------------------|-----------|
| a) Stretcher bond | (5 marks) |
| b) Flemish bond | (5 marks) |
| c) Header bond | (5 marks) |
| d) English bond | (5 marks) |

QUESTION 6

Solve the bonding of the course outline in fig in English bond. Show alternate courses.



QUESTION 7

- a) Define the term cladding. (2 marks)
- b) Explain two (2) functions of cladding. (2 marks)
- c) list two (2) advantages of cladding over traditional type of construction. (2 marks)
- d) By means of sketches show the following:
- i) Reverse bond (4 marks)
 - ii) Broken bond (4 marks)
- e) Draw a profile of mortar joints to show six (6) types of joint finishes. (6 marks)

QUESTION 8

- a) Sketch a neat diagram to show a section through a window head and show the following:
- i) Steel window casement
 - ii) Steel frame
 - iii) Putty
 - iv) Glass
 - v) D.P.C
- (10 marks)
- b) i) State any two (2) types of cills.
- ii) Narrate three (3) purposes of window cills (3 marks)
- c) Identify five (5) causes of plastering failure. (5 marks)

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