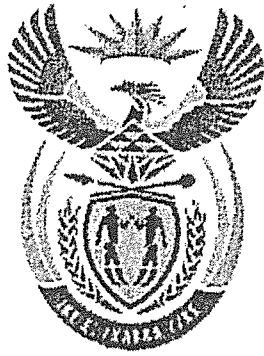


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# higher education & training

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

T70(E)(M25)T  
APRIL EXAMINATION

NATIONAL CERTIFICATE

**BRICKLAYING AND PLASTERING THEORY N1**

(11010091)

25 March 2013 (X-Paper)  
09:00–12:00

This question paper consists of 4 pages.

**DEPARTMENT OF HIGHER EDUCATION AND TRAINING**  
**REPUBLIC OF SOUTH AFRICA**  
**NATIONAL CERTIFICATE**  
**BRICKLAYING AND PLASTERING THEORY N1**  
**TIME: 3 HOURS**  
**MARKS: 100**

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**INSTRUCTIONS AND INFORMATION**

1. Answer ALL the questions.
  2. Read ALL the questions carefully.
  3. Number the answers according to the numbering system used in this question paper.
  4. Write neatly and legibly.
-

**QUESTION 1**

- 1.1 Admixtures are added to concrete mixes to change the properties of the mix. Briefly state the function of each of the following admixtures:
- |       |                |         |     |
|-------|----------------|---------|-----|
| 1.1.1 | Retarders      |         |     |
| 1.1.2 | Accelerators   |         |     |
| 1.1.3 | Air entrainers | (4 × 2) | (8) |
| 1.1.4 | Plasticisers   |         |     |
- 1.2 Name FOUR different types of sand commonly used in the construction industry. (4)
- 1.3 A bricklayer's tools can be divided into FOUR groups. Name the groups. (4)
- 1.4 Give TWO reasons why sand is added to a concrete mix. (4)  
[20]

**QUESTION 2**

- 2.1 State FIVE main points to consider when choosing a spirit level. (5 × 2) (10)
- 2.2 Make neat sketches of the drawing symbols used to show the following materials:
- |       |               |         |      |
|-------|---------------|---------|------|
| 2.2.1 | Earth filling |         |      |
| 2.2.2 | Plaster       |         |      |
| 2.2.3 | Hard core     |         |      |
| 2.2.4 | Concrete      | (5 × 2) | (10) |
| 2.2.5 | Glass         |         | [20] |

**QUESTION 3**

- 3.1 Briefly explain how the slump test is carried out and measured. (14)
- 3.2 Make neat, freehand sketches of the THREE types of slump that may occur. (6)  
[20]

**QUESTION 4**

- 4.1 Name any FIVE jointing tools. (5)
- 4.2 Name FIVE different ways of jointing face brickwork. (5)
- 4.3 Show by means of neat sketches, the FIVE jointing methods named in QUESTION 4.2. (5 × 2) (10)
- [20]

**QUESTION 5**

Draw to an approximate scale of 1 : 10 the alternate plan courses of a corner formed by two one and-a-half brick wall in Flemish bond. [20]

**TOTAL: 100**



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## **MARKING GUIDELINE**

**NATIONAL CERTIFICATE**

**APRIL EXAMINATION**

**BRICKLAYING AND PLASTERING THEORY N1**

**25 MARCH 2013**

**This marking guideline consists of 6 pages.**

**QUESTION 1**

- 1.1      1.1.1      Retarders: Slow down the setting process.
- 1.1.2      Accelerators: Make the concrete set faster.
- 1.1.3      Air entrainers: Add bubbles to the mix, which provide a lubricant allowing sand and cement to be packed closer.
- 1.1.4      Plasticisers: Add workability to a mix and reduces the water requirements (4 × 2) (8)
- 1.2      • River sand  
            • Crusher sand  
            • Pit sand  
            • Building sand  
            • Mine-dump sand  
            • Beach sand (Any 4 × 1) (4)
- 1.3      • Bricklaying tools  
            • Setting out tools  
            • Brick cutting tools  
            • Jointing tools (4)
- 1.4      Sand is added to the mix to increase the volume and to reduce cracking (2 × 2) (4)
- [20]**

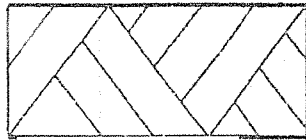
**QUESTION 2**

- 2.1      • Choose the longest possible spirit level suitable for the task.  
            • It must be strongly made in order to withstand any rough handling.  
            • The bubble should respond quickly when the level is disturbed.  
            • The vial should be visible from the side so that it can be read at eye level or even higher.  
            • The vial should be adjustable to allow for minor adjustments. (5 × 2) (10)

BRICKLAYING AND PLASTERING THEORY N1

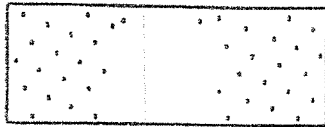
2.2

2.2.1



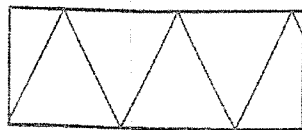
Earth filling

2.2.2



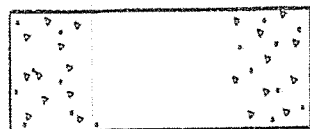
Plaster or Screed

2.2.3



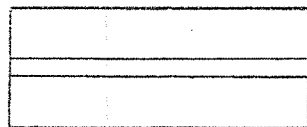
Hardcore

2.2.4



Concrete

2.2.5



Glass

(5 × 2)

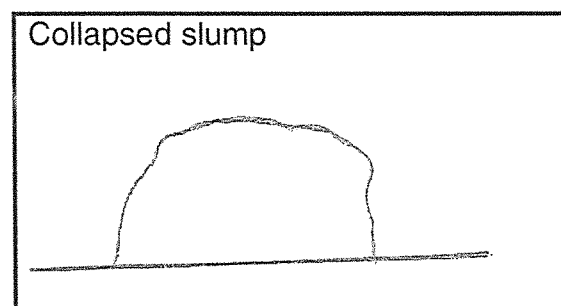
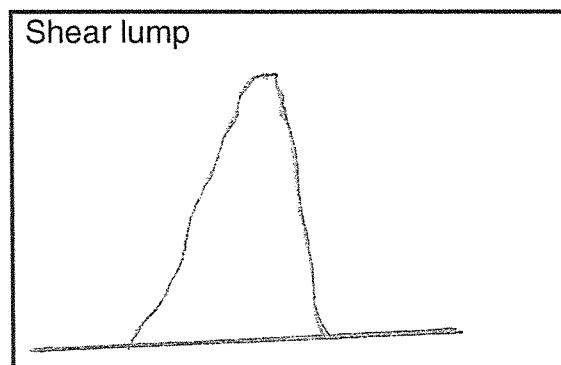
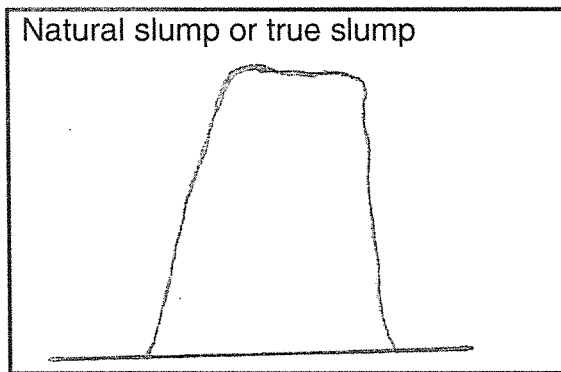
(10)

[20]

**QUESTION 3**

- 3.1
- Check that the inside of the mould is smooth, clean and free from set concrete. (2)
  - Place the base plate on the floor. (2)
  - Place the mould on the base plate. (2)
  - Fill the mould with a sample of the concrete in four layers, tamping each layer with 25 strokes of the steel tamping bar, finally striking off the top so that the mould is exactly filled. (2)
  - Remove the mould vertically and carefully, allowing the concrete to subside. (2)
  - Place the mould upside down next to the concrete on the base plate. (2)
  - Place a rule across the mould and measure the distance between the rule and the concrete. (2)

3.2



(6)  
[20]



**QUESTION 4**

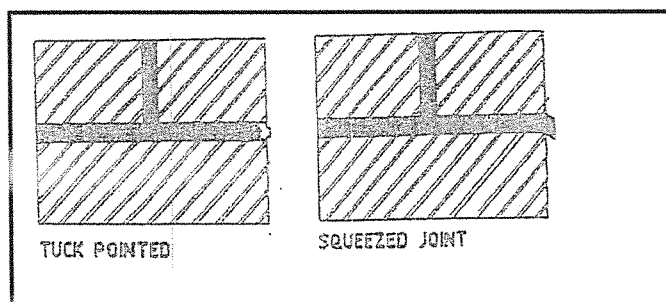
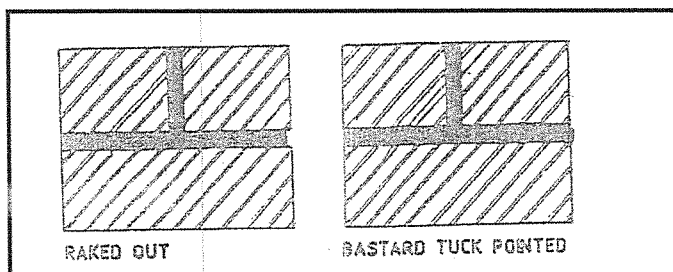
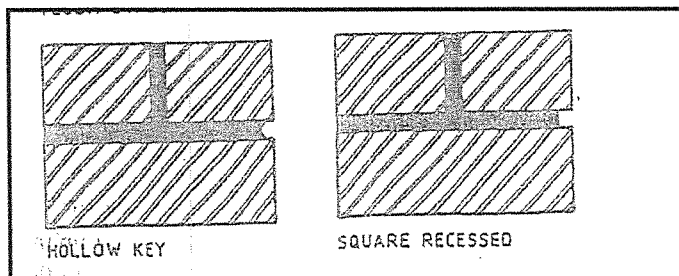
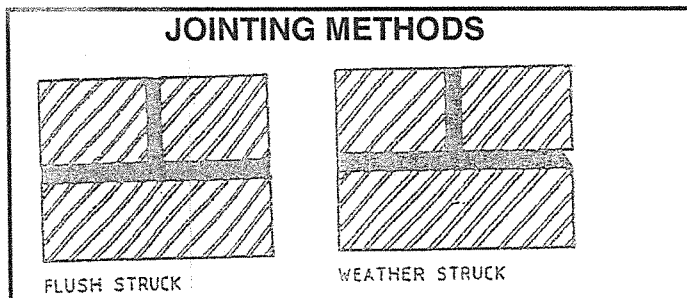
- 4.1
- Long jointer
  - Short jointer
  - Pointing trowel
  - Mastic trowel
  - Scraper
  - Plumb rule
  - Frenchman

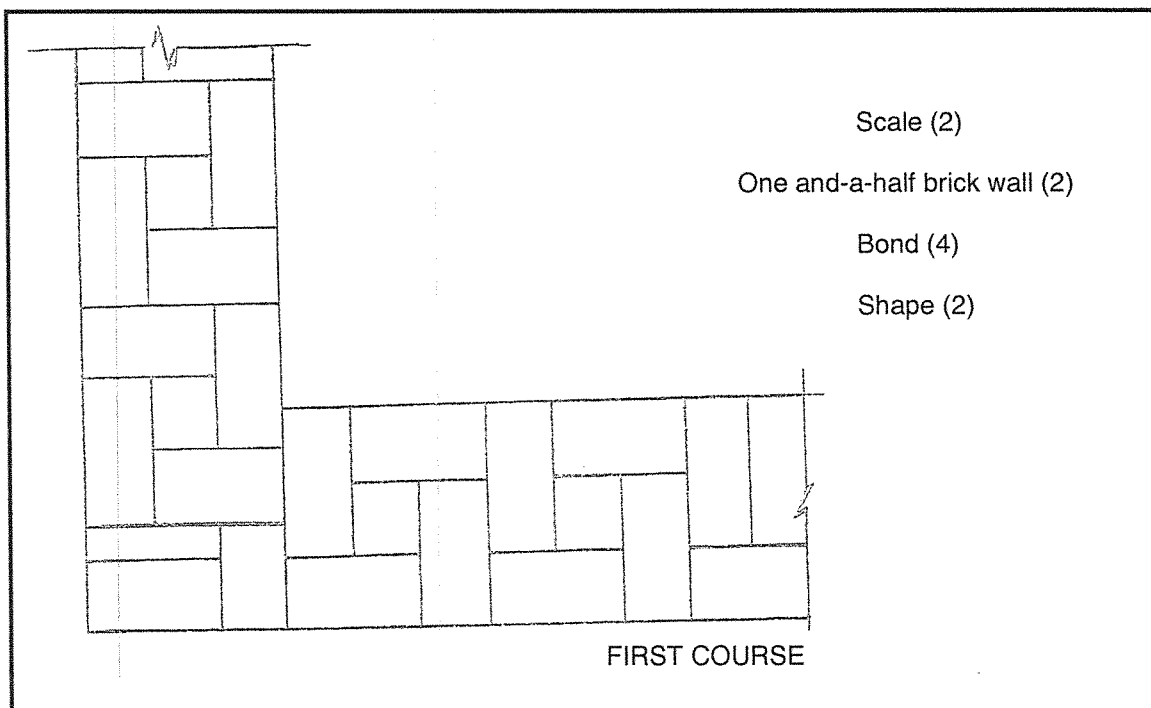
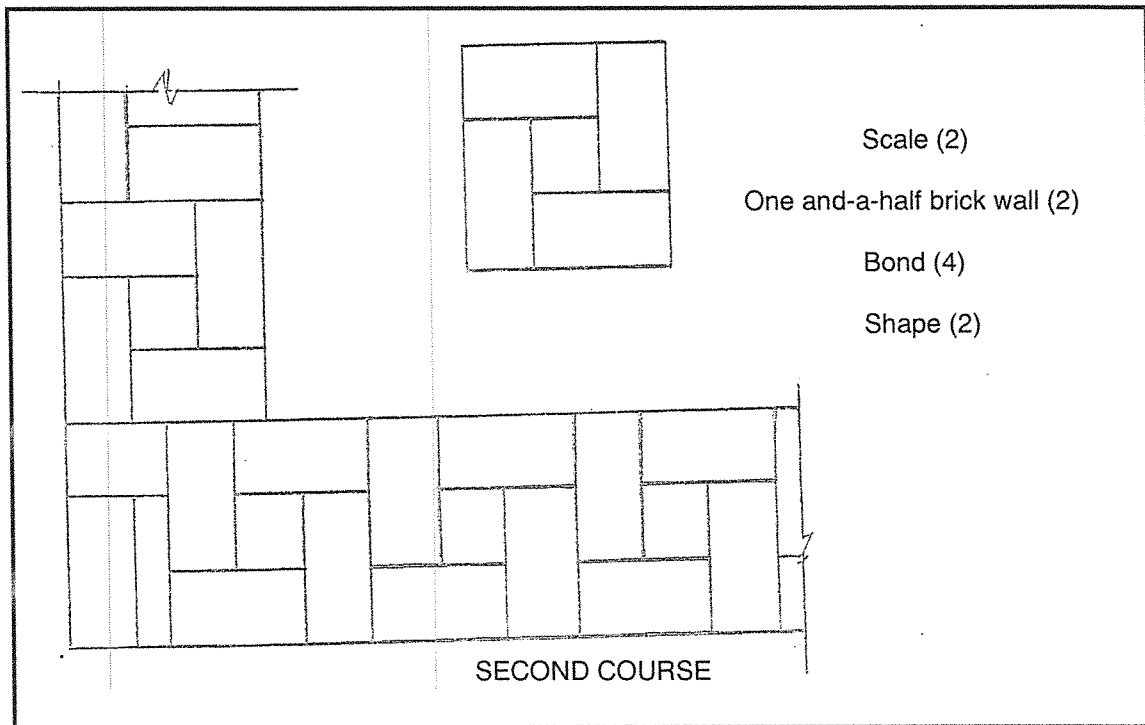
(ANY 5 × 1) (5)

- 4.2
- Flush struck
  - Hollow key
  - Weather struck
  - Square recessed joint
  - Tuck pointing
  - Squeezed joint

(ANY 5 × 1) (5)

4.3

(10)  
[20]

**QUESTION 5****ALTERNATE PLAN COURSES IN FLEMISH BOND****[20]****TOTAL: 100**