higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T30(E)(M25)T

APRIL EXAMINATION

NATIONAL CERTIFICATE

BRICKLAYING AND PLASTERING THEORY N2

(11010102)

25 March 2014 (Y-Paper)
13:00–16:00

This question paper consists of 4 pages and 1 diagram sheet.

ENGINEERING

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
BRICKLAYING AND PLASTERING N2
TIME: 3 HOURS
MARKS: 100

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.

ENGINEERING

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QUESTION 1

1.1 Name FOUR groups into which metal laths for interiors are divided. (4)

1.2 Briefly describe how wood-wool slabs are manufactured. (8)
[12]

QUESTION 2

Draw, to an approximate scale of 1 : 10, the alternate plan courses of a TWO-brick tee junction in English bond. No stopped ends are required. **[18]**

QUESTION 3

3.1 State FOUR qualities that coping should have in order to be effective.
(4 x 2) (8)

3.2 Make neat sketches to show the difference between the following paving patterns:

3.2.1 Herringbone pattern (3)

3.2.2 Basket weave pattern (3)

3.2.3 Stretcher bond pattern (3)
[17]

QUESTION 4

4.1 State SIX desirable properties of firebricks. (6 x 2) (12)

4.2 Draw, to an approximate scale of 1 : 20, the alternate plan courses of a single-breasted fireplace in English bond.
Show projections on both sides of the wall. (20)
[32]

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QUESTION 5

5.1 State FOUR disadvantages of a cavity wall. (4 x 2) (8)

5.2 Choose a description from COLUMN B that matches an item in COLUMN A. Write only the letter (A–G) next to the question number (5.2.1–5.2.6) in the ANSWER BOOK.

COLUMN A		COLUMN B	
5.2.1	Entasis	A	is an attached pier projecting from the face of the wall
5.2.2	Fluting	B	a method of constructing a hollow cornice
5.2.3	Pier	C	the side of an opening at either a door or window
5.2.4	Scotch bracketing	D	a plaster resembling marble
5.2.5	Reveal	E	load bearing brickwork between openings
5.2.6	Pilaster	F	a series of channels running up a column
		G	outward swelling of a column

(6 x 1) (6)
[14]

QUESTION 6

DIAGRAM SHEET 1, FIGURE 1 (attached), shows a scaffolding system.

Write the name of each component next to the component number (6.1.–6.7) in the ANSWER BOOK. **[7]**

TOTAL: 100

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DIAGRAM SHEET 1

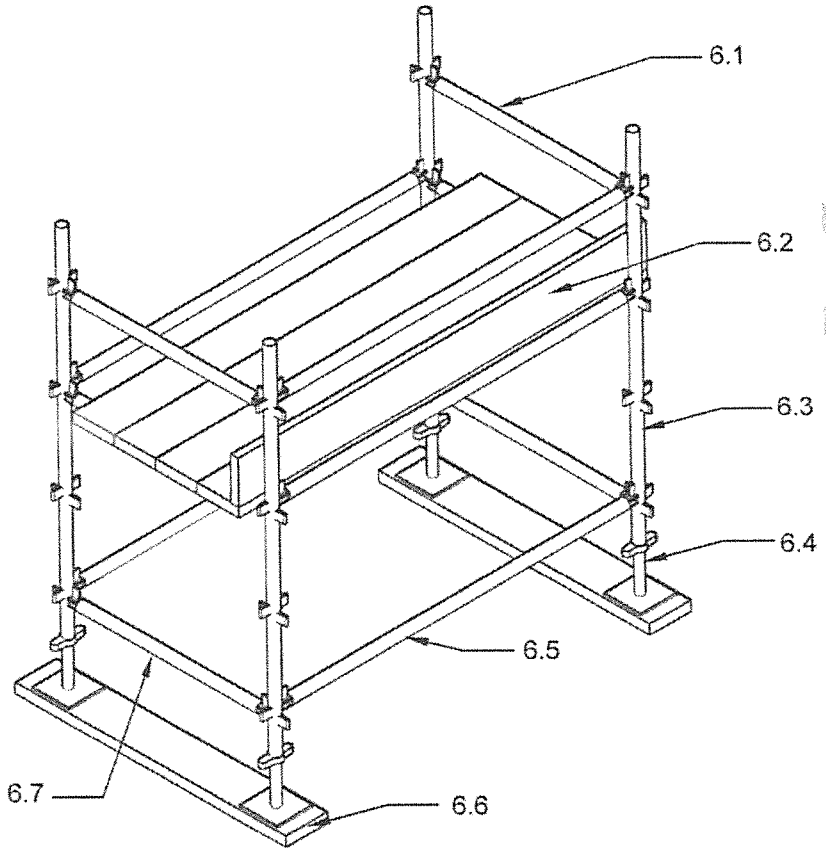

FIGURE 1

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MARKING GUIDELINE

NATIONAL CERTIFICATE

APRIL EXAMINATION

BRICKLAYING AND PLASTERING THEORY N2

25 MARCH 2014

This marking guideline consists of 6 pages.

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QUESTION 1

1.1
- Expanded metal lathing
- Ribbed lathing
- Welded wire mesh
- Galvanised wire netting (4)

1.2 Wood is cut into specified sizes and lengths.
The cut timber then passes through a shaving machine.
The long shaving thus produced is known as wood wool.
The wood wool is then bonded together with cement. (8 x 1) (8)
[12]

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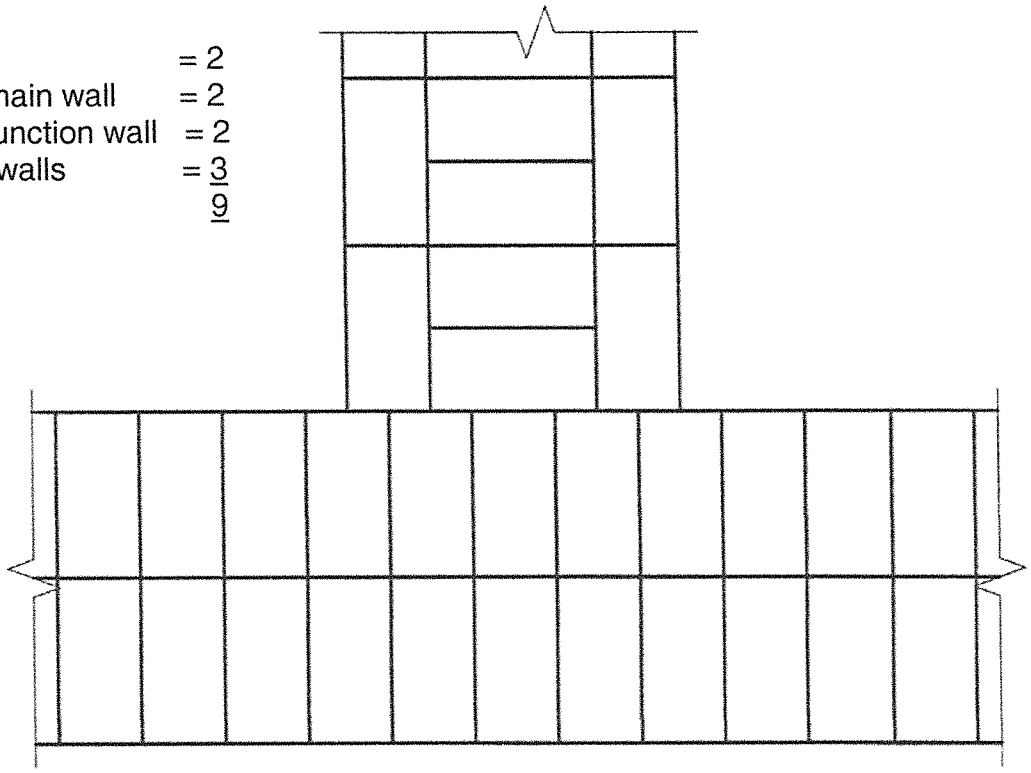
QUESTION 2

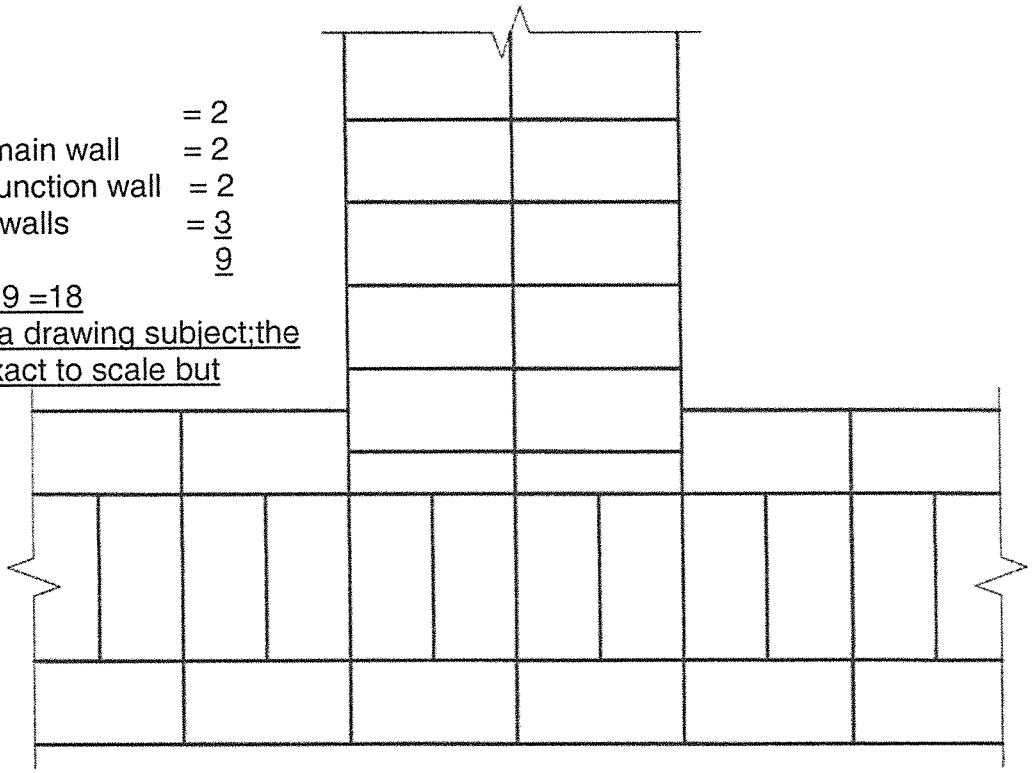
Approximate scale = 2
Correct bond to 2-brick main wall = 2
Correct bond to 2-brick junction wall = 2
Correct joining between walls = 3
9



Approximate scale = 2
Correct bond to 2-brick main wall = 2
Correct bond to 2-brick junction wall = 2
Correct joining between walls = 3
9

9 + 9 =18

This is a theory and not a drawing subject;the drawings need not be exact to scale but approximate.



ALTERNATE PLAN COURSES OF A TWO-BRICK TEE JUNCTION IN ENGLISH BOND **[18]**

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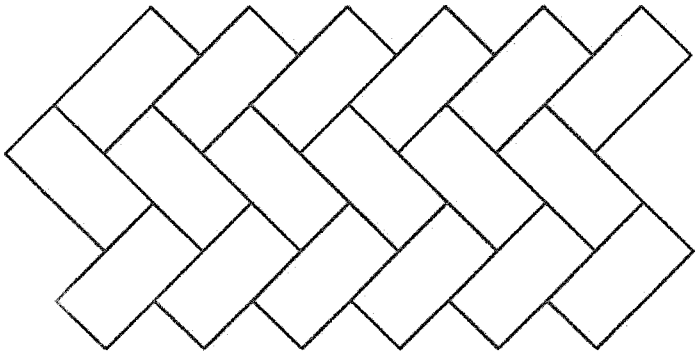
QUESTION 3

3.1
- It must be impervious to any moisture entering from the top.
- It must contain the minimum amount of mortar joints.
- It must have a slight fall on its surface.
- It must have sufficient overhang to allow water to fall clear of the wall.
- It must have a drip to allow water to fall clear of the wall.

(Any 4 x 2) (8)

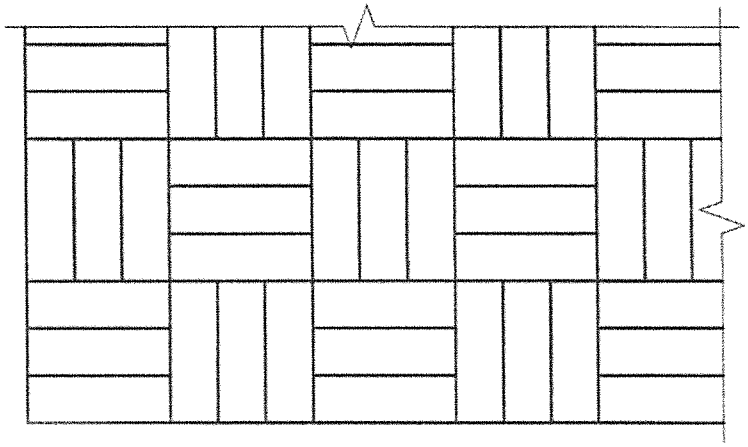
3.2 3.2.1



Correct pattern = 2
Neat layout = 1
3

HERRINGBONE PATTERN (3)

3.2.2

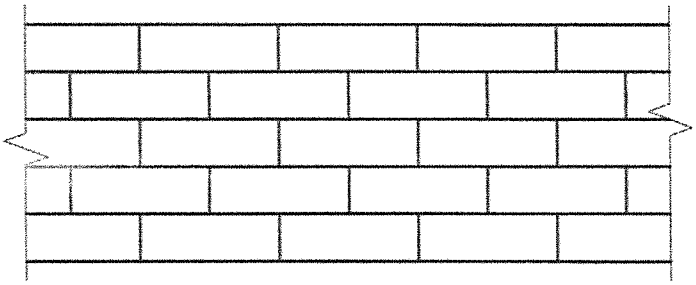


2
1
3

Correct pattern =
Neat layout =

BASKET WEAVE PATTERN (3)

3.2.3



3

Correct pattern = 2
Neat layout = 1

STRETCHER BOND PATTERN (3)

[17]

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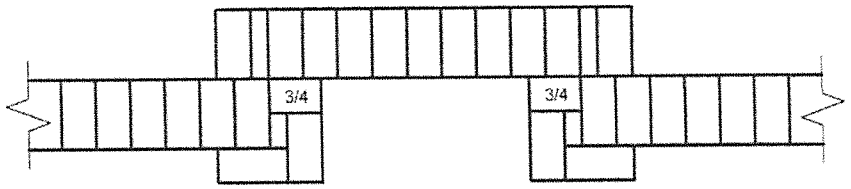
QUESTION 4

4.1
- Refractoriness, capable to withstand intense heat without fusion.
- Resistance to attack from corrosive materials such as glass, metals, slag and salts
- High strength at ordinary temperatures
- Resistance to spalling
- Ability to withstand abrasion
- Thermal conductivity suitable for the conditions of use
- Can withstand heavy duty cycles of heating and cooling without breaking

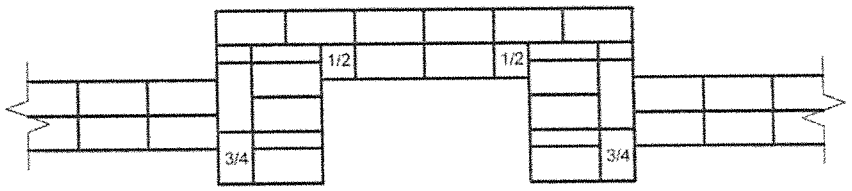
(Any 6 x 2) (12)

4.2



Approximate scale = 2
Correct bonding to external projection = 3
Correct bonding to internal projection = 3
Correct bonding to main wall = 2
10

Course 1 of alternate plan course of a single-breasted fireplace in English bond with internal and external projections.



Approximate scale = 2
Correct bonding to external projection = 3
Correct bonding to internal projection = 3
Correct bonding to main wall = 2
10

Course 2 of alternate plan course of a single-breasted fireplace in English bond with internal and external projections. (20)
[32]

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QUESTION 5

5.1
- special treatment is required at door and window openings where inside and outside walls meet
- sealing of cavity must occur at roof level which may increase labour costs
- the weep holes left in the face of the wall will attract insects
- insect nesting in a cavity can become a problem
- internal dimensions of the rooms are reduced
- slightly higher cost than a standard one brick wall (Any 4 x 2) (8)

5.2
5.2.1 G (1)

5.2.2 F (1)

5.2.3 E (1)

5.2.4 B (1)

5.2.5 C (1)

5.2.6 A (1)
[14]

QUESTION 6

6.1 Guardrail (1)

6.2 Toe board (1)

6.3 Standard (1)

6.4 Base plate (1)

6.5 Ledger (1)

6.6 Soleplate (1)

6.7 Transome (1)
[7]

TOTAL: 100

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