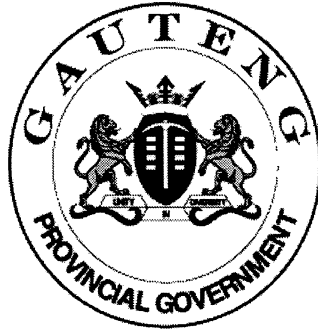


SENIOR CERTIFICATE EXAMINATION



**OCTOBER / NOVEMBER
2005**

**BRICKLAYING AND
PLASTERING**

SG

701-2/0 E

8 pages

BRICKLAYING AND PLASTERING SG
Question Paper & Drawing Answer Book



701 2 0E

SG

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GAUTENG DEPARTMENT OF EDUCATION
SENIOR CERTIFICATE EXAMINATION**BRICKLAYING AND PLASTERING SG****TIME: 3 hours****MARKS: 300**

REQUIREMENTS:

- Answer Book
- A3-size Drawing Answer Book 701-2/X
- Calculators
- Attached answer sheet

INSTRUCTIONS:

- Answer ALL questions.
 - Use both sides of the drawing paper.
 - All drawings must be done in pencil on the drawing paper.
 - Number all your answers correctly.
 - Assume the dimensions of a brick to be:
 - Length : 220 mm
 - Width : 110 mm
 - Height : 75 mm
-

QUESTION 1

- 1.1 Name TEN safety precautions, which must be taken to ensure the safety of workers while building is in progress. 10x2=(20)
- 1.2 Name TEN important pieces of information found in a ground plan of a dwelling. 10x2=(20)
- 1.3 Briefly explain how Portland cement is manufactured. (10)
[50]

QUESTION 2

Figure 1 below shows the plan of an erected house. The house has a gabled roof covered with corrugated iron sheets on 75 mm x 75 mm purlins and has open eaves with an overhang of 500 mm and a pitch of 30 degrees. The roof has 75 mm x 100 mm square gutters with downpipes of 75 mm diameter and 230 mm x 20 mm fascia boards. The ceiling is finished off with 6,4 mm plaster boards, 38 mm x 38 mm branderings and 75 mm cornices.

The 2 700 mm superstructure and the 450 mm substructure are built in a one-brick wall on a 600 mm x 230 mm concrete foundation, 150 mm below ground level.

The 2 000 mm x 800 mm door opening and all the windows must be placed in the correct positions by using the sizes given in the window schedule.

Window schedule:

Window A 2 000 mm x 1 500 mm
Window B 2 500 mm x 1 500 mm

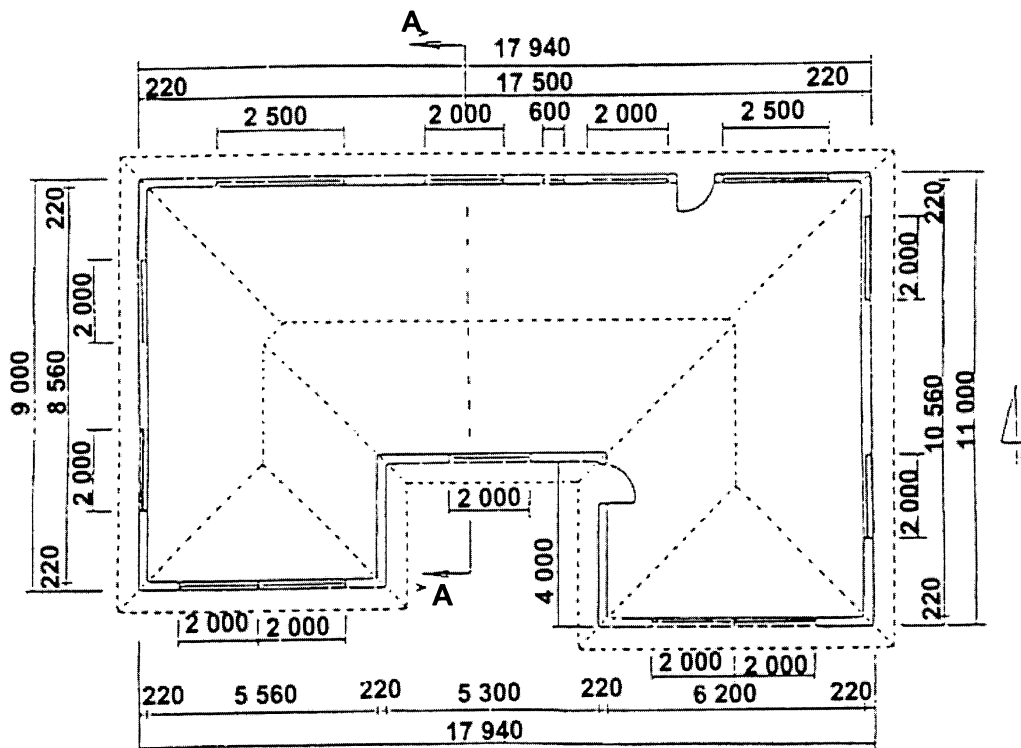


Figure 1

Draw to a scale of 1:50 a vertical section through the dwelling at A-A.

[20]

QUESTION 3

- 3.1 Draw to a scale of 1:10 the alternating plan courses of a corner of a 275 mm cavity wall formed by two-leaves of brickwork. The wall is four bricks long on both sides. Show the positioning of butterfly wall ties. (20)
- 3.2 Name FIVE types of brick bonding used to build public buildings. (10)
- 3.3 Name FIVE types of bonds used to build boundary walls. (10)
- 3.4 Define **Flemish garden wall bond**. (3)
- 3.5 Define the term **bonding**. (3)
- 3.6 Name and describe TWO types of pointing that can be done on finished brickwork. (4)
- [50]

QUESTION 4

- 4.1 Draw to a scale of 1:10 a vertical section through a manhole of 1200 mm deep and 1 000 mm wide. The manhole cover is 600 mm x 600 mm.
- Show the following:
- 100 mm concrete foundation
 - 220 mm walls
 - Concrete benching
 - Brick corbelling
 - Manhole cover
 - Flaunching
 - Ground level
- (50)
- 4.2 Define the following terms:
- 4.2.1 I.E (3)
 - 4.2.2 C.E (3)
 - 4.2.3 R.E (3)
 - 4.2.4 HWB (3)
 - 4.2.5 WC (3)
 - 4.2.6 Z (3)
 - 4.2.7 M.H (3)
 - 4.2.8 M.S (3)
 - 4.2.9 W.S (3)
 - 4.2.10 G (3)
- (30)
- [80]

QUESTION 5

- 5.1 A fire place (hearth) is built into a long wall of a room at ground level of a dwelling. The long wall is one-and-a-half bricks thick, reduced to one brick at floor level.

The outer wall is reduced to half-brick thick to accommodate the 220 chimney flue. The inner wall projects into the room by 110 mm. Using a scale of 1:10 draw a vertical section of the chimney. Show the timber construction. Your drawing must show the following:

1. 330 mm foundation wall
2. 110 mm external wall
3. 220 mm sleeper wall
4. 38 mm x 115 wallplate
5. 75 mm concrete floor
6. Floor boards
7. Tiles
8. Tiles kerb
9. Fire clay back
10. Metal angle
11. 220 mm chimney flue
12. 110 mm internal wall plastered
13. Metal crate 300 mm wide and 300 mm from tile kerb.

(30)

- 5.2 Define the following terms:

- | | | |
|-------|-------------|-----|
| 5.2.1 | Fireplace | (4) |
| 5.2.2 | Chimney | (4) |
| 5.2.3 | Flue | (4) |
| 5.2.4 | Back boiler | (4) |
| 5.2.5 | Chimney pot | (4) |

[20]

[50]

QUESTION 6

Use the answer sheet SG 701 /N to complete this question.

6.1 **Figure 2** below shows the plan of a building, which is to be erected.
Calculate the

- 6.1.1 number of bricks required for the substructure.
- 6.1.2 number of bricks required for the superstructure.
- 6.1.3 total number of bricks needed for the building.

Only the number of bricks for the windows and doors must be deducted.

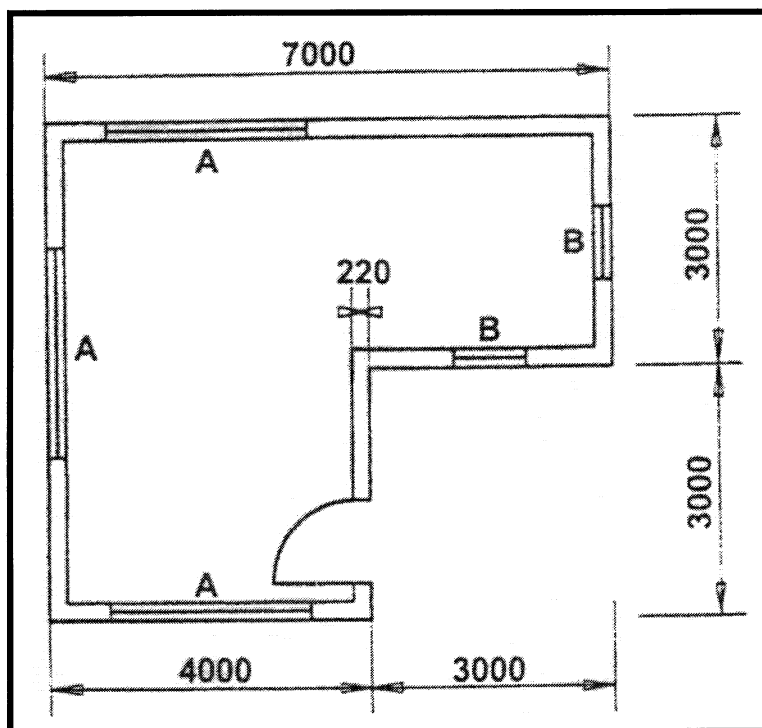


Figure 2

Use the following specifications:

- Use 50 bricks per metre for a half-brick wall.
- The height of the one-brick superstructure exterior wall is 2,700 mm.
- The height of the one-brick wall substructure is 450 mm.
- The door opening is 2 000 mm by 1 000 mm.
- Window **A** is 2 000 mm x 1 500 mm.
- Window **B** is 900 mm x 1 500 mm.
- Allow 5% bricks for wastage.

[50]

TOTAL: 300

ANSWER SHEET SG 701/N

QUESTION 6

EXAMINATION NUMBER:

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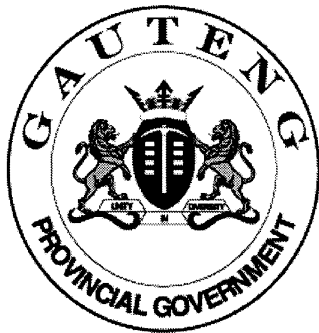
		SUBSTRUCTURE Centre line for substructure
1/	<u> </u>	2 x <u> </u> = <u> </u>
	<u>0,45</u>	2 x <u> </u> = <u> </u>
		Subtotal = <u> </u>
		Minus 4 x <u> </u> = <u> </u>
		Total = <u> </u>
Centre line of substructure is 25,12 m long.		
		Area if substructure is 450 mm high = <u> </u>
2/	<u> </u>	Number of bricks for substructure if there are 50 bricks per
	50	square metre for a half-brick wall: = <u> </u>

		SUPERSTRUCTURE Centre line for superstructure
1/	<u> </u>	2 x <u> </u> = <u> </u>
	<u>2,7</u>	2 x <u> </u> = <u> </u>
		Subtotal = <u> </u>
		Minus 4 x <u> </u> = <u> </u>
		Total = <u> </u>
Centre line of superstructure is 25,12 m long.		
		Area if superstructure is 2 700 mm high = <u> </u>
2/	<u> </u>	Number of bricks for superstructure if there are 50 bricks per
	50	square metre for a half-brick wall: = <u> </u>

DEDUCTIONS OPENINGS			
3/	2,5		Window A
	1,5	_____	2 500 mm x 1 500 mm
2/			Window B
	0,9	_____	900 mm x 1 500 mm
	1,5		
1/	2	_____	Door opening
	1		2 000 x 1 000 mm
Total area of openings			
			Window A = _____
			Window B = _____
			Doors = _____
			Total = _____
2/	_____	_____	Total number of bricks to fall away at openings = _____
	50		
TOTAL NUMBER OF BRICKS FOR THE BUILDING			
			Substructure = _____
			Superstructure = _____
			Subtotal = _____
			Minus openings = _____
			Total = _____
			Total number of bricks plus 5% for wastage = _____

CANDIDATE'S NUMBER / KANDIDAAT SE NOMMER

SENIOR CERTIFICATE EXAMINATION
SENIORSERTIFIKAAT-EKSAMEN



OCTOBER / NOVEMBER
OKTOBER / NOVEMBER

2005

BRICKLAYING AND PLASTERING
STEENMESSEL EN PLEISTERWERK

DRAWING ANSWER BOOK
TEKENE ANTWOORDBOEK



701-2/X

5 pages/bladsye

QUESTION VRAAG	TOTAL TOTAAL	MARKS PUNTE	INITIAL PARAFEER
2			
3			
4			
5			
TOTAL / TOTAAL			



