higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T30(E)(N12)T
NOVEMBER EXAMINATION

NATIONAL CERTIFICATE

BRICKLAYING AND PLASTERING THEORY N2

(11010102)

12 November 2014 (Y-Paper)
13:00–16:00

This question paper consists of 5 pages and 1 addendum.

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. ADDENDUM 1 to be handed in together with your script.
5. Write neatly and legibly.

ENGINEERING

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QUESTION 1

1.1 Explain, step by step, how metal laths are plastered. (8)

1.2 State FOUR main advantages of wood-wool slabs. (4 × 2) (8)
[16]

QUESTION 2

Draw, to an approximate scale 1 : 10, the alternate plan course of a two-brick right angle corner in Flemish bond. Show a stopped end on one wall. **[20]**

QUESTION 3

3.1 Briefly explain the term *terrazzo.* (5)

3.2 Name FOUR different materials that can be used as coping on walls. (4)

3.3 Name SEVEN tools used for tiling a small wall panel. (7)
[16]

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QUESTION 4

4.1 Define the term *calcium silicate bricks*. (3)

4.2 State FOUR factors that may cause a chimney to smoke. (4)

4.3 Choose a description from COLUMN B that matches a word/an item in COLUMN A. Write only the letter (A–G) next to the question number (4.3.1–4.3.6) in the ANSWER BOOK.

COLUMN A		COLUMN B	
4.3.1	Throat	A	the slope given to a horizontal surface to create a run off of water
4.3.2	Parget	B	the architectural dressings around a fireplace
4.3.3	Weathering	C	to incline from the perpendicular, to taper
4.3.4	Chimney piece	D	the partition between two flues in the same stack
4.3.5	Flaunching	E	to render the inside of a flue with lime and mortar cement
4.3.6	Batter	F	the part of a fireplace between the gathering and the flue
		G	cement mortar filler around the top of a chimney stack

(6 × 1) (6)
[13]

QUESTION 5

Draw, to an approximate scale 1 : 10, a vertical section through the bottom 11 courses of a one-brick wall. The drawing must show the following details:

Concrete foundation: 600 mm × 300 mm
Ground level three courses above the foundation
Damp course
Floor slab: 75 mm
The top of the floor slab to be seven courses above the foundation
Hard core: 75 mm
Topping: 20 mm
Floor blocks: 20 mm
Plaster internally: 15 mm
Wooden skirting: 75 mm × 13 mm
Hatching to foundation, plaster, floor slab and hardcore **[20]**

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QUESTION 6

The ADDENDUM (attached) shows a 2 400 mm high column. The base of the column has a diameter of 400 mm and the top of the column has a diameter of 300 mm.

Draw the complete entasis of the column on the ADDENDUM (attached) by means of the constant distances method. **[10]**

QUESTION 7

State FIVE basic rules that apply when a scaffold is erected. **[5]**

TOTAL: 100

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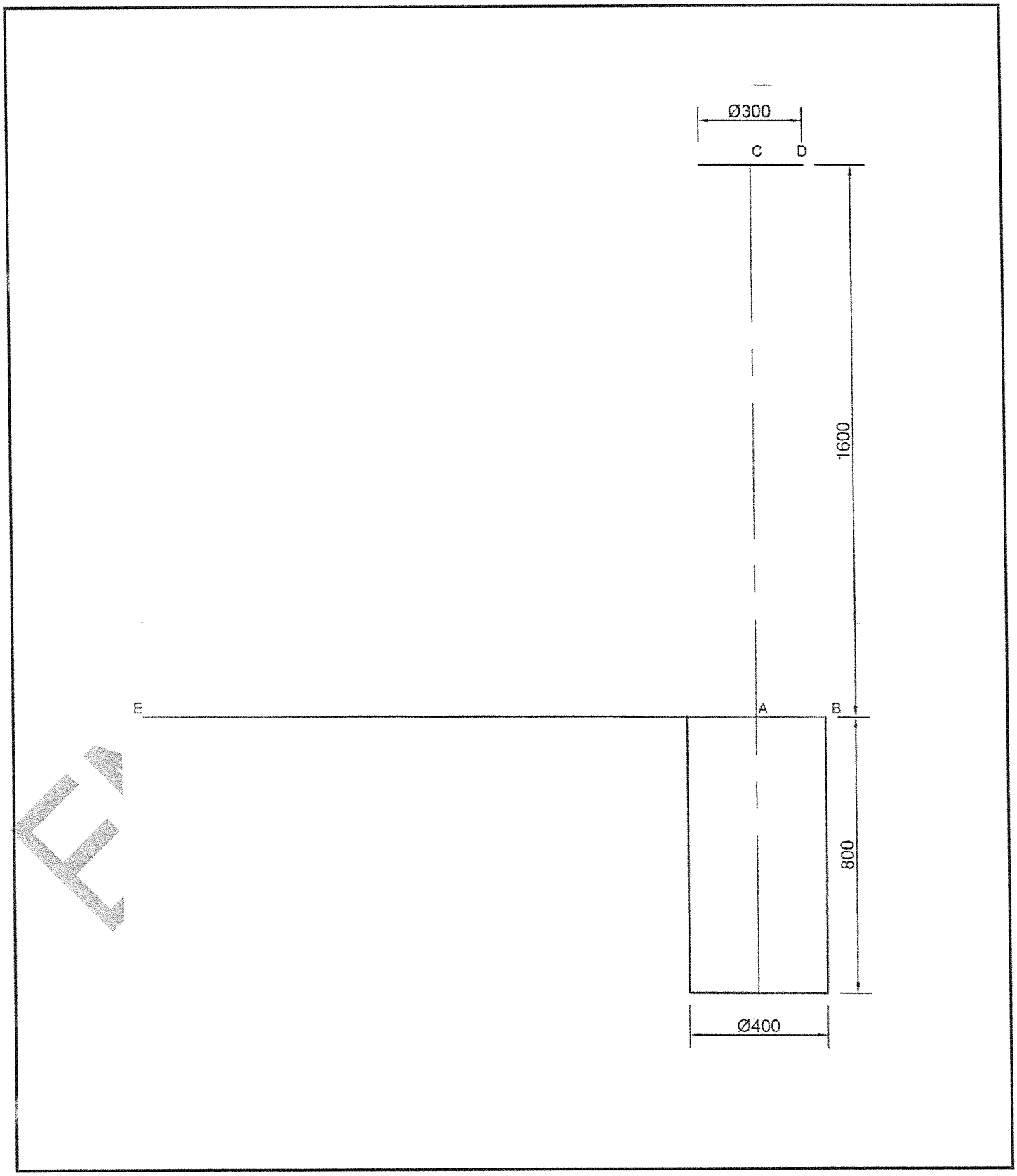
ADDENDUM **EXAMINATION NUMBER:**



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MARKING GUIDELINE

NATIONAL CERTIFICATE

NOVEMBER EXAMINATION

BRICKLAYING AND PLASTERING N2

12 NOVEMBER 2014

This marking guideline consists of 7 pages.

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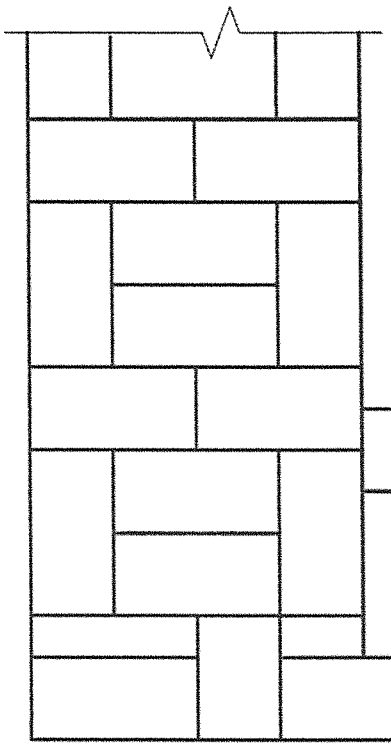
QUESTION 1

1.1 The scratch coat is applied first✓ to serve as the foundation for the structure✓ of the plaster wall.
After the scratch coat is applied✓, and before it sets✓, the surface is scratched. ✓
The surface is scratched in two directions✓, so that there is a cross hatch effect. ✓
The scratching provides a good key for the second coat✓.
Then the third coat is applied✓ to give it a good looking finish. ✓ (Any 8 ×1) (8)

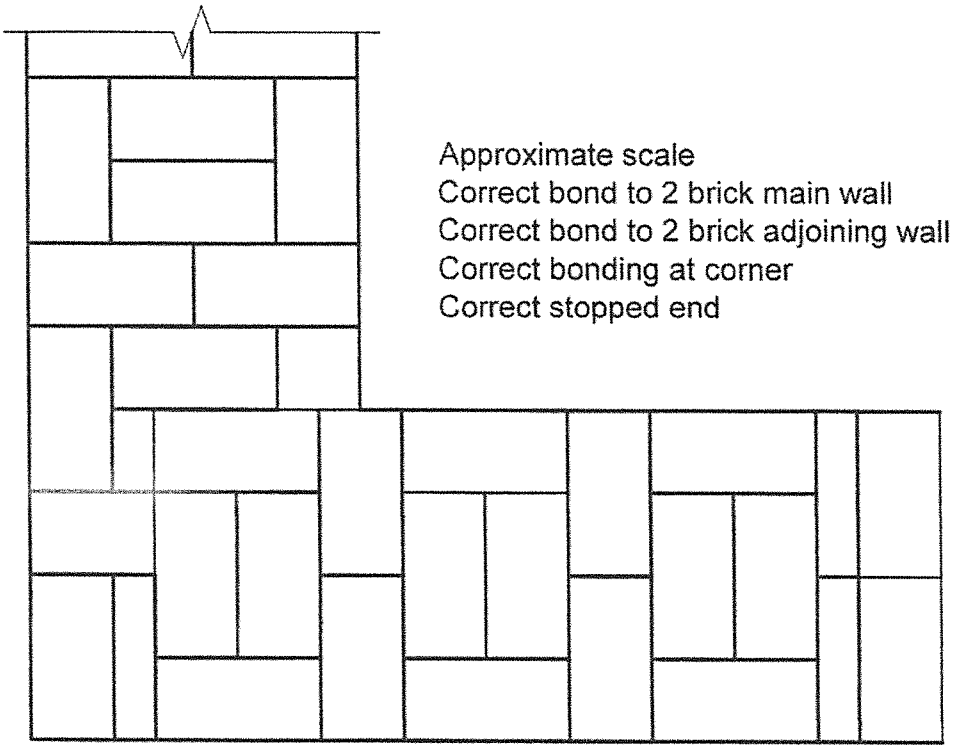
1.2 The boards are light✓ and easily workable✓.
The boards form excellent insulation✓ against sound and heat✓.
The boards can be used for ceiling✓, partitions and flat roof constructions✓.
The boards are fire-proof✓, vermin-proof✓ and rot-proof. (4 × 2) (8)
[16]

QUESTION 2



Approximate scale	=2
Correct bond to 2 brick main wall	=2
Correct bond to 2 brick adjoining wall	=2
Correct bonding at corner	=2
Correct stopped end	=2
	10

Course 1 of alternate plan course of a TWO brick right angle corner in Flemish bond with a stopped end at one wall.



Approximate scale	=2
Correct bond to 2 brick main wall	=2
Correct bond to 2 brick adjoining wall	=2
Correct bonding at corner	=2
Correct stopped end	=2
	10

Course 2 of alternate plan course of a two-brick right angle corner in Flemish bond with a stopped end at one wall

[20]

QUESTION 3

3.1 Terrazzo is a composite material✓ which is used for floor and wall treatments✓ in which marble or stone chippings✓ are used as aggregate✓. The surface are ground✓ to a smooth finish✓ when dry. (Any 5 × 1) (5)

3.2
- Dressed stone ✓
- Precast concrete ✓
- Slate ✓
- Bricks ✓

(4)

3.3
- Tile gauge✓
- Tile cutter✓
- Tile snapper✓
- Tile nipper✓
- Tillers hammer✓
- Rod saw✓
- Spring dividers✓
- Rubber mallet
- Rubber float

(Any 7 × 1) (7)

[16]

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QUESTION 4

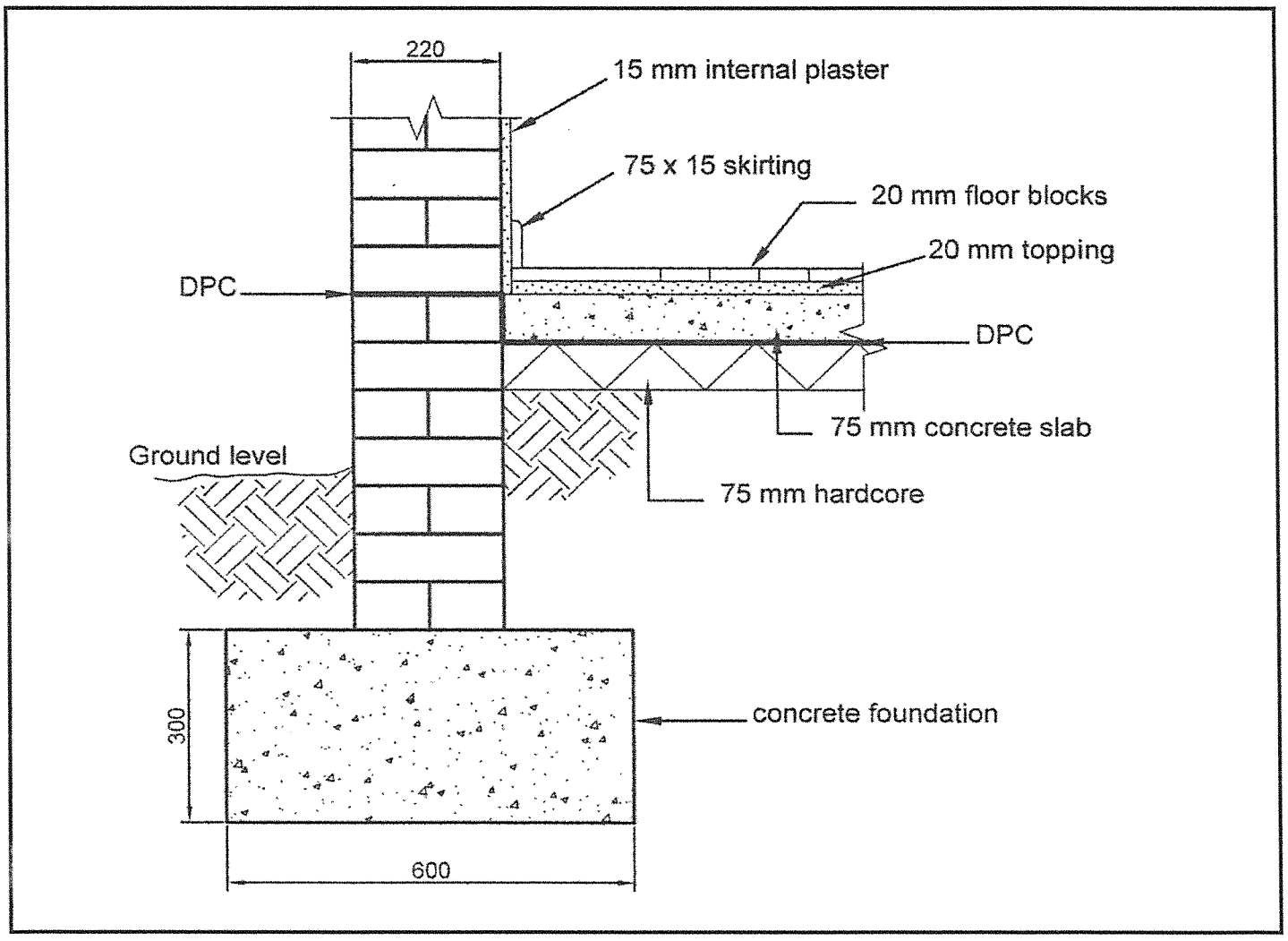
4.1 Calcium silicate bricks are manufactured from a high grade sand or crushed stone✓, to which lime and water is added✓ together with a pigment , for colour✓. (3)

4.2
- The direction of the flue✓
- The shape of the building✓
- The slope of the roof✓
- The proximity of trees or other buildings✓
- The position of doors and windows (Any 4 × 1) (4)

4.3
4.3.1 F✓
4.3.2 E✓
4.3.3 A✓
4.3.4 B✓
4.3.5 G✓
4.3.6 C✓

(6 × 1) (6)
[13]

QUESTION 5



Mark allocation

Concrete foundation ✓	1
Ground level ✓	1
Ground level correct height✓	1
Damp course to wall✓	1
Damp course under floor✓	1
Floor slab✓	1
Floor slab correct height. ✓	1
Hard core✓	1
Topping✓	1
Floor blocks ✓	1
Plaster internally✓	1
Wooden skirting✓	1
Bottom 11 courses ✓	1
Hatching to foundation✓	1
Hatching to plaster ✓	1
Hatching to floor slab✓	1
Hatching to hardcore✓	1
Approximate scale 1:10✓	3
TOTAL	20

[20]

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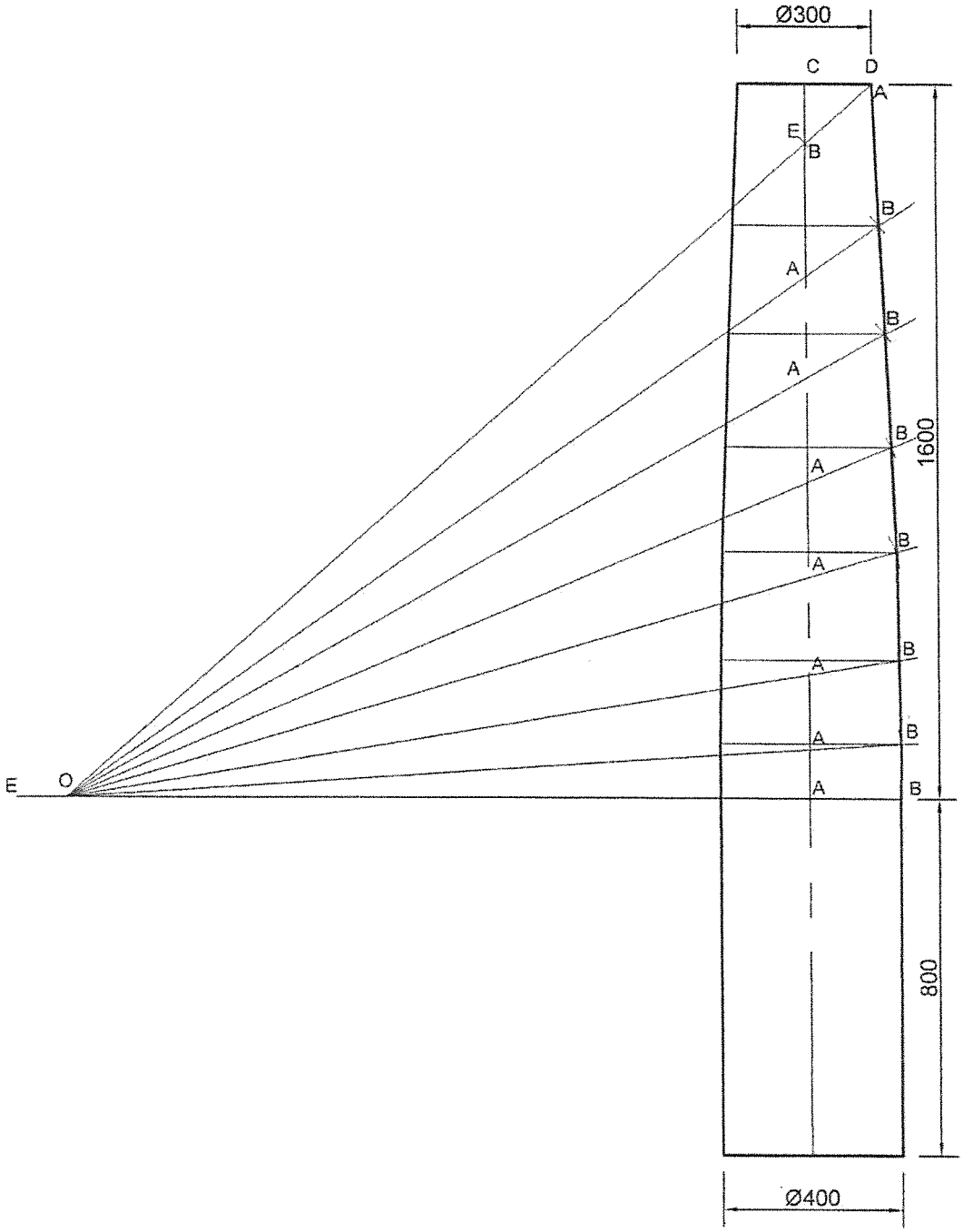
QUESTION 6



Mark allocation

Use radius AB of column to mark off E on Column axis from D.	1	
Connecting DE	1	
Lengthen DE to meet O on line EB	1	
Draw any number of lines from O between OD and OB through the axis up to the plumb line of column base.	1	
Mark off the distances of radius AB from the axis on these lines.	1	
Trace a line through these cut off points to form entasis on one side of the column.	1	
Draw horizontal lines across column from these cut off points.	1	
Mark entasis width on each horizontal line using axis as centre.	1	
Trace line through these points to form entasis on opposite side of column.	1	
Accuracy	1	
TOTAL	10	**[10]**

QUESTION 7

7

- The ground must be capable of supporting the scaffold. ✓
- The sole boards must be capable of spreading the weight of the structure without distortion✓.
- Two standards per sole board ✓are better than one.
- Sole boards placed at right angles to the building should not project too far beyond the face of the scaffold. ✓
- Sole boards should not be undermined✓.
- Reject damaged parts
- Check safety codes
- Report any unsafe condition. never take chances (Any 5 × 1) **[5]**

TOTAL: 100

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