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**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

**ENGINEERING GRAPHICS AND DESIGN P1
NOVEMBER 2015**

MARKS: 200

TIME: 3 hours

This question paper consists of 6 pages.

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INSTRUCTIONS AND INFORMATION

1. The question paper consists of FOUR questions.
2. Answer ALL the questions.
3. All drawings must be drawn to scale 1 : 1, unless stated otherwise.
4. The questions must be answered on the answer sheets provided.
5. All the answer sheets must be re-stapled in numerical sequence and handed in irrespective of whether the question was answered or not.
6. Careful time management is essential in order to complete all the questions.
7. Print your name in the block provided on every answer sheet.
8. All answers must be drawn accurately and neatly.
9. Any details or dimensions not given must be assumed in good proportion.

FOR OFFICIAL USE ONLY				
				MODERATED MARK
1				
2				
3				
4				
TOTAL				
	2	0	0	

COMPLETE THE FOLLOWING:
NAME
NAME
EXAMINATION CENTRE
EXAMINATION CENTRE



QUESTION 2: SECTIONING OF SOLIDS

Given:

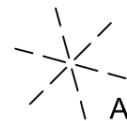
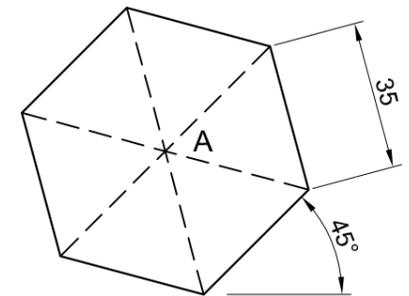
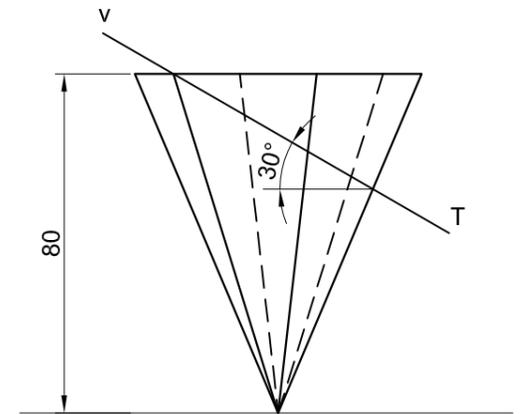
- The front view and top view of a right regular hexagonal pyramid cut by an inclined plane VT.
- A starting point A, for drawing the top view.

Instructions:

- Draw the given front view.
- Draw the sectional top view without hidden detail.
- Draw the sectional right view without hidden detail.
- Project the true shape of the cut surface.

Show all constructions

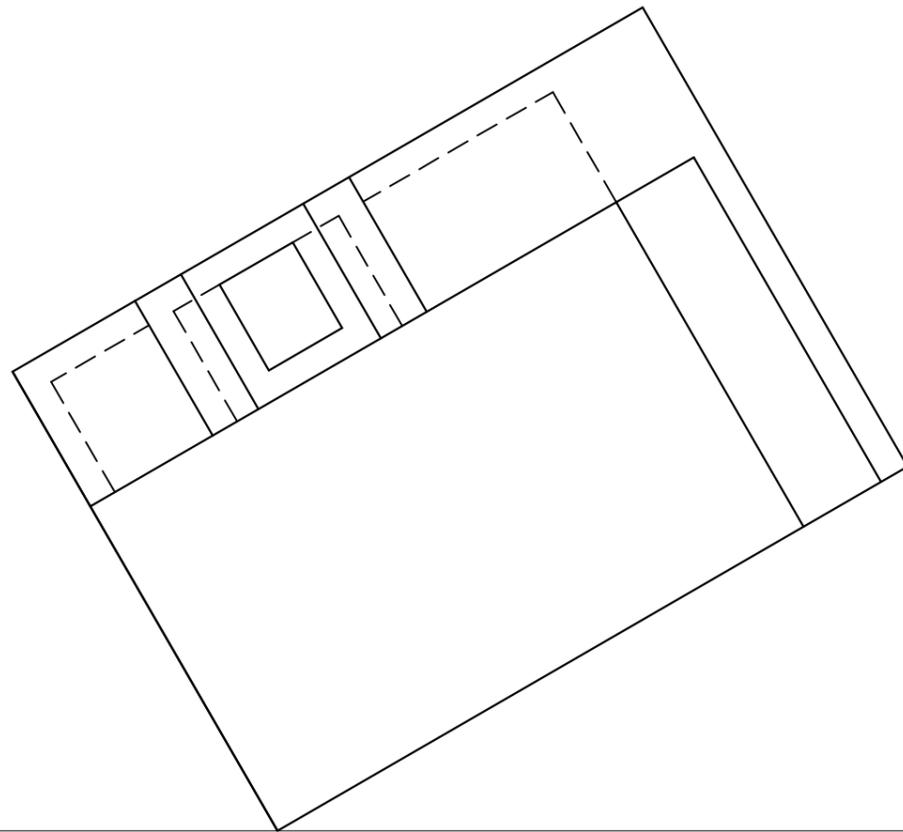
[34]



ASSESSMENT CRITERIA		
1 Front view	7	
2 Sectional top view	7	
3 Sectional right view	10	
4 True shape	6	
5 Constructions	4	
TOTAL	34	

NAME
NAME

3



QUESTION 3: PERSPECTIVE

Given:

A plan and elevations of a braai area, as well as the Picture Plane (PP), Horizon Line (HL), Ground Line (GL) and Station Point (SP).

Instructions:

- Determine the vanishing points and label them.
- Draw the two point perspective view of the braai area.

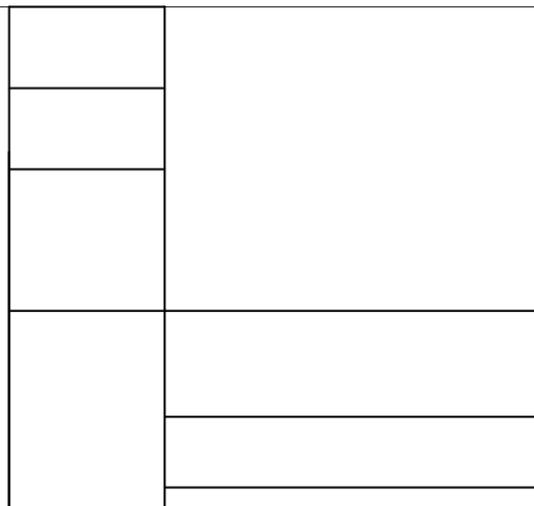
Note:

No hidden detail must be shown.
Show all construction lines.

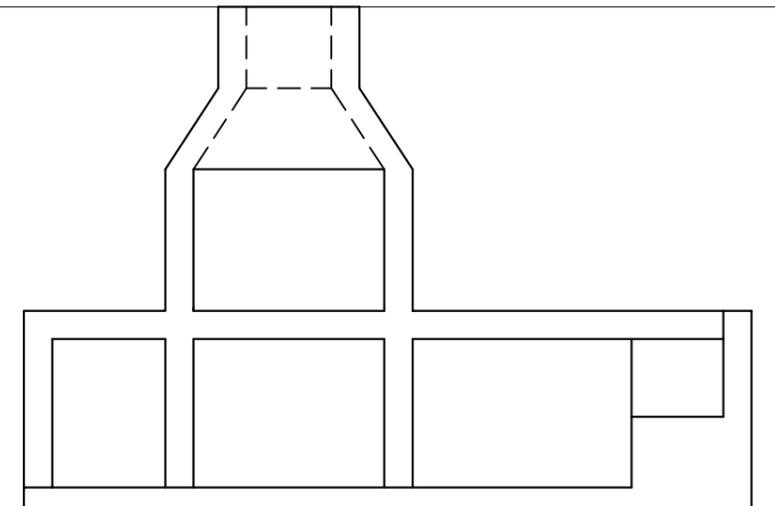
[38]

PP

HL



SP



GL

ASSESSMENT CRITERIA		
1 Vanishing points	4	
2 Constructions	4	
3 Floor and seat 16 x 1/2	8	
4 Braai and chimney 14 x 1/2	7	
5 Sides 30 x 1/2	15	
TOTAL	38	

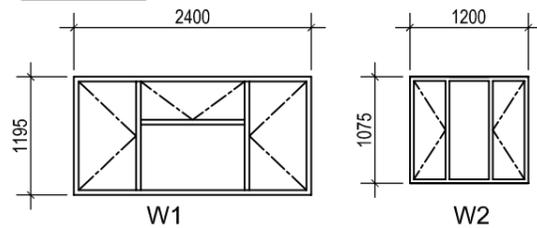
NAME
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4



DOOR AND WINDOW SCHEDULE

WINDOWS



NOTE

220 X 110 BRICKS ON EDGE SILL BELOW WINDOWS

LINTEL

PRECAST CONCRETE LINTEL: 110 x 75 mm

DOORS

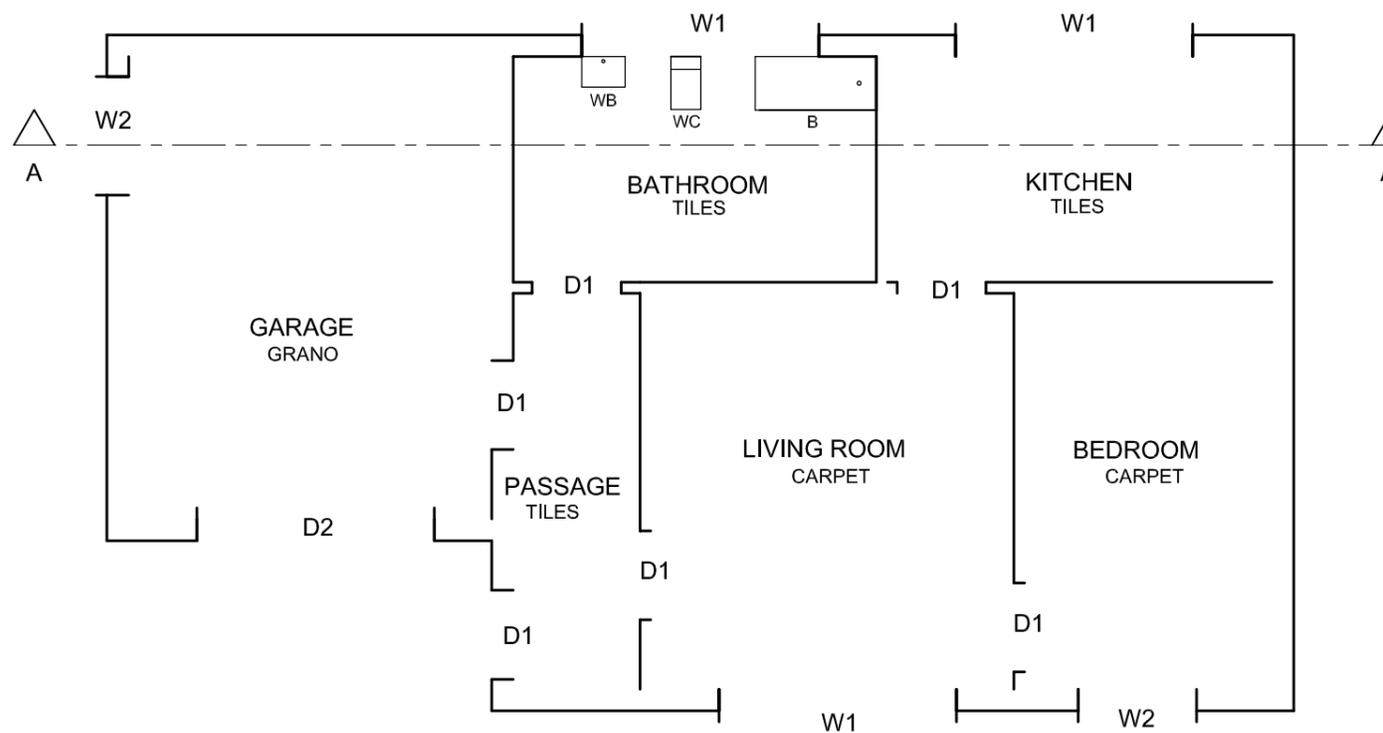
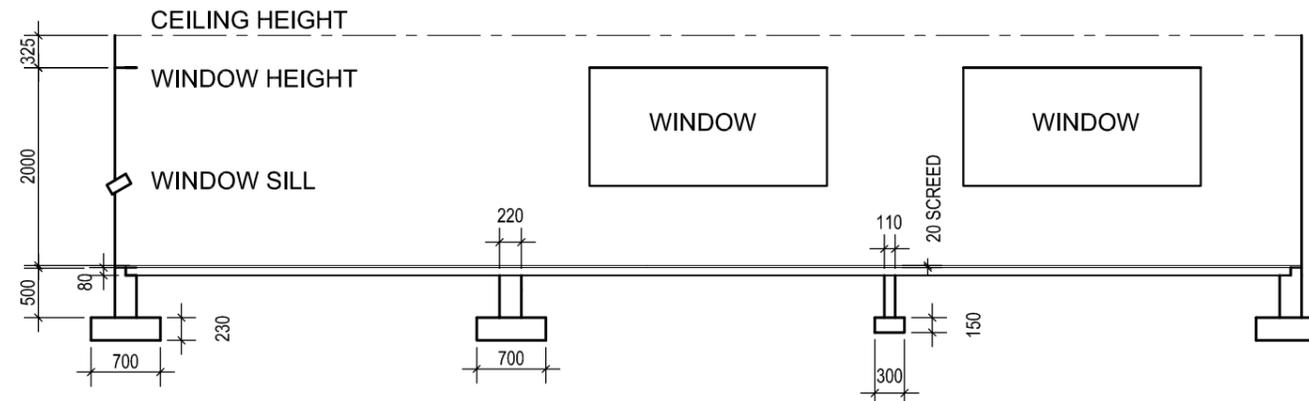
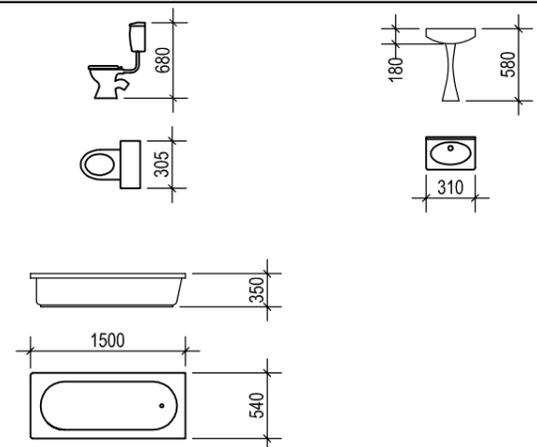


GARAGE DOOR (D2)



HOLLOW CORE DOOR (D1)

DIMENSIONS OF SANITARY FIXTURES



QUESTION 4: CIVIL DRAWING

Given:

- A schematic floor plan and a schematic sectional elevation of the outline of the perimeter of a **house**, and the graphical symbols of all the fixtures in the bathroom.
- A door and window schedule
- An answer sheet on page 6 showing an incomplete floor plan.

Instructions:

Use answer sheet 4 and the information on page 5 to draw to a scale of **1 : 50**, the following views:

- The completed floor plan
- The sectional elevation on cutting plane A-A, to the given specifications below:

SPECIFICATIONS:

THE FLOOR PLAN

Add the following features to the floor plan:

- The missing walls and hatching detail
- The missing doors and windows with detail
- The cutting plane. Label the cutting plane A-A.
- Label all the rooms and its floor finishes.

THE SECTIONAL ELEVATION

Add the following features to the sectional elevation:

- The complete foundation, walls, screed and floor slab detail
- The lintels above the window
- The complete window detail
- ALL necessary hatching
- All sanitary fixtures as **graphical symbols**
- Label the DPC
- Label the NGL
- Label the sectional elevation: SECTIONAL ELEVATION A-A

NOTE:

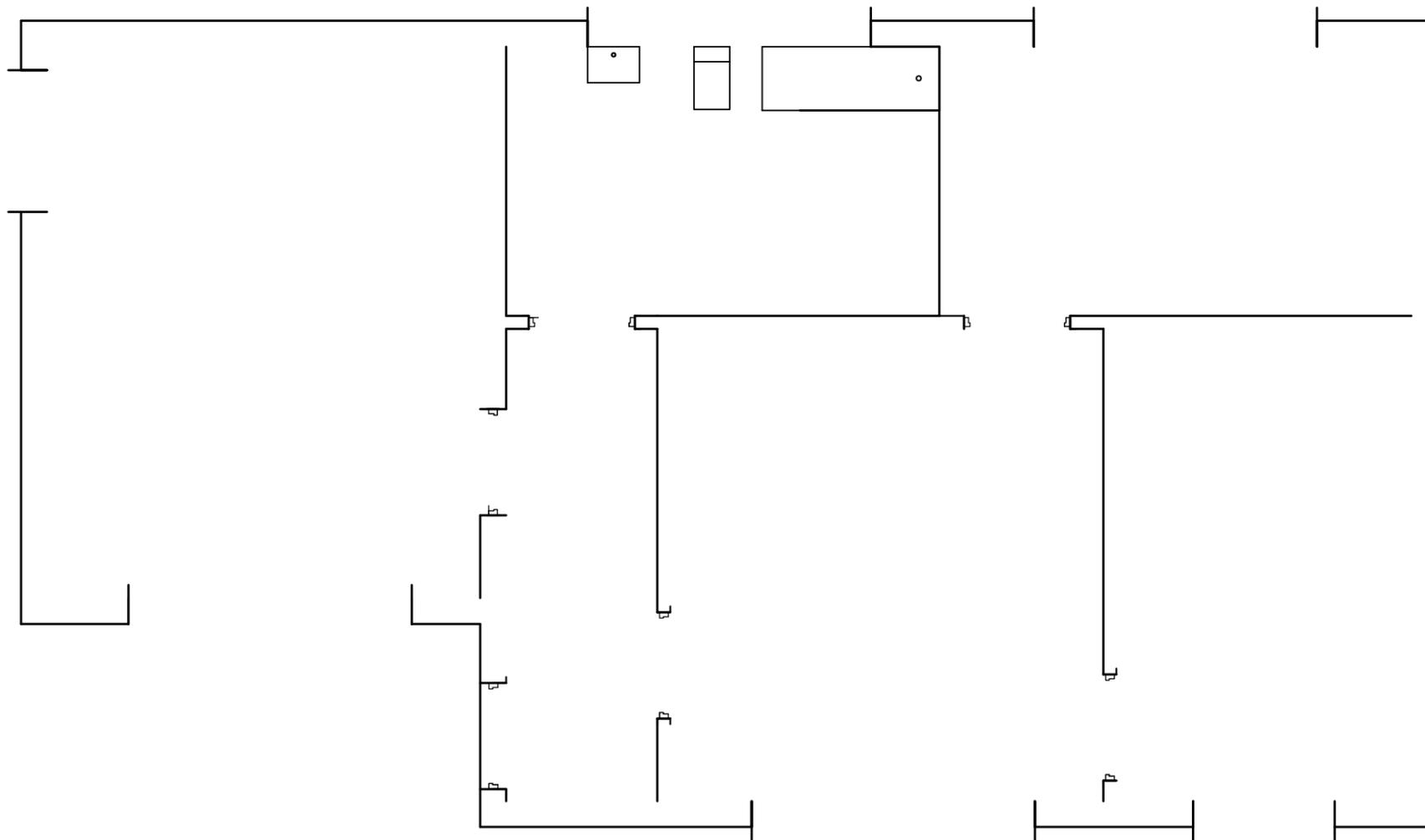
- ALL substructure hatching may be done in freehand.
- ALL drawing must comply with the guidelines contained in the **SABS 0143**. [98]

TERMINOLOGY

Schematic diagram: A diagram that shows the main features or relationships but not the details.

NAME
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ANSWER SHEET 4



FLOOR PLAN		
1 HATCHING	13	
2 DOORS AND WINDOWS	24	
3 ROOMS AND FLOOR FINISH	6	
4 CUTTING PLANE	2	
SUBTOTAL	45	
SECTIONAL ELEVATION		
1 FOUNDATION AND WALLS	24	
2 WINDOWS AND LINTELS	12	
3 HATCHING 12 x 1/2	6	
4 SANITARY FIXTURES	6	
5 LABELS	5	
SUBTOTAL	53	
TOTAL	98	

NAME
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6