



# education

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

**ENGINEERING GRAPHICS AND DESIGN P1  
EXEMPLAR PAPER 2007**

**MARKS: 100**

**TIME: 2 hours**

**This question paper consists of 6 pages.**

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## INSTRUCTIONS AND INFORMATION

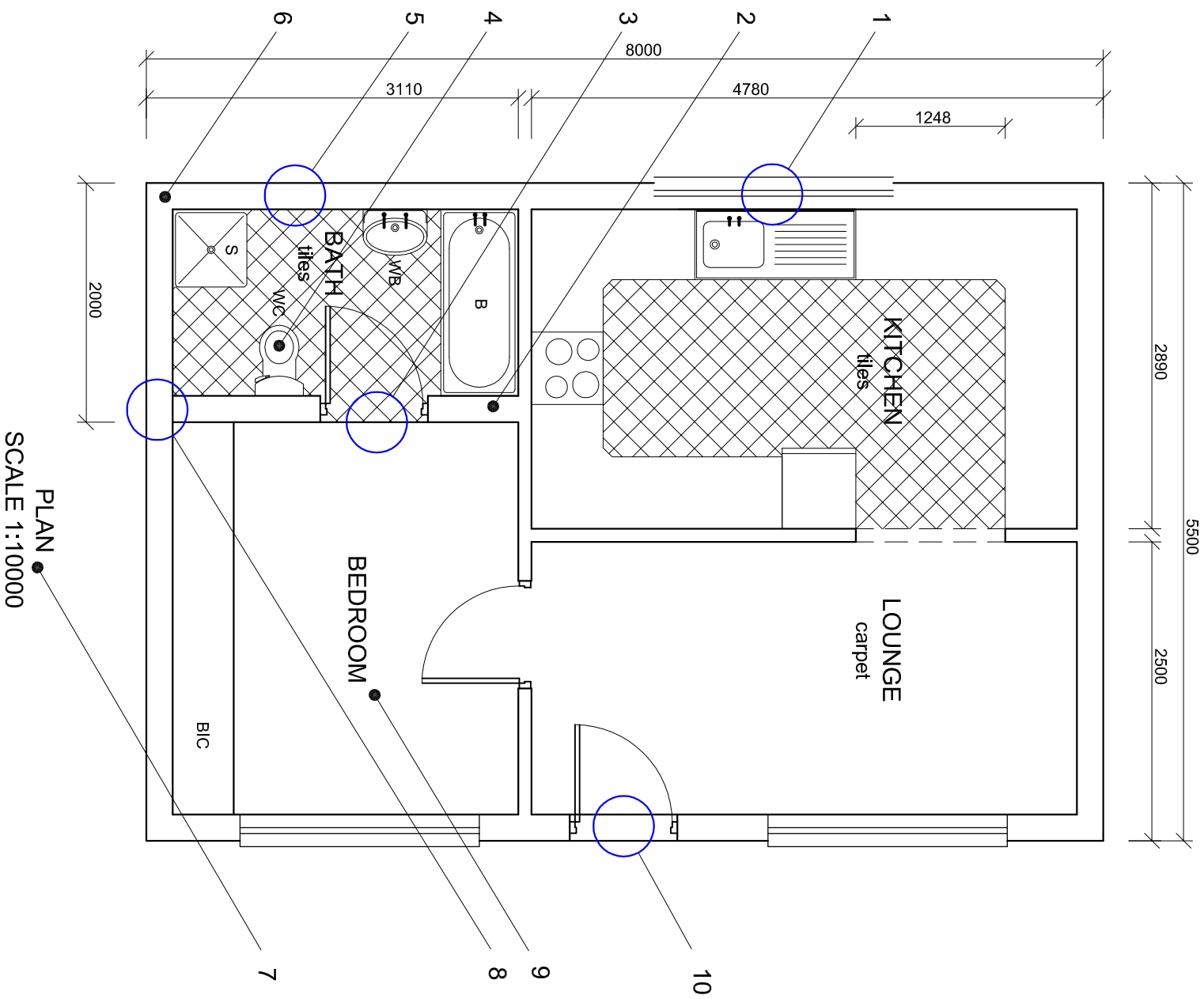
1. The paper consists of FOUR questions.
2. Answer ALL the questions.
3. All drawings are in first-angle orthographic projection unless otherwise stated.
4. All drawings must be drawn to scale 1:1, unless otherwise stated.
5. The questions must be answered on the answer sheets provided.
6. All the answer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

FOR OFFICIAL USE ONLY			
			MODERATED MARK
1			
2			
3			
4			
TOTAL			

LEVEL	CHECKED BY

COMPLETE THE FOLLOWING:
EXAMINATION NUMBER
EXAMINATION NUMBER
EXAMINATION CENTRE
EXAMINATION CENTRE

Please turn over



PLAN  
SCALE 1:10000

**QUESTION 1: ANALYTICAL (CIVIL)**

**Given:**  
The floor plan of a dwelling containing a number of drawing or design errors, as well as a list of possible answers.

**Instructions:**

- Identify the nature of the TEN errors indicated with either a circle or a leader on the floor plan.
- Complete the table by selecting the description that best describes the error from the POSSIBLE ANSWERS and insert only the letter into the space provided on the table.

**Note:**

Each description can only be used ONCE.

- Complete the schedule of areas.
- 1. Determine the total floor area of the dwelling.
- 2. Determine the internal wall perimeter of the kitchen if the exterior walls are 220 mm thick.
- 3. Determine the total square metres of carpet needed to cover the lounge floor.

[13]

**POSSIBLE ANSWERS**

- A. Incorrect scale
- B. Too many lines in the window
- C. Should be an internal wall
- D. Top view
- E. Incorrect door detail
- F. Wall too narrow
- G. No floor finish
- H. Door too narrow
- I. Room not the correct size
- J. WC incorrectly located on internal wall
- K. WC incorrectly located behind the door
- L. Line must be removed
- M. Should be an external wall
- N. Incomplete window detail
- O. Incorrect wall detail
- P. Line too thick
- Q. All walls should be hatched
- R. Tiles at incorrect angle
- S. No window

ANSWERS	
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1

**SCHEDULE OF AREAS**

1	TOTAL FLOOR AREA	1
2	TOTAL INSIDE PERIMETER OF KITCHEN	1
3	TOTAL CARPET AREA OF THE LOUNGE	1

EXAMINATION NUMBER	
EXAMINATION NUMBER	2

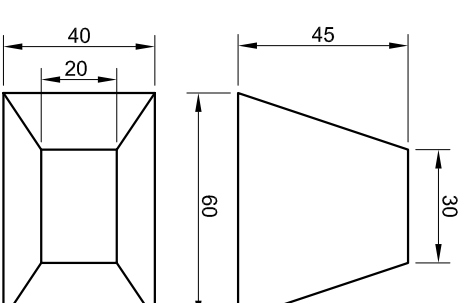


**QUESTION 2: DEVELOPMENT**

**Given:**  
The front view and top view of a transition piece showing a rectangle to a rectangle.

- Instructions:**
- Copy the given views of the transition piece.
  - Develop the surface of the transition piece.
  - Show ALL necessary construction.

[24]



**ASSESSMENT CRITERIA**

GIVEN	=	6
TRUE LENGTH	=	5
DEVELOPMENT	=	13
<b>TOTAL</b>	<b>=</b>	<b>24</b>

EXAMINATION NUMBER

EXAMINATION NUMBER

3



**QUESTION 3: CIVIL DRAWING**

**Given:**

The incomplete floor plan and incomplete sectional elevation of the outer perimeter of a garage.

**Instructions:**

Draw to scale 1:50 the following:

- The complete floor plan of the garage
- The complete sectional elevation of the garage on A-A

Show the following features on the drawing:

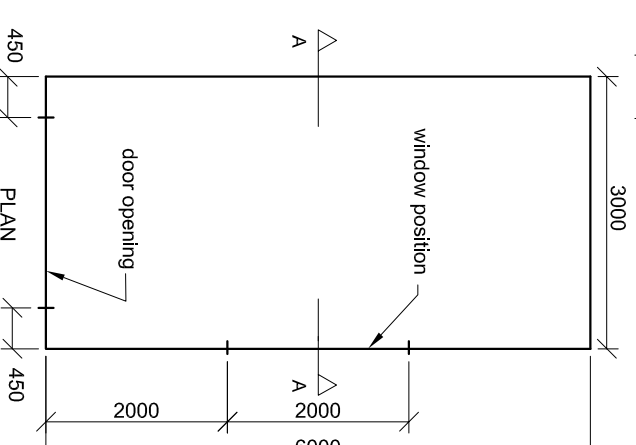
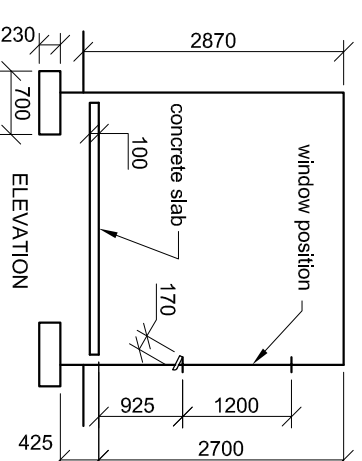
ALL hatching detail, window detail, room designation, floor finishes, DPCs, NGL, the door, the cutting plane, scale and label the views.

**Specifications:**

- All walls 220 mm thick. No plaster required.
- TWO 75 x 110 concrete lintols over the window.
- 25 mm screed with granolithic floor finish.

**Note:**

- All drawing must comply with the standards contained in the SABS 0143.
- NO dimensions are required.
- Precise detail is required for maximum marks. [40]



**ASSESSMENT CRITERIA**

<b>ELEVATION</b>	
OUTLINE	= 13
WINDOW	= 4
HATCHING	= 6
LABELS	= 2
<b>PLAN</b>	<b>25</b>
OUTLINE	= 7
WINDOW+DOOR	= 3
HATCHING	= 1
LABELS	= 2
CUTTING PLANE	= 2
	<b>15</b>

EXAMINATION NUMBER	
EXAMINATION NUMBER	
EXAMINATION NUMBER	4



**QUESTION 4: PERSPECTIVE**

**Given:**

Two views of a house and the necessary information needed to draw a two-point perspective drawing.

- PP - Picture Plane
- HL - Horizon Line
- GL - Ground Line
- SP - Station Point

**Instructions:**

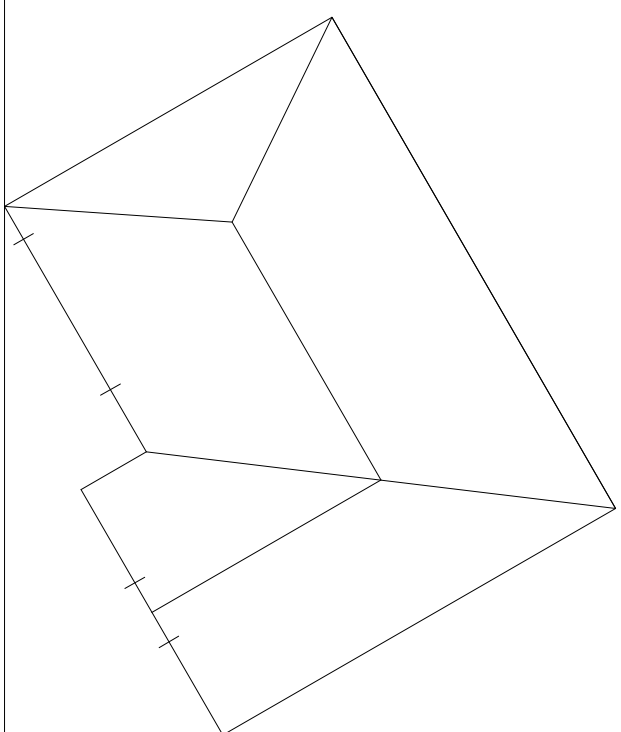
- Locate and label the vanishing points.
- Complete the perspective drawing.
- Show ALL necessary construction.

**Note:**

NO hidden detail is required.

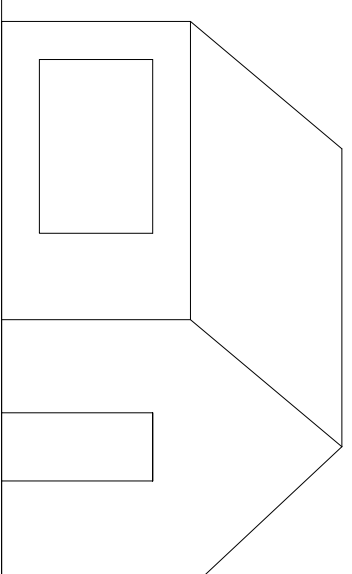
[23]

PP \_\_\_\_\_



HL \_\_\_\_\_

GL \_\_\_\_\_



**ASSESSMENT CRITERIA**

VPS	=	4
CONSTRUCTION	=	2
PERSPECTIVE	=	17
<b>TOTAL</b>		<b>23</b>

+  
SP

EXAMINATION NUMBER

EXAMINATION NUMBER

6