INSTRUCTIONS AND INFORMATION

1. This question 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 completed using instruments, unless otherwise stated.
5. ALL answers must be drawn accurately and neatly.
6. ALL the questions must be answered on the QUESTION PAPER as instructed.
7. ALL the pages must be re-stapled in numerical sequence, irrespective of whether the question was attempted.
8. Time management is essential in order to complete all the questions.
9. Print your examination number in the block provided on every page.
10. Any details or dimensions not given must be assumed in good proportion.

FOR OFFICIAL USE ONLY

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>MARKS OBTAINED</th>
<th>% SIGN</th>
<th>MODERATED</th>
<th>% SIGN</th>
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</thead>
<tbody>
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<td>TOTAL</td>
<td>2 0 0</td>
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FINAL CONVERTED MARK 100

CHECKED BY

COMPLETE THE FOLLOWING:

CENTRE NUMBER

CENTRE NUMBER

EXAMINATION NUMBER

EXAMINATION NUMBER

This question paper consists of 6 pages.
QUESTION 1: ANALYTICAL (CIVIL)

Given:
The site plan for a proposed new guest house, a title panel and a table of questions. The drawing has not been prepared to the indicated scale.

Instructions:
Complete the table below by neatly answering the questions, which all refer to the accompanying drawing and title panel.

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How many revisions have been made to the drawing?</td>
<td>1</td>
</tr>
<tr>
<td>2. How many signatures are required on the site plan?</td>
<td>1</td>
</tr>
<tr>
<td>3. What is the project number?</td>
<td>1</td>
</tr>
<tr>
<td>4. How wide is the motor vehicle entrance in metres?</td>
<td>1</td>
</tr>
<tr>
<td>5. What does the abbreviation MH stand for?</td>
<td>1</td>
</tr>
<tr>
<td>6. How high is the security fence in metres?</td>
<td>1</td>
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<tr>
<td>7. What does the feature at 1 indicate?</td>
<td>1</td>
</tr>
<tr>
<td>8. What does the line at 2 indicate?</td>
<td>1</td>
</tr>
<tr>
<td>9. Name the feature at 3.</td>
<td>1</td>
</tr>
<tr>
<td>10. What does the number at 4 indicate?</td>
<td>1</td>
</tr>
<tr>
<td>11. What does the line at 5 indicate?</td>
<td>1</td>
</tr>
<tr>
<td>12. If scale 1 : 50 was used for the site plan, what would the dimension at 6 read?</td>
<td>1</td>
</tr>
<tr>
<td>13. What is the reference number of the electrical supply?</td>
<td>1</td>
</tr>
<tr>
<td>14. What type of tree is found on the stand?</td>
<td>1</td>
</tr>
<tr>
<td>15. In what SI unit are the dimensions?</td>
<td>1</td>
</tr>
<tr>
<td>16. Is corner C of stand 1435 higher or lower than Titren Road?</td>
<td>2</td>
</tr>
<tr>
<td>17. What is the shortest distance in metres from the proposed new guest house to Titren Road?</td>
<td>2</td>
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<tr>
<td>18. If the side of the existing house that faces Titren Road is the south-west elevation, draw, in the space provided below the site plan and in neat hand, a correctly orientated SANS 10143 north-point symbol.</td>
<td>4</td>
</tr>
<tr>
<td>19. In the space provided in the title panel, draw, in neat hand, the front view and top view of the SANS 10143 graphical symbol (convention) for a single kitchen sink.</td>
<td>4</td>
</tr>
<tr>
<td>20. In the space below, determine the perimeter of the new guest house in metres.</td>
<td>3</td>
</tr>
</tbody>
</table>

ANSWER 18
Show ALL calculations.

TOTAL 30
QUESTION 2: INTERPENETRATION AND DEVELOPMENT

Given:
- The incomplete front view and top view of a right square prism that has been shaped to fit around a right equilateral triangular prism. The axes of both prisms lie in a common vertical plane.
- The auxiliary views of the square prism.

Instructions:
1. Draw, to scale 1 : 1, the following:
   - 2.1 The given top view
   - 2.2 The complete front view clearly showing the curve of interpenetration
   - 2.3 The development of the surface of the square prism. Make AB the seam.

2. Show ALL hidden detail.
3. Show ALL necessary construction and fold lines. [33]

ASSESSMENT CRITERIA

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>TOP VIEW</td>
</tr>
<tr>
<td>2</td>
<td>FRONT VIEW</td>
</tr>
<tr>
<td>3</td>
<td>DEVELOPMENT</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>
QUESTION 3: PERSPECTIVE

Given:
Two views of a recreational area and the information needed to draw a two-point perspective drawing.

PP = Picture plane
HL = Horizon line
GL = Ground line
SP = Station point

Instructions:
Complete the perspective drawing.

- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- NO hidden detail is required.

[41]
QUESTION 4: CIVIL DRAWING

Given:
- The complete south-east elevation of new consulting rooms, showing the walls, the window, the front door, the roof and notes
- The incomplete floor plan, showing the walls, position of the windows, doors, fixtures and the electrical fittings
- Roof notes and a schematic diagram of a roof truss
- Incomplete foundation and wall detail
- The floor finishes and a diagram showing the room designations
- A door and window schedule
- A table of roof components
- A table of electrical symbols
- A table of sanitary fixtures
- The Incomplete floor plan of the new consulting rooms, drawn to scale 1:50, on page 6

Instructions:
- Answer this question on page 6.
- Using the given Incomplete floor plan, draw, in first-angle orthographic projection and to scale 1:50, the following views of the new consulting rooms:
  - 4.1 The complete floor plan
  - 4.2 A sectional elevation on cutting plane A-A
  - 4.3 The north-east elevation
- ALL drawings must comply with the guidelines and graphical symbols contained in the SANS 10143.

SPECIFICATIONS:
THE FLOOR PLAN
Add the following features to the drawing:
- ALL doors and windows
- ALL the sanitary fixtures as indicated by the abbreviations
- ALL the electrical fittings as indicated by the numbers
- ALL hatching detail

THE SECTIONAL ELEVATION
Show the following features on the drawing:
- The complete foundation, wall, slab, roof and ceiling detail
- The window detail, with a double lintel, and the door detail
- The sanitary fixtures
- ALL hatching detail

THE NORTH-EAST ELEVATION
Show the following features on the drawing:
- The outside walls and finished floor level
- The roof detail, including the gutter, fascia board and rain-water downpipe
- The window detail

Label the following:
- The room designations with floor finishes
- The sectional elevation and north-east elevation
- Using the correct abbreviations, label the following features in the correct view: ground level and damp-proof course.

NOTE:
- ALL substructure hatching may be drawn in freehand. [96]