higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

DRAWING OFFICE PROCEDURES AND TECHNIQUES

(Second Paper**)**

NQF LEVEL 3

(12050713)

14 March 2018 (X-Paper)
09:00–13:00

This question paper consists of 4 pages and 2 diagram sheets.

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TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. A balanced layout must be maintained. Candidates will be penalised for poor planning.
4. Number the answers according to the numbering system used in this question paper.
5. Answer QUESTION 1 in the ANSWER BOOK provided. ALL the other questions must be answered on A4 drawing paper.
6. Each question must be plotted on a separate A4 drawing sheet. Plot the answer on ONE side of the drawing paper only.
7. Draw a border line around each sheet of the drawing paper.
8. All candidate information must be plotted in the title block.
9. ALL the abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
10. Candidates will be responsible, with suitable supervision, for the printing/-plotting of their own drawings.
11. Write neatly and legibly.

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QUESTION 1

QUESTION 1 must be answered in the ANSWER BOOK.

1.1 Name the function key that is used to complete each of the following:

1.1.1 Tablet on or off (obsolete)

1.1.2 Isoplane (obsolete)

(2 × 1) (2)

1.2 Name FIVE geometric calculations that CAD systems can perform for 2-D drawings. (5)

1.3 What is an e*ntity*? (1)

1.4 What do the following computer terms mean?

1.4.1 Aspect ratio

1.4.2 Application programming interface (API)

(2 × 1) (2)

[10]

QUESTION 2

FIGURE 1, DIAGRAM SHEET 1 (attached) shows two views of a bracket.

2.1 Draw both views of the bracket using a CAD program, to scale 1 : 3 on an A4 drawing sheet. (18)

2.2 Include ALL dimensions on the drawing. (4)

2.3 Include a title bar and provide your student number, the centre number, scale, date and question number. (3)

2.4 Plot the drawing and candidate information on an A4 sheet. (3)

2.5 Insert the correct orthographic projection symbol. (2)

[30]

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QUESTION 3

FIGURE 2, DIAGRAM SHEET 1 (attached) shows the partially sectional view of a model assembly.

Draw to scale1 : 2, using a CAD program, the following views of the model assembly on an A4 sheet:

3.1 Draw the model assembly and the sectional view. (17)

3.2 Include ALL dimensions on the drawing. (5)

3.3 Include a title bar and provide your student number, the centre number, scale, date and question number. (4)

3.4 Plot the drawing and candidate information on an A4 sheet. (4)
[30]

QUESTION 4

FIGURE 3, DIAGRAM SHEET 2 (attached) shows the sectional view of a model assembly.

All hidden lines are included.

Draw to scale 1 : 3, in first-angle orthographic projection, using a CAD program, the following views of the model assembly on an A4 sheet:

Include all hidden lines and dimensions.

4.1 Draw the views of the model. (12)

4.2 Produce the three-dimensional view. (10)

4.3 Include a title bar and provide your student number, the centre number, scale, date and question number. (3)

4.4 Plot the drawing and candidate information on an A4 sheet. (3)

4.5 Insert the correct orthographic projection symbol. (2)
[30]

TOTAL: 100

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DIAGRAM SHEET 1

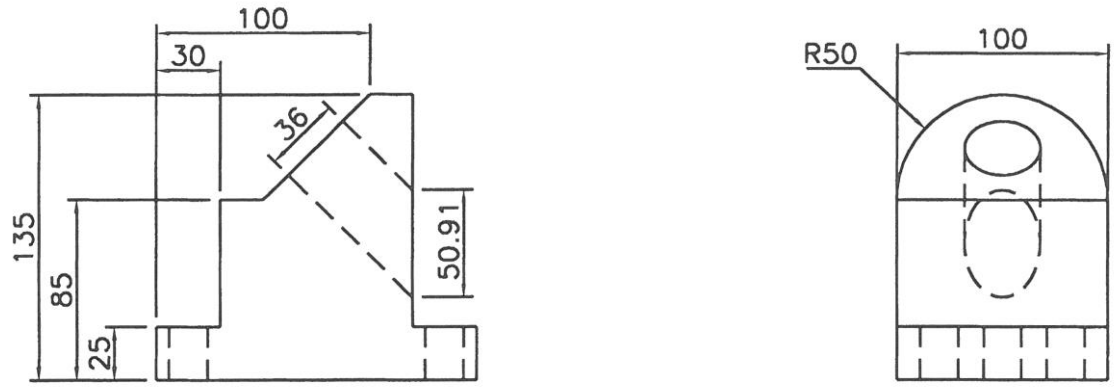


FIGURE 1

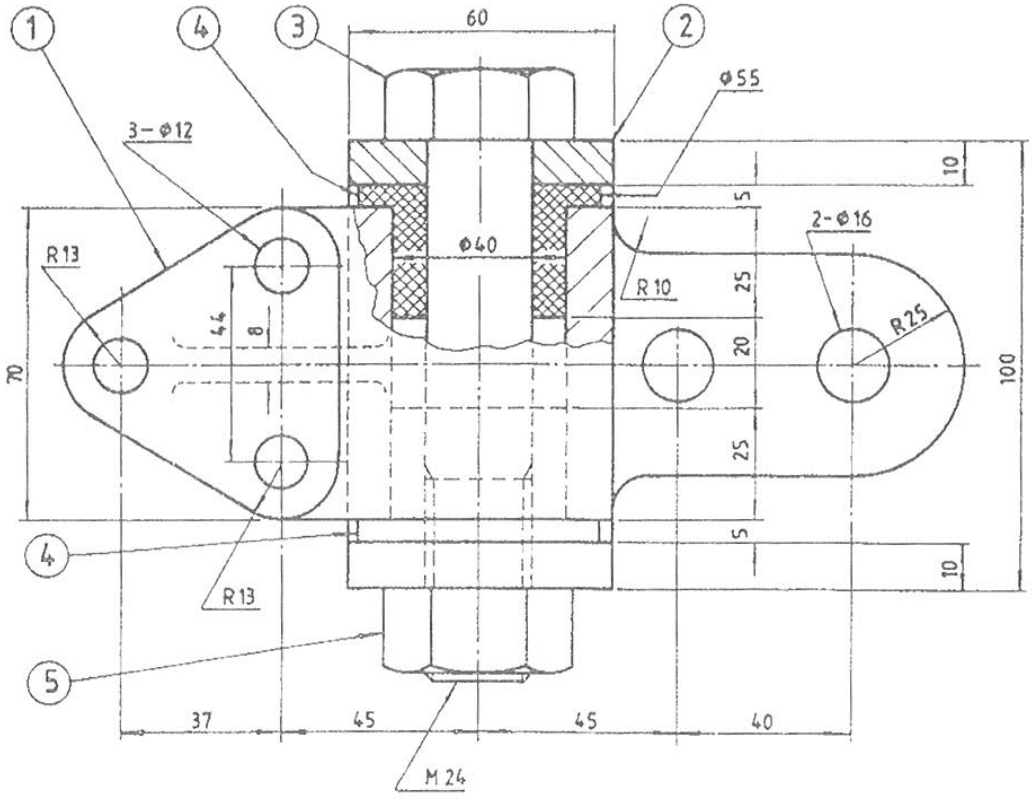


FIGURE 2

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DIAGRAM SHEET 2

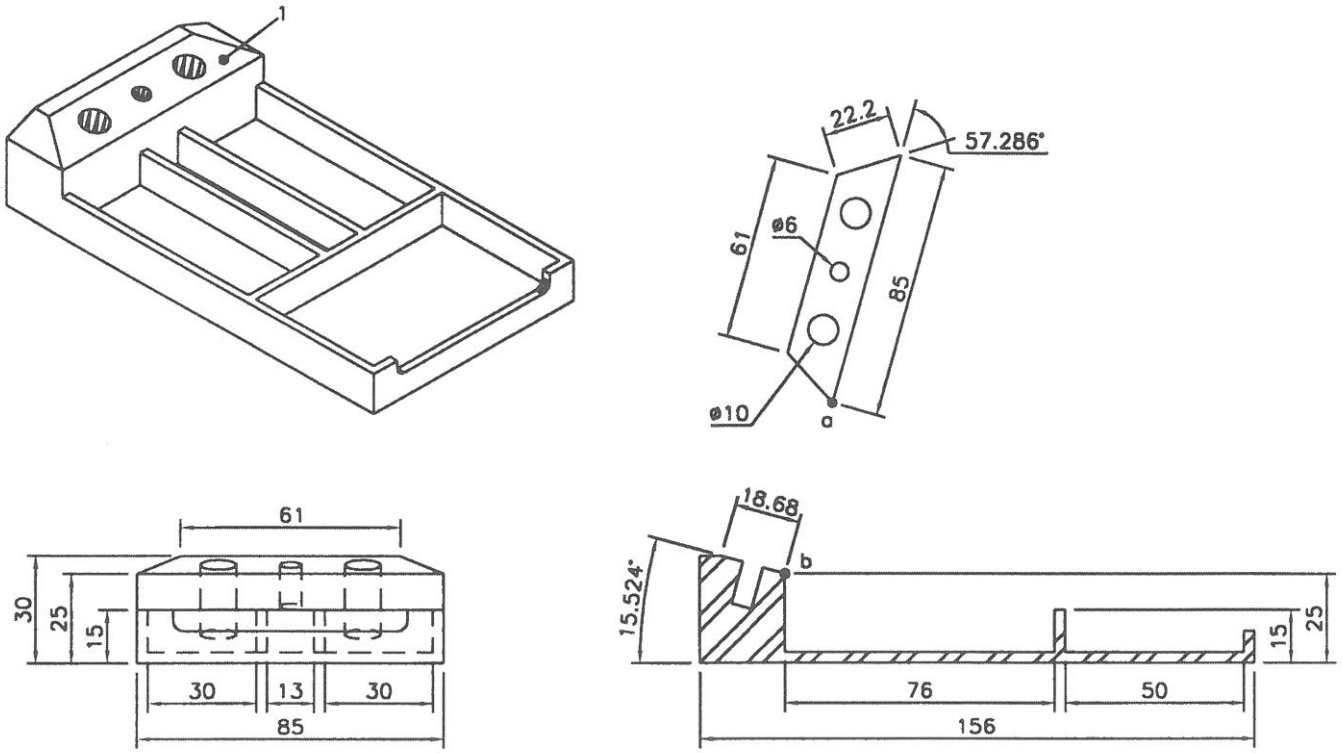


FIGURE 3

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