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

(1205073)

22 November 2022 (X-paper)
09:00–13:00

Requirements: A4 drawing paper.

Nonprogrammable calculators and CAD software may be used.

This question paper consists of 5 pages and 3 answer sheets.

549Q2N2222

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TIME: 4 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. Start each section on a new page.
5. Use only a black or blue pen.
6. Freehand drawings, sketches and diagrams must be neat, reasonably large, in proportion, fully labelled, and in pencil.
7. Rule off across the page on completion of each question.
8. Clearly cross out all work you do not want to be marked.
9. All abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
10. Write neatly and legibly.

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QUESTION 1

1.1 What do the following computer terms mean?

1.1.1 2-D drawings

1.1.2 Analyst

1.1.3 Bill of materials

1.1.4 ISO

(4 × 1) (4)

1.2 Use CAD software to draw the following:

Draw the shapes shown in **FIGURE 1** (below) on an A4 sheet. Include a title bar with your student number, the centre number, scale, date and question number. (4)

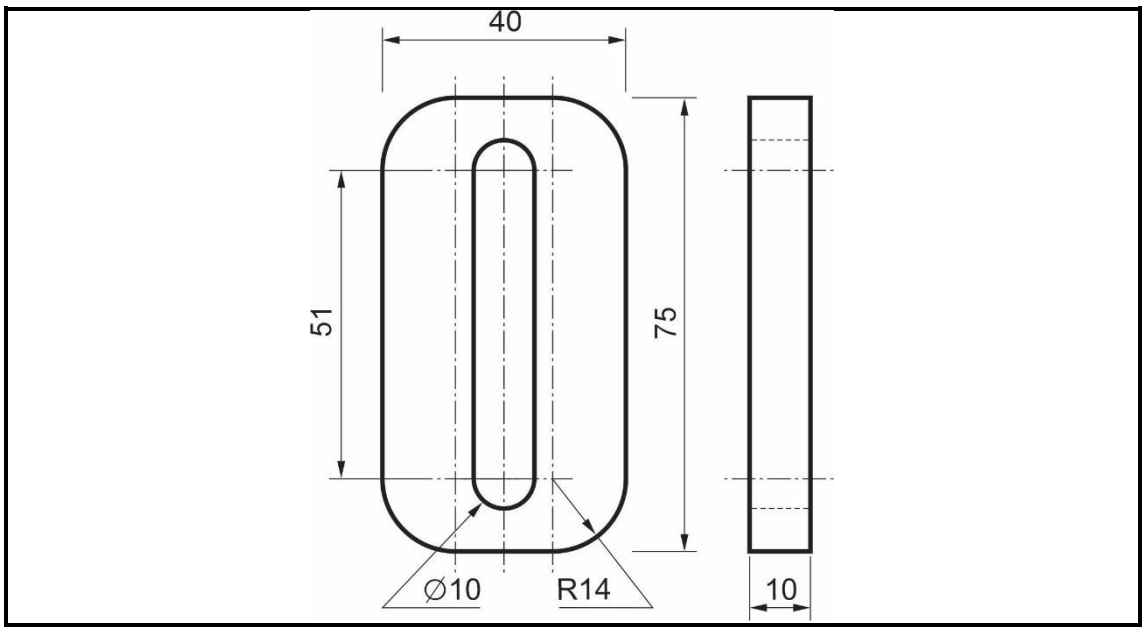


FIGURE 1

1.3 What is the Preview button used for? (1)

1.4 What is the Expand button used for? (1)

[10]

QUESTION 2

FIGURE 2, DIAGRAM SHEET 1 (attached) shows a representation of a component.

2.1 Use a CAD program to draw an orthographic projection of the component on a scale of 1:6 on an A4 drawing sheet. (18)

2.2 State all dimensions in your drawing. (3)

2.3 Include in the title bar your student number, the centre number, scale, date and question number. (2)

2.4 Plot the drawing and your candidate information on an A4 drawing sheet. (2)

[25]

QUESTION 3

FIGURE 3, DIAGRAM SHEET 2 (attached) shows a drawing of a component in three-view orthographic projection.

Use a CAD program to draw the following views of the component to a scale of 1:2 on an A4 sheet:

3.1 The given two views. (15)

3.2 Include any FIVE dimensions in your drawing. (5)

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

3.4 Plot the drawing and your candidate information on an A4 drawing sheet. (4)

3.5 Insert the correct orthographic-projection symbol. (2)

[30]

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QUESTION 4

FIGURE 4, DIAGRAM SHEET 3 (attached) shows an isometric view of a component. All hidden lines are included.

Use a CAD program to draw the following views of the component in third-angle orthographic projection on a scale of 1:2 on an A4 sheet:

Include all hidden lines and dimensions.

4.1	The front view as seen in the direction of the arrow A.	(8)
4.2	The right view.	(12)
4.3	The top view.	(8)
4.4	Include a title bar with your student number, the centre number, scale, date and question number.	(2)
4.5	Plot the drawing and candidate information on an A4 drawing sheet.	(3)
4.6	Insert the correct orthographic-projection symbol.	(2)
		[35]

TOTAL: 100

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DIAGRAM SHEET 1

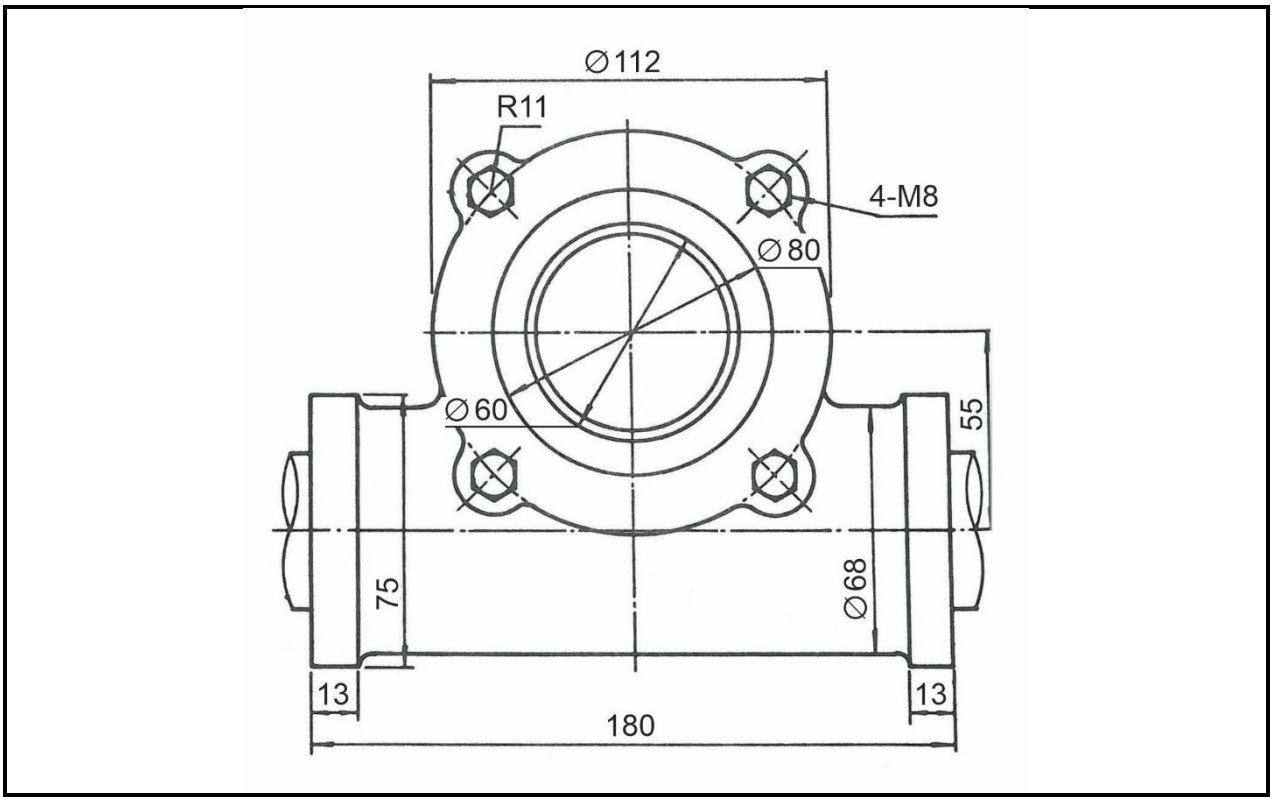


FIGURE 2

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DIAGRAM SHEET 2

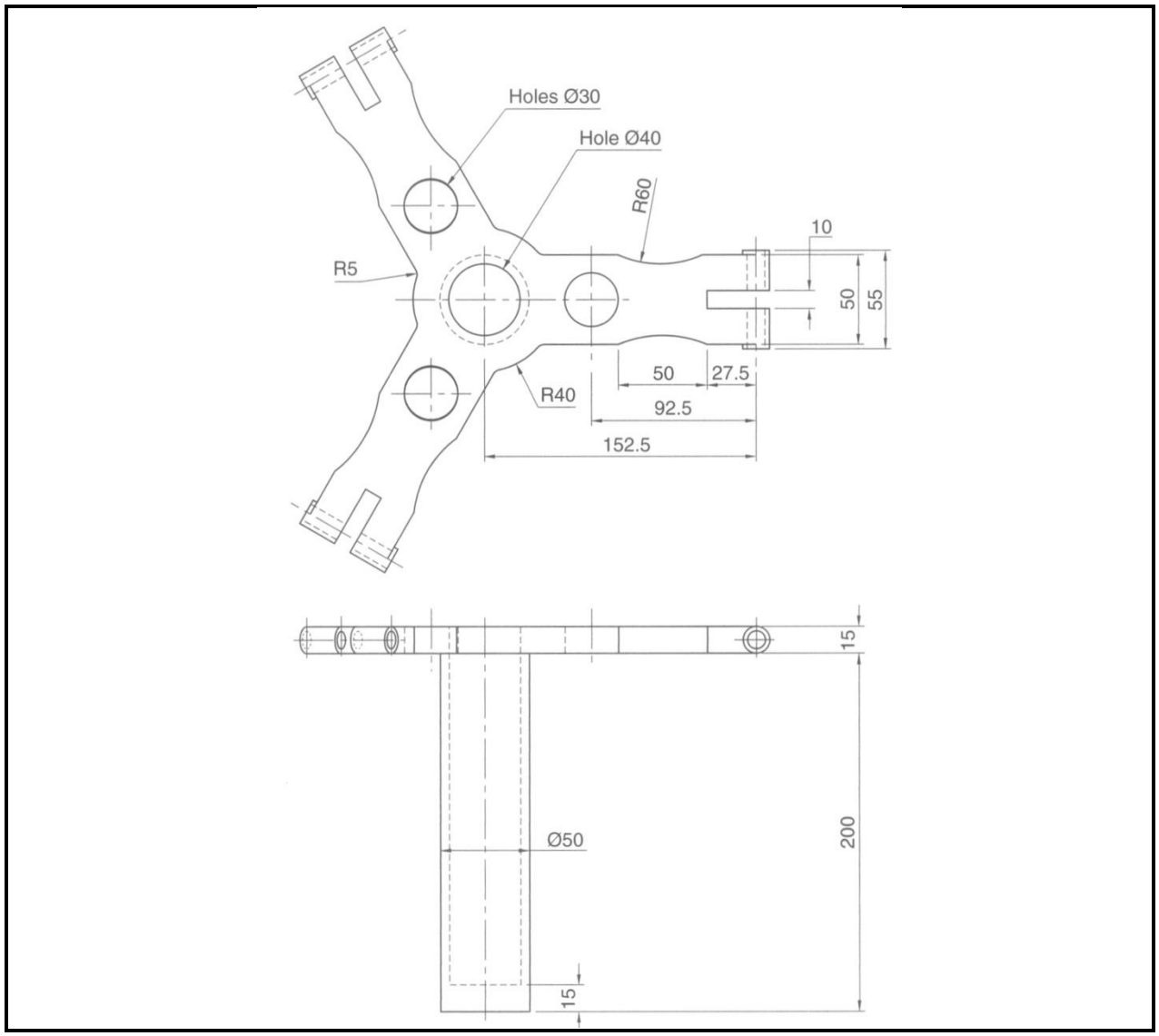


FIGURE 3

DIAGRAM SHEET 3

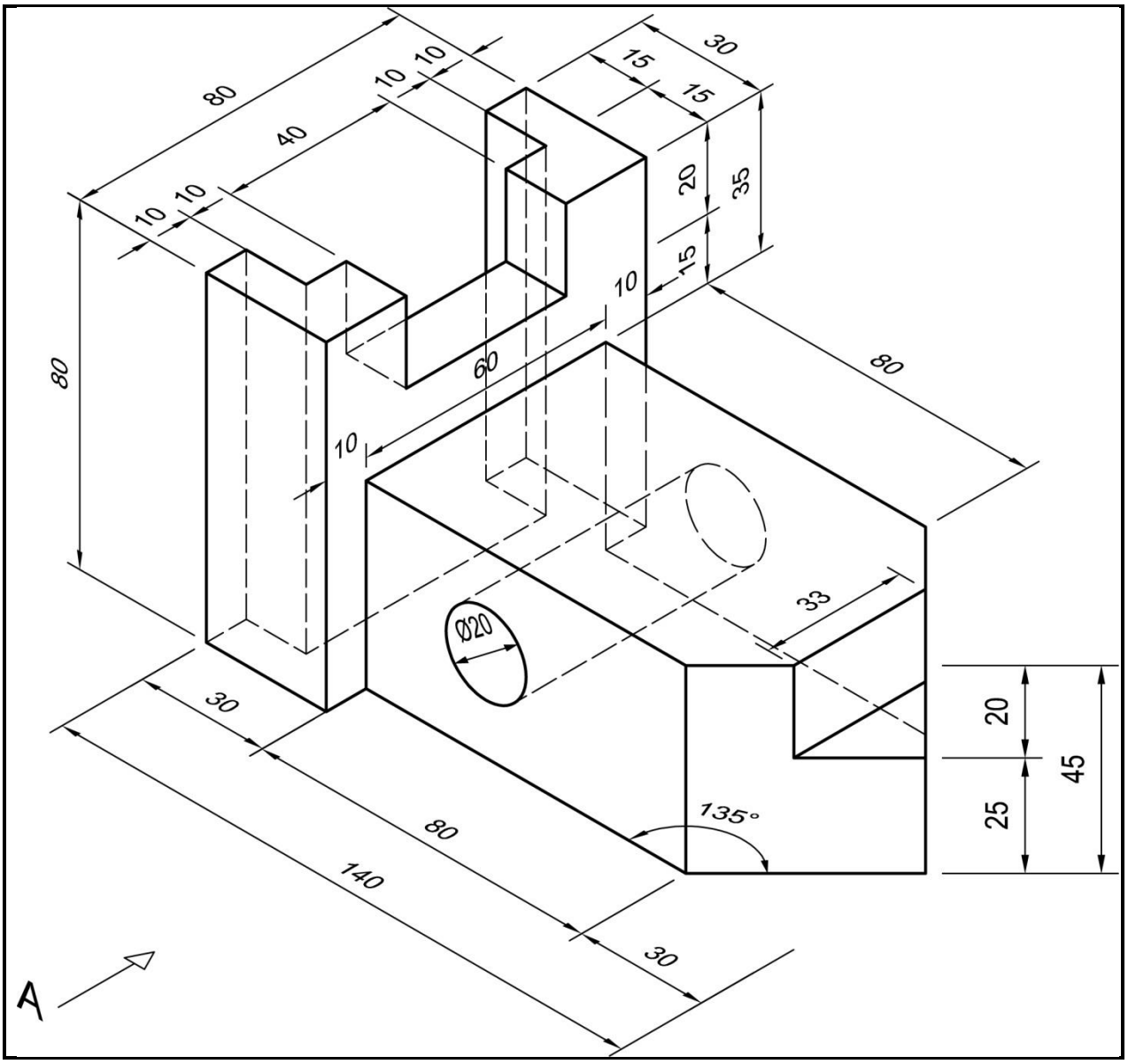


FIGURE 4

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