higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

DRAWING OFFICE PROCEDURES AND TECHNIQUES

(Second paper)

NQF LEVEL 2

(12050702)

3 December 2020 (X-paper)
09:00–13:00

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

253Q2N2003

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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. All the questions must be answered on A4 drawing paper.
6. Each drawing 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

Use computer aided design (CAD) software to draw the figure in FIGURE 1 below on an A4 drawing sheet.

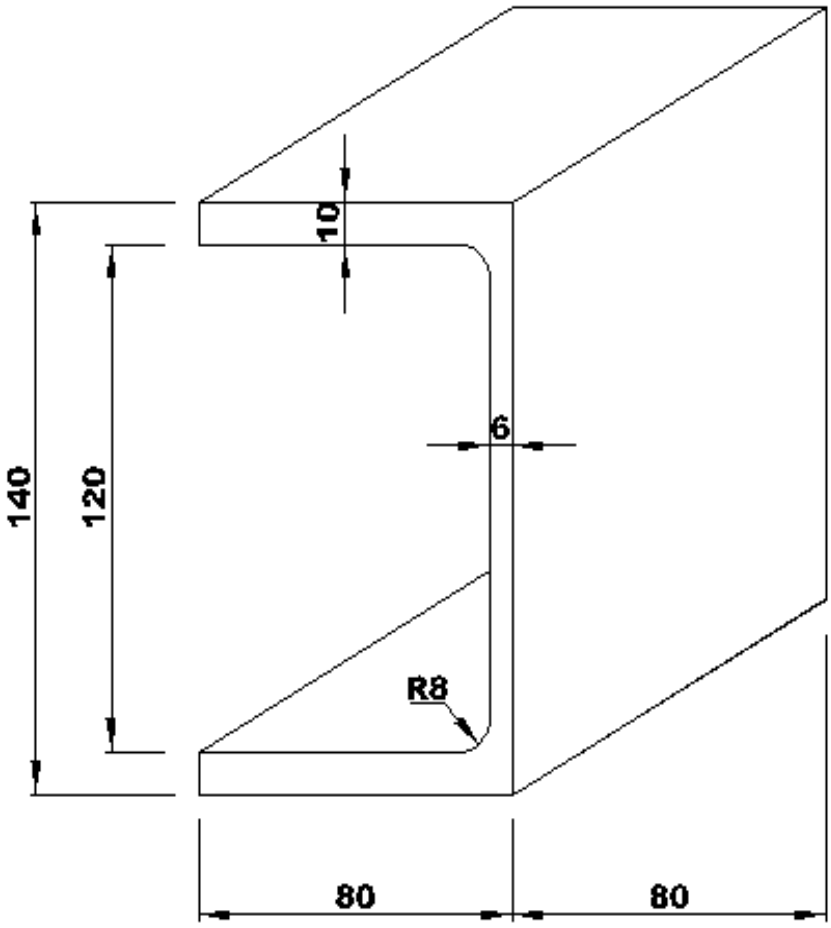


FIGURE 1

[20]

QUESTION 2

FIGURE 2, DIAGRAM SHEET 2 (attached), shows a model.

2.1 Use a CAD program to draw the model to scale 2:1 on an A4 drawing sheet. (15)

2.2 Include all dimensions on the drawing. (5)

[20]

QUESTION 3

FIGURE 3, DIAGRAM SHEET 3 (attached), shows a view of a bearing holder.

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

3.1	The given view.	(15)
3.2	Include all dimensions on the drawing.	(5)
3.3	Include a title bar with your student number, centre number, the scale, date and question number.	(4)
3.4	Plot the drawing and candidate information on an A4 drawing sheet.	(4)
3.5	Insert the correct orthographic projection symbol.	(2)
		[30]

QUESTION 4

FIGURE 4, DIAGRAM SHEET 4 (attached), shows a shaft housing. All hidden lines are included.

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

Include all hidden lines and dimensions.

4.1	The front view	(9)
4.2	The left view	(9)
4.3	Include a title bar, your student number, centre number, the scale, date and question number.	(3)
4.4	Plot the drawing and candidate information on an A4 drawing sheet.	(3)
4.5	Insert the correct orthographic projection symbol.	(2)
4.6	Construct the isometric drawing shown in FIGURE 5, DIAGRAM SHEET 5 (attached) working to the dimensions given in FIGURE 5.	(4)
		[30]

TOTAL: 100

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DIAGRAM SHEET 2

QUESTION 2

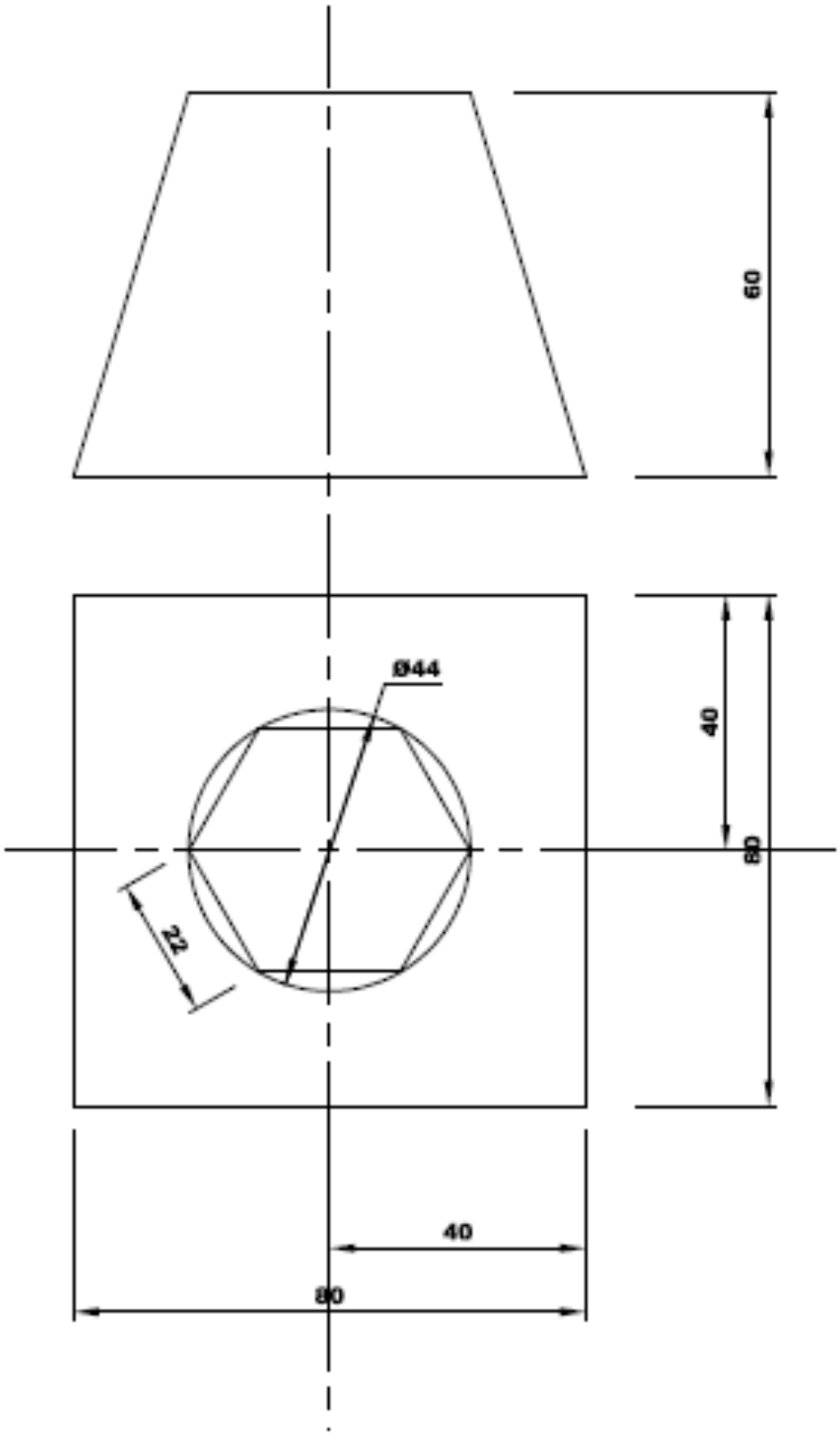


FIGURE 2

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DIAGRAM SHEET 3

QUESTION 3

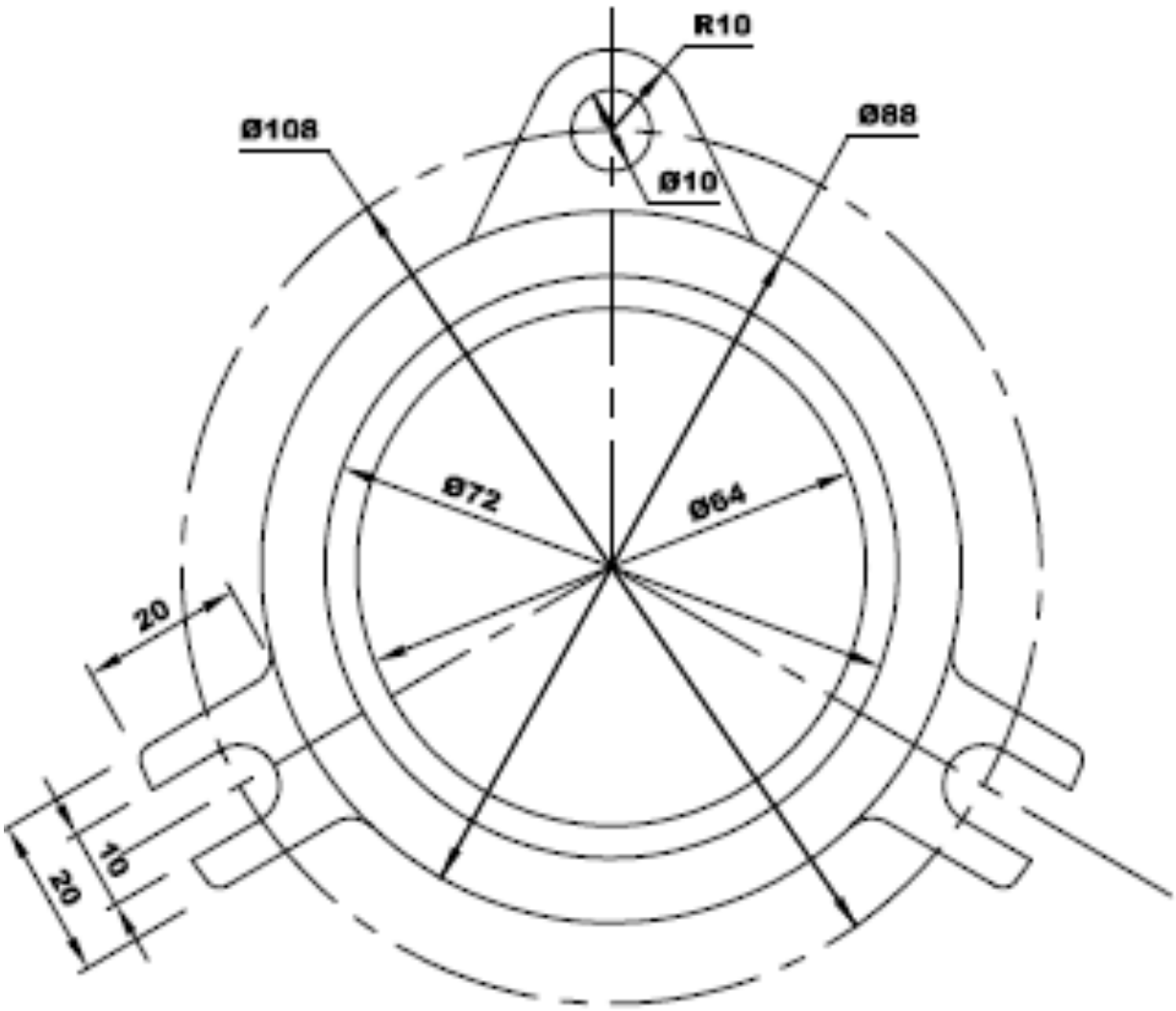


FIGURE 3