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)

27 November 2024 (X-paper)
09:00–13:00

REQUIREMENTS: A4 drawing sheets

CAD software may be used.

This question paper consists of 5 pages.

533Q2S2427

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NQF LEVEL 2
(Second paper)
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. The drawings, sketches and diagrams must be done in pencil.
5. Freehand drawings, sketches and/or diagrams must be neat, reasonably large, in proportion and fully labelled.
6. Rule off across the page after each completed question.
7. All work you do NOT want to be marked must be clearly crossed out.
8. All the abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS)-codes.
9. Use only a black or blue pen.
10. Write neatly and legibly.

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QUESTION 1

1.1 Match ONE function key to each of the following statements:

1.1.1 Switches coordinates on and off

1.1.2 Dynamic input toggle

1.1.3 When drawing in isometric, it toggles the isoplane

1.1.4 Switches ortho on or off

(4 × 1) (4)

1.2 Name the THREE methods to start hatching using a CAD program. (3)

1.3 Explain the steps to draw a rectangle from the command line. (5)

1.4 State the main difference between *hardware* and *software,* as mentioned in computer terms. (2)

1.5 Explain the meaning of a *defunct drawing*. (1)

[15]

QUESTION 2: PRODUCE A CAD DRAWING OF A GEOMETRICAL MODEL

FIGURE 1 below shows a representation of a multi-purpose tool.

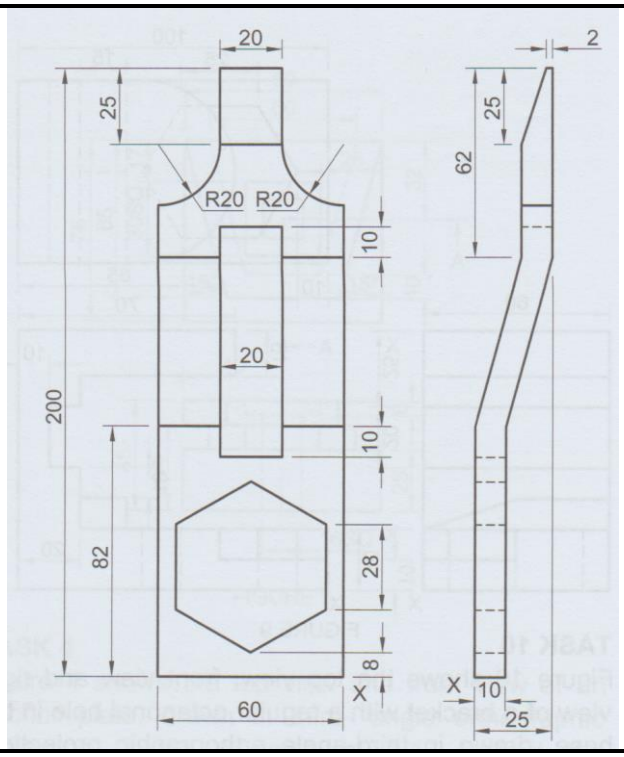


FIGURE 1

2.1 Draw the front and right view of the multi-purpose tool using a CAD program, to scale 2:1, on an A4 drawing sheet. (15)

2.2 Include FOUR dimensions on the drawing. (4)

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

2.4 Plot the drawing and candidate information on an A4 sheet. (3)
[25]

QUESTION 3: FINALISE CAD DETAILS AND LAYOUT

FIGURE 2 below shows a representation of a machine part.

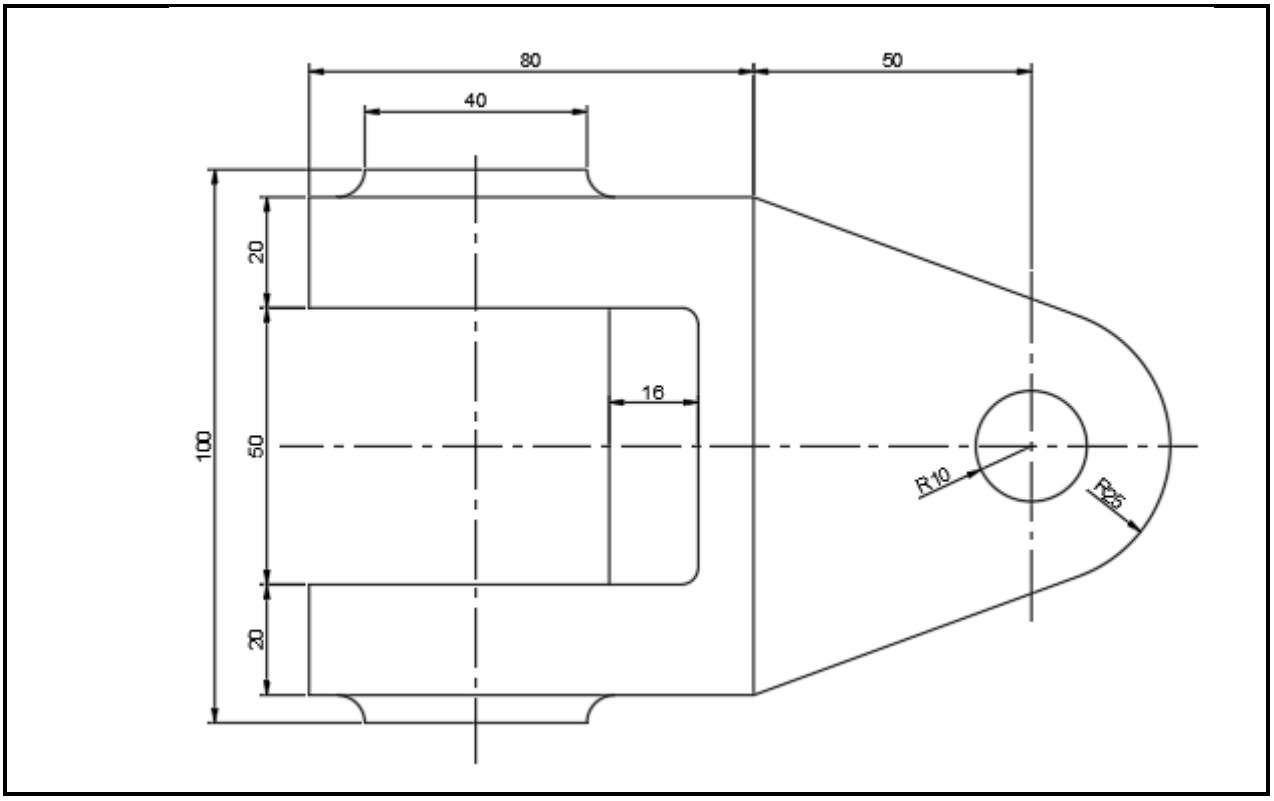


FIGURE 2

3.1 Reproduce a CAD drawing using scale 1:1 of the given view. (20)

3.2 Insert FOUR dimensions and a suitable title. (4)

3.3 Include a title bar, student number, centre number, scale, date and question number. (3)

3.4 Plot the drawing and candidate information on an A4 sheet. (3)
[30]

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QUESTION 4: PRODUCE ORTHOGRAPHIC COMPUTER-AIDED DRAWING (CAD)

FIGURE 3 below shows the primary views of a component.

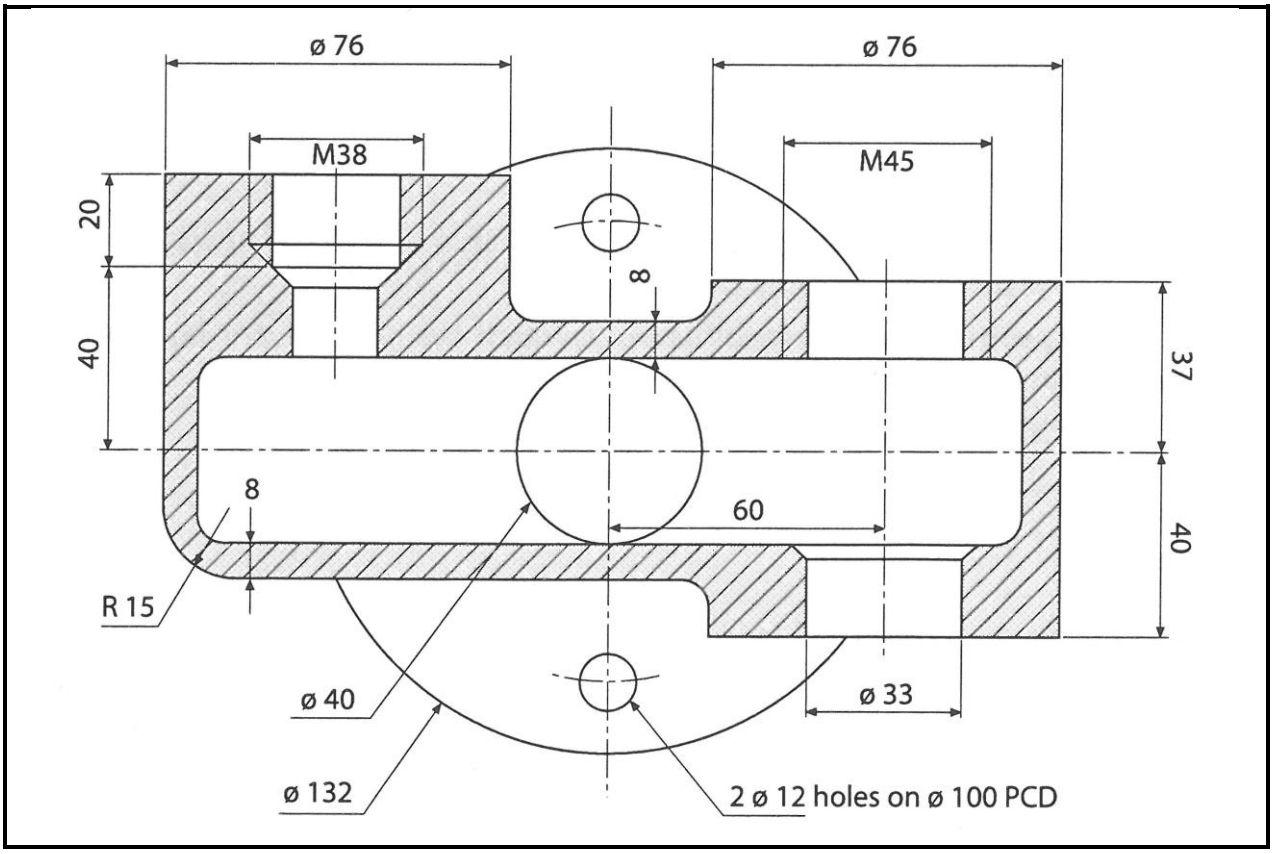


FIGURE 3

Draw, to scale 1:1, the following view of the above component:

4.1 Construct an orthographic projection of the component as shown. (20)

4.2 Insert FOUR dimensions. (4)

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

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

[30]

TOTAL: 100

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