higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

PLATING AND STRUCTURAL STEEL DRAWING N2

(8090102)

05 December 2023 (X-paper)
09:00–13:00

REQUIREMENTS: ONE A2 drawing sheet

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 7 pages.

260Q1G2305

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
PLATING AND STRUCTURAL STEEL DRAWING N2
TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ANY Four questions.
2. Read all the questions carefully.
3. All the construction lines MUST be shown.
4. Do TWO questions on the FRONT and TWO questions on the REVERSE side of the DRAWING SHEET.
5. Number the answers according to the numbering system used in this question paper.
6. Add dimensions to the answers.
7. Write neatly and legibly.

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QUESTION 1

FIGURE 1 shows the front view and top view of a hood which is formed by an oblique half-cone that is uses as a smoke guard. SCALE 1:1

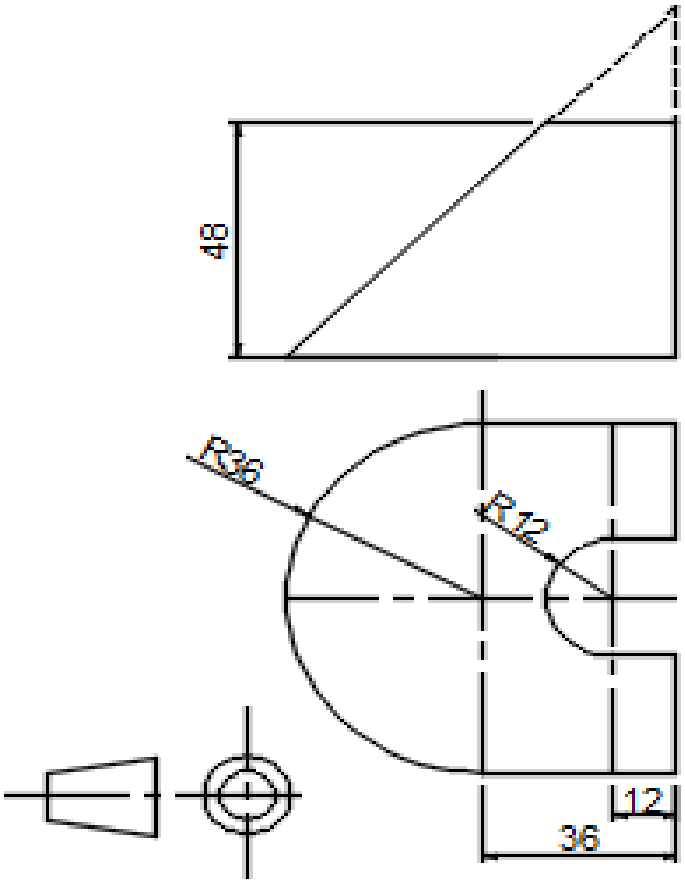


FIGURE 1

1.1 Draw the front view. (2)

1.2 Draw the top view. (3)

1.3 Develop the pattern of the oblique cone. (15)

1.4 Mark allocation for drawing office practice for the above question is as follows:

1.4.1 Accuracy (2)

1.4.2 Any THREE dimensions (3)

TOTAL 25

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QUESTION 2

FIGURE 2 shows an oblique T-piece consisting of a hexagonal main pipe and a cylindrical branch pipe. SCALE 1:1

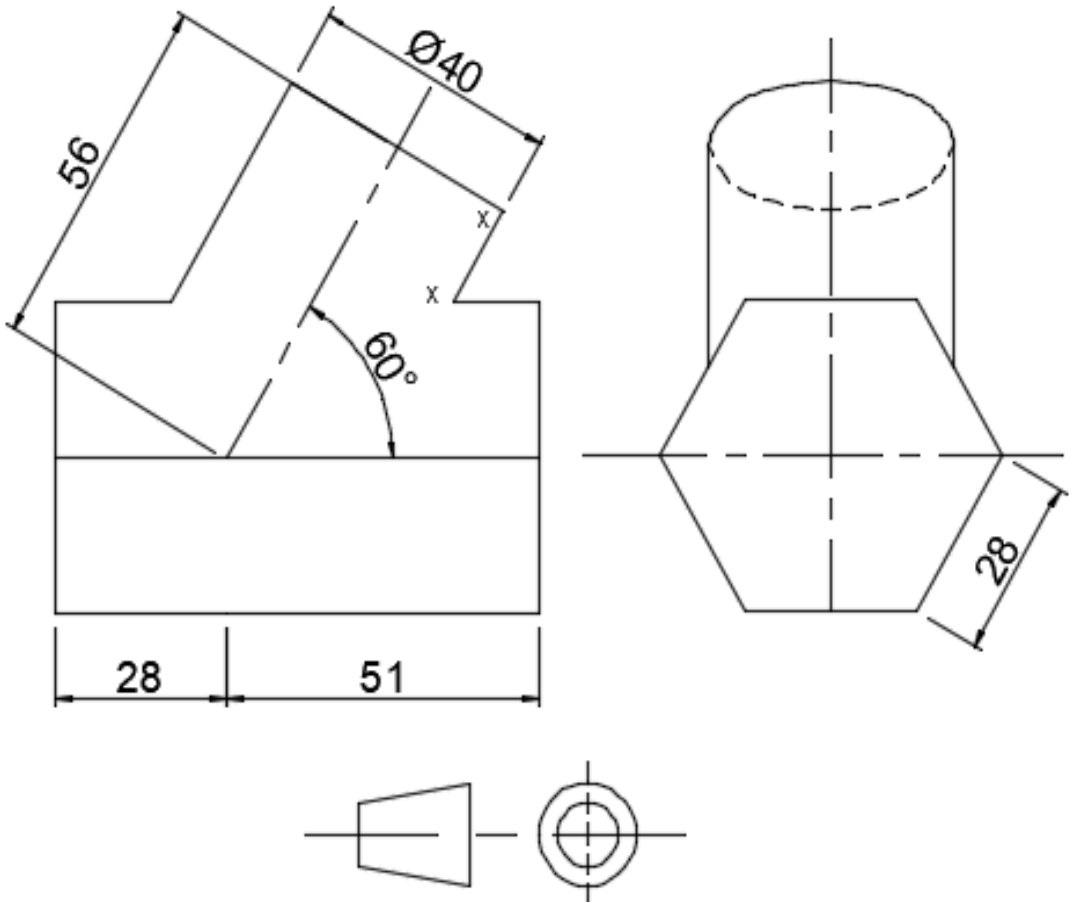


FIGURE 2

2.1 Draw the given front view. (3)

2.2 Draw the given left view. (3)

2.3 Develop the pattern of the cylindrical branch pipe. (7)

2.4 Develop the shape of the hole in the hexagonal main pipe. (7)

2.5 Mark allocation for drawing office practice for the above question is as follows:

2.5.1 Accuracy (2)

2.5.2 Any THREE dimensions (3)

TOTAL 25

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QUESTION 3

FIGURE 3 shows a front and top view of a rectangular-to-rectangular hopper which is off centered. SCALE 1:1

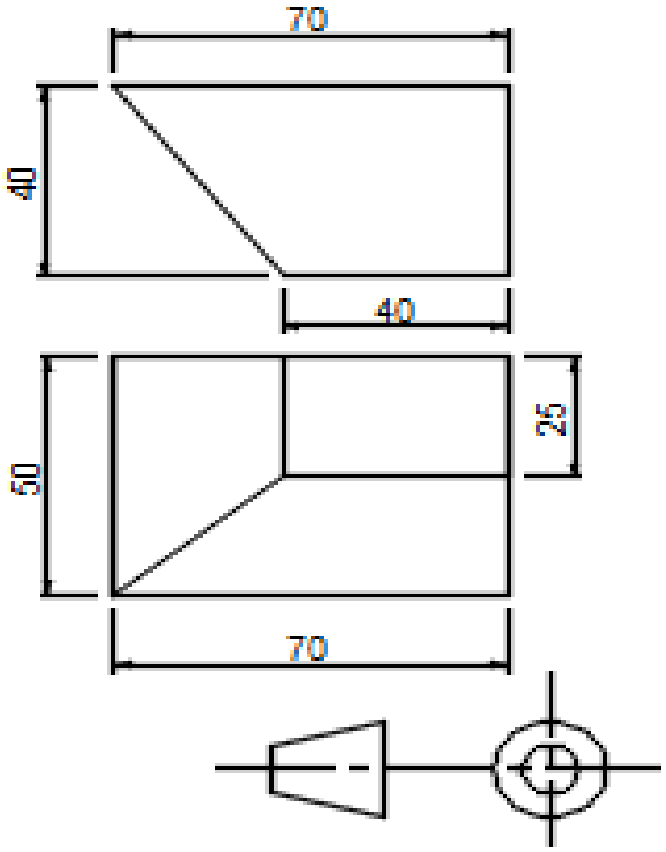


FIGURE 3

3.1 Draw the front view. (1)

3.2 Draw the top view. (2)

3.3 Develop the pattern of the rectangular-to-rectangular transformer. (17)

3.4 Mark allocation for drawing office practice for the above question is as follows:

3.4.1 Accuracy (2)

3.4.2 Any TWO dimensions (3)

TOTAL 25

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QUESTION 4

FIGURE 4, below, shows the front view of a bolted connection.
Draw, to scale 1:5, in first-angle orthographic projection:

General notes:

Item A: 100 × 100 × 10 angle iron – 2 off required (back to back)
Item B: 10 mm-thick gusset plate – 1 off required
Item C: 80 × 80 × 10 angle iron – 2 off required (back to back)

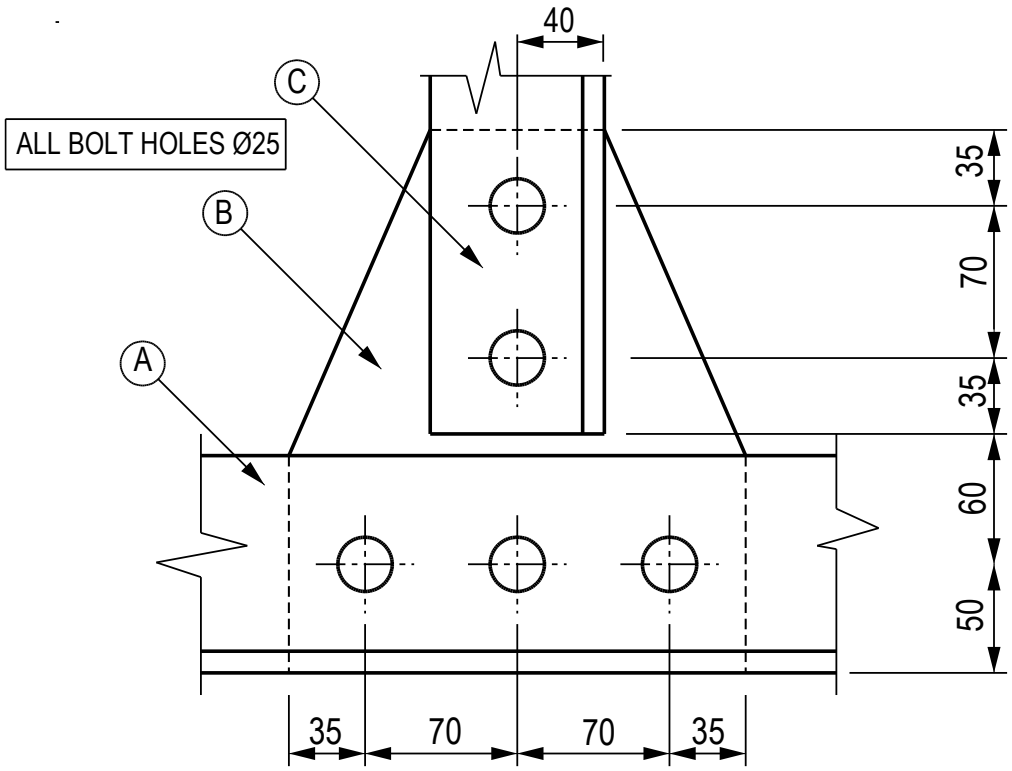


FIGURE 4

4.1 The given front view (4)

4.2 The left view (7)

4.3 The top view (7)

4.4 Mark allocation for drawing office practice for the above question is as follows:

4.4.1 Accuracy (2)

4.4.2 Any THREE dimensions (3)

4.4.3 Projection symbol (1)

4.4.4 Print the title BOLTED CONNECTION and the scale centred beneath the views (1)

TOTAL 25

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QUESTION 5

FIGURE 5, below, shows an oblique connection between a cylindrical pipe and a right cone that is placed around a common central sphere. SCALE 1:1

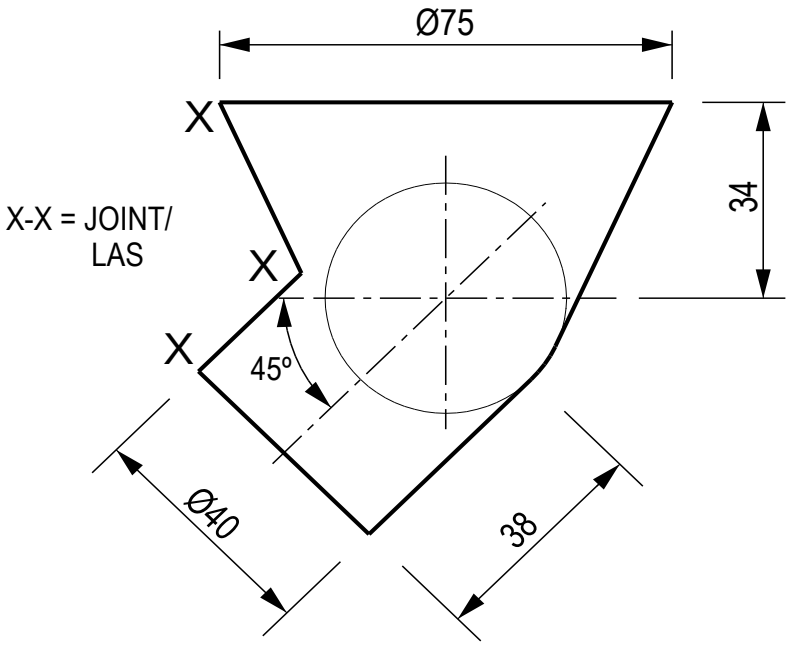


FIGURE 5

Draw, to scale 1:1.

5.1 The given view. (2)

5.2 The penetration line. (4)

5.3 The development of the pattern of the right cone. (8)

5.4 The development of the pattern of the cylindrical pipe. (6)

5.5 Mark allocation for drawing office practice for the above question is as follows:

5.5.1 Accuracy (2)

5.5.2 Any TWO dimensions (3)

[25]

TOTAL: 100

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