higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1720**(E)**(M28)T

NATIONAL CERTIFICATE

TECHNICAL ILLUSTRATION

(8090235)

28 March 2019 (X-Paper)
09:00–13:00

REQUIREMENTS: TWO A3 drawing sheets
ONE sheet of A4 tracing paper and a grid

Calculators and drawing instruments may be used.

This question paper consists of 4 pages and 3 diagram sheets.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
TECHNICAL ILLUSTRATION
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. Answer QUESTION 1 in the ANSWER BOOK. Answer ALL other questions on the DRAWING SHEET or TRACING PAPER.
5. Use only ONE side of the DRAWING SHEET and TRACING PAPER.
6. Complete ALL drawing work, including candidate information, in pencil.
7. Show ALL construction lines.
8. Marks will be awarded for neatness and accuracy.
9. A balanced layout is very important. Candidates will be penalised for poor planning.
10. Work neatly.

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QUESTION 1: TECHNICAL ILLUSTRATION

Complete the following paragraphs by writing the missing word or words next to the question number (1.1.1–1.2.3) in the ANSWER BOOK.

1.1 Technical illustrations are found in manuals for automobiles and consumer electronics. This type of technical illustration contains simple (1.1.1) … and (1.1.2) … that can be understood by the lay person and is sometimes called (1.1.3) …

1.2 Convergence is the basic principle of (1.2.1) … which states that parallel lines receding from the viewer (1.2.2) … to converge. Objects positioned along these lines (1.2.3) … in size with their distance from the viewer.

(2 × 3) **[6]**

QUESTION 2: TWO-POINT PERSPECTIVE

DIAGRAM SHEET 1 (attached) shows a model and its dimensions. ALL measurements are given in millimetres.

2.1 Draw the model with its sides vanishing to the left at an angle of 45° of the CV. (8)

2.2 Distance of the eye in front of the PP is 130 mm. Height of the eye above the GL is 100 mm. The model lies on the GL with its leading edge A 30 mm to the right. (5)

2.3 Include a title bar with your EXAMINATION NUMBER, CENTRE NUMBER, scale, date and QUESTION NUMBER. (3)

[16]

QUESTION 3: OBLIQUE PERSPECTIVE

DIAGRAM SHEET 2 (attached) shows an object with ascending planes and its dimensions. ALL measurements are given in millimetres.

3.1 Draw the object with ascending planes. Construct as per two-point perspective with raised and lower vanishing points.

3.2 Distance of the eye in front of the PP is 130 mm. Height of the eye above the GL is 100 mm. Point A is situated 30 mm to the right of the CV (a1).

3.3 Include a title bar with your EXAMINATION NUMBER, CENTRE NUMBER, scale, date and QUESTION NUMBER. **[22]**

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QUESTION 4: CONSTRUCTION OF OFF-PLANE ANGLES

DIAGRAM SHEET 3 (attached) shows a model and its dimensions.

4.1 Draw the model on the grid supplied.

4.2 Include a title bar with your EXAMINATION NUMBER, CENTRE NUMBER, scale, date and QUESTION NUMBER.

4.3 Use a scale of 2 grid units equalling 10 millimetres.

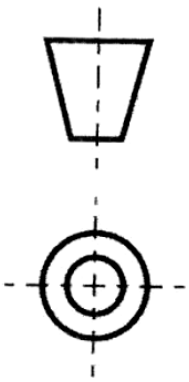
4.4 **NOTE:** When the construction is complete, outline the object in bold line treatment 0,5 mm thick.

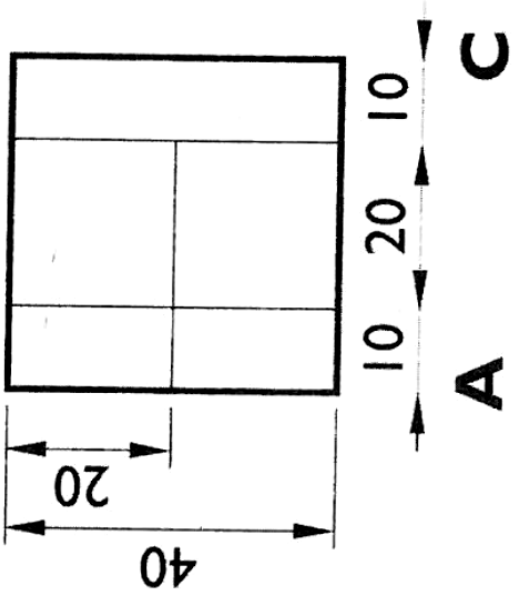
Do NOT show the dimensions on the final illustration. **[56]**

TOTAL: 100

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DIAGRAM SHEET 1





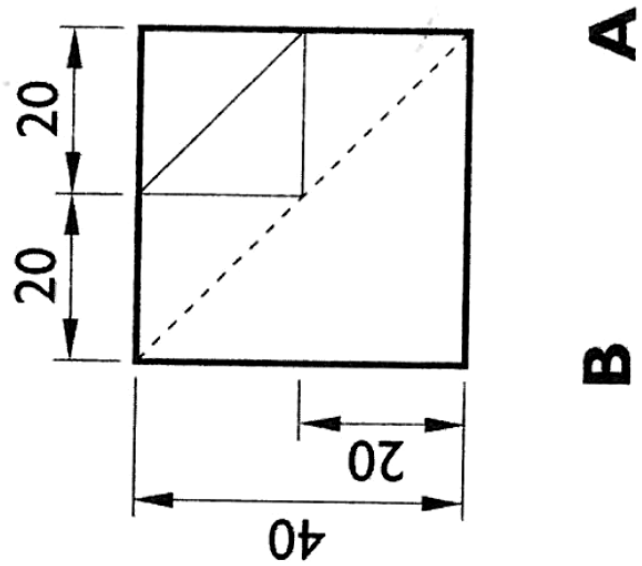


DIAGRAM SHEET 2

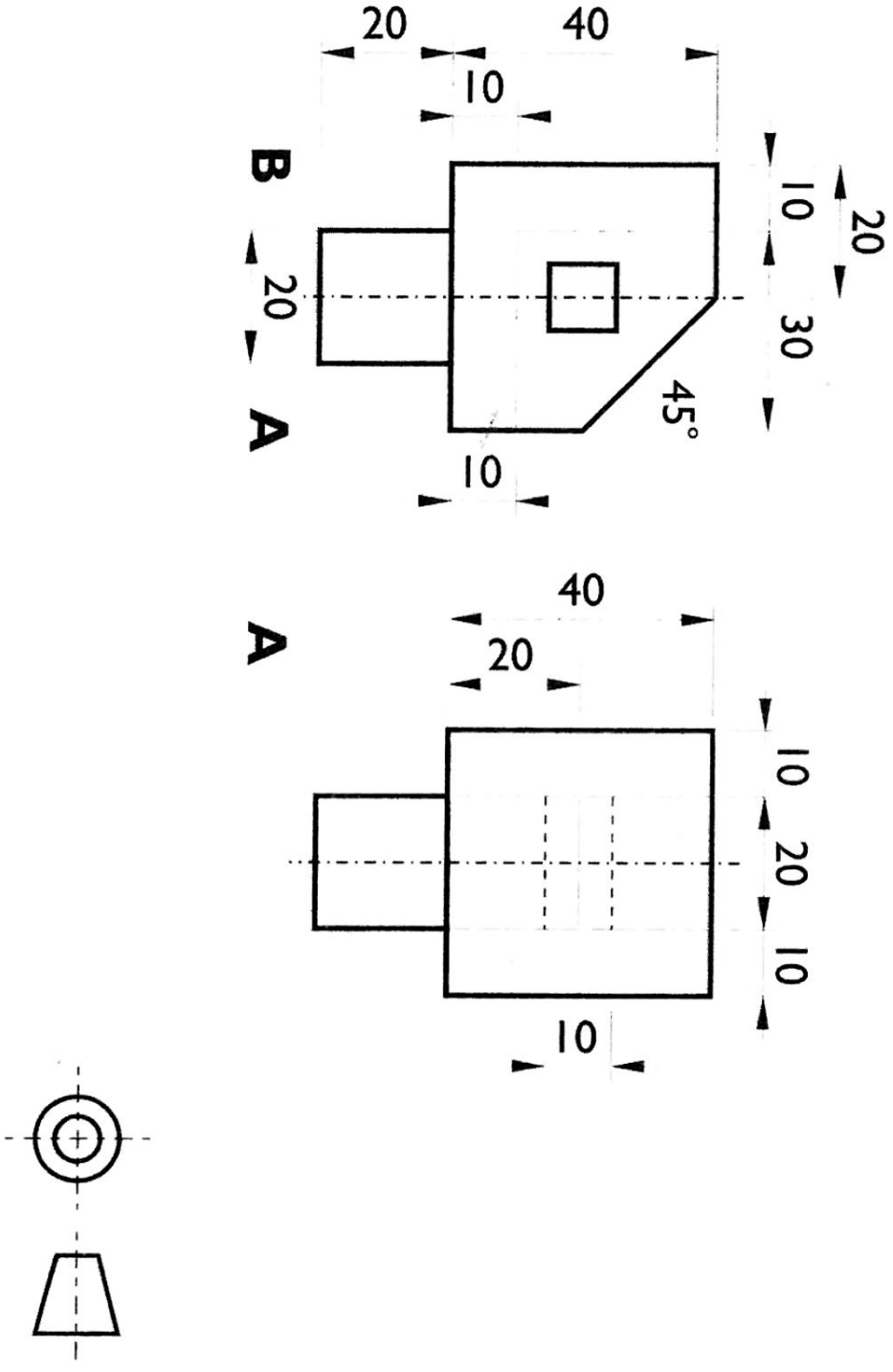
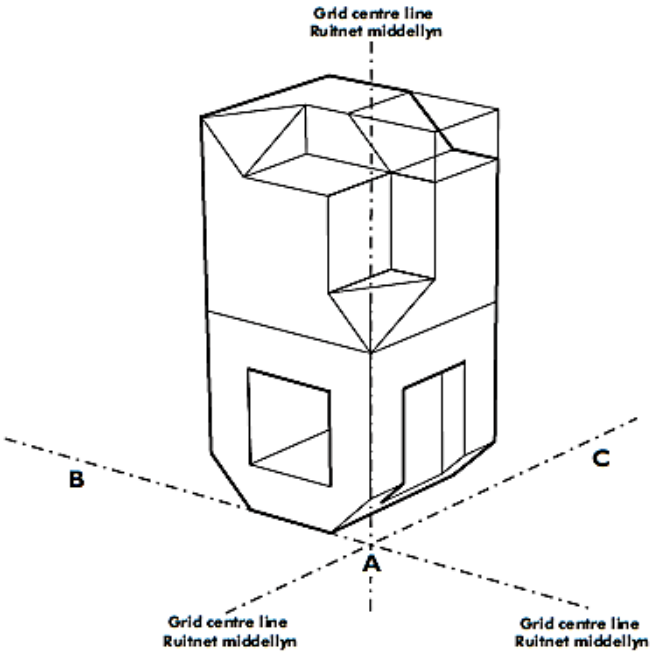
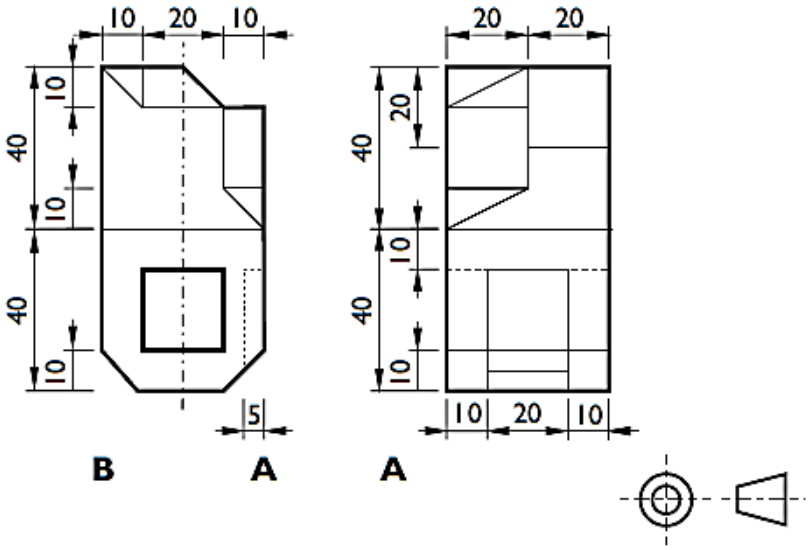


DIAGRAM SHEET 3





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