higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

TECHNICAL ILLUSTRATION

(8090235)

6 April 2021 (X-paper)
09:00–13:00

REQUIREMENTS: **TWO A3 drawing sheets**
ONE A4 sheet of tracing paper
ONE sheet of grid-line paper

Nonprogrammable calculators and drawing instruments may be used.

This question paper consists of 4 pages, 1 answer sheet and 3 diagram sheets.

050Q1A2106

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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. Use only ONE side of the drawing and tracing sheets.
5. All drawing work, including candidate information, must be done in pencil.
6. Show all construction lines.
7. Work neatly.

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QUESTION 1

Complete the following sentences by writing only the missing word or words next to the question number (1.1–1.3) on the attached ANSWER SHEET.

1.1 Engineering drawings communicate information in a formal, … language seldom fully understood by any other but professional …

1.2 The gap in … between the qualified engineer and the uninitiated operative is completely bridged by the technical …

1.3 Important and often complicated information which cannot be imparted by any other means is clearly and quickly … by the …. illustrator.

(3 × 2) **[6]**

QUESTION 2: TWO-POINT PERSPECTIVE

Construct the following on an A3 DRAWING SHEET, using the information given.

Top view of situation

Model with sides vanishing to the left at an angle of 45º. Use the dimensions given on the attached DIAGRAM SHEET 1.

All measurements are given in millimetres.

- Distance of the eye in front of P.P. is 120 mm.
- Height of the eye above the G.L. is 90 mm.
- The model lies on the G.L with its leading-edge A 30 mm to the right. **[16]**

QUESTION 3: OBLIQUE PERSPECTIVE

Use an A3 DRAWING SHEET and construct an object with ascending planes, referring to DIAGRAM SHEET 2 (attached) for dimensions.

Construct the object as per two-point perspective with raised and lower vanishing points. All measurements are given in millimetres.

- Distance of the eye in front of P.P. is 130 mm.
- Height of the eye above G.L. is 100 mm.
- Point A is situated 30 mm to the right of the C.V (a1). **[22]**

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QUESTION 4: CONSTRUCTION OF OFF-PLANE ANGLES

Use the attached grid-line paper and construct a model assembly as shown on the attached DIAGRAM SHEET 3.

Scale: TWO grid units equal 10 millimetres.

Do not show the dimensions on the final illustration.

NOTE: When the construction is complete, outline the object in bolder line treatment 0,5 mm thick. **[56]**

TOTAL: 100

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ANSWER SHEET

EXAMINATION NUMBER: | | | | | | | | | | | | | |

QUESTION 1

1.1 _____

1.2 _____

1.3 _____

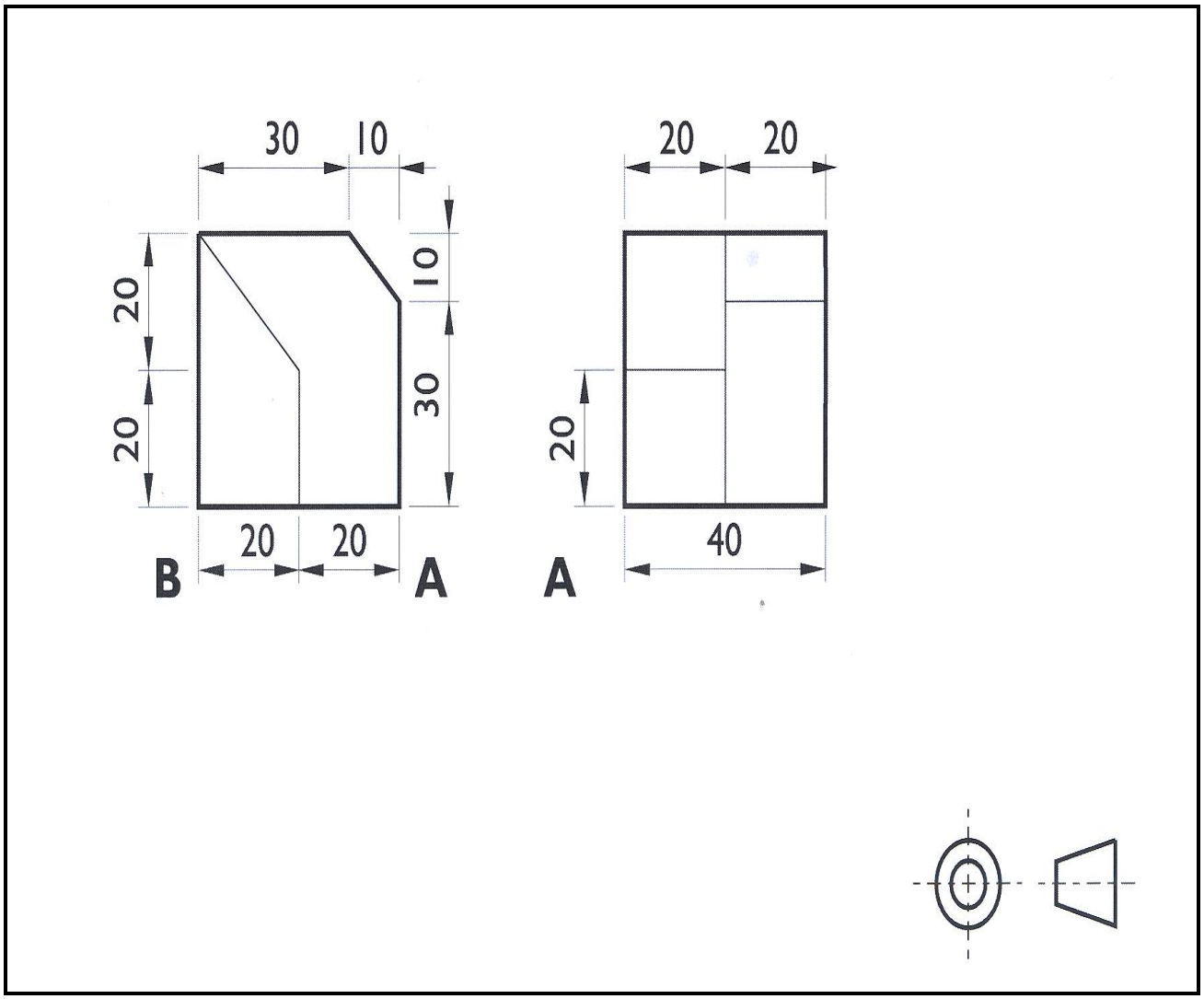
(3 × 2) **(6)**

REMEMBER TO WIRTE YOUR EXAMINATION NUMBER IN THE SPACE PROVIDED AND TO HAND IN THE COMPLETED ANSWER SHEET WITH THE QUESTION PAPER.

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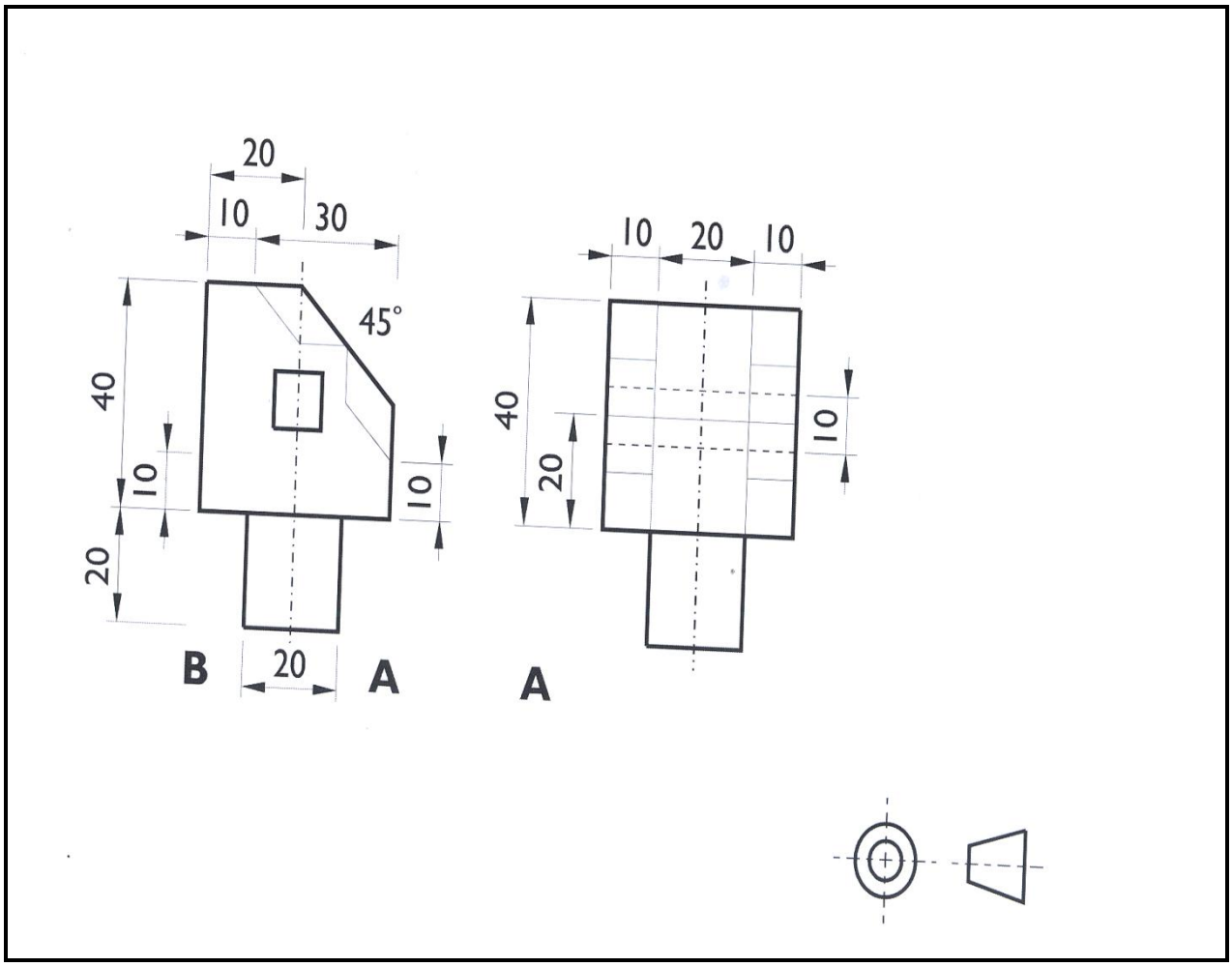
DIAGRAM SHEET 1



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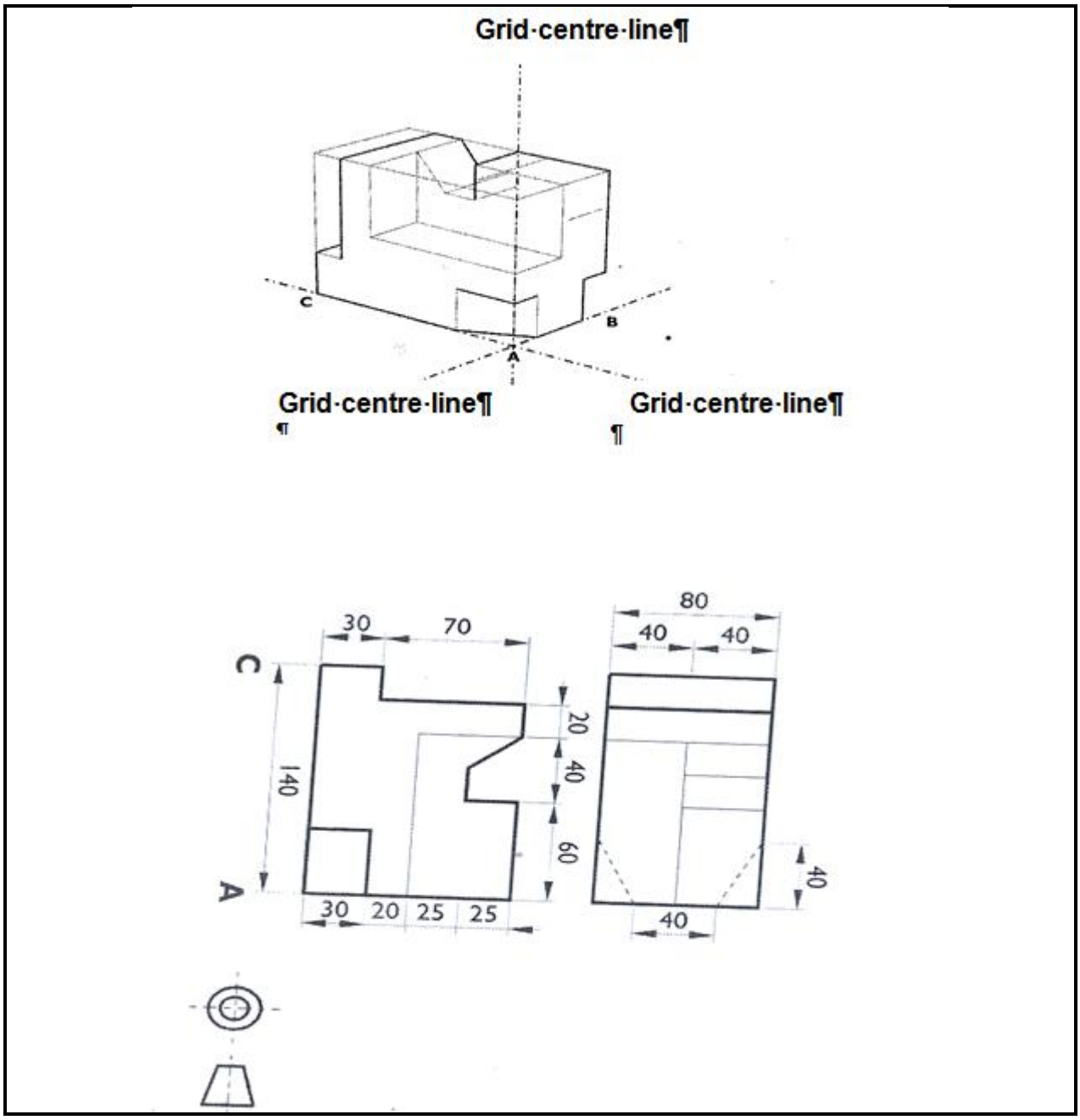
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DIAGRAM SHEET 2



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DIAGRAM SHEET 3



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