higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T740**(E)**(A12)T

NATIONAL CERTIFICATE:
MULTIDISCIPLINARY DRAWING OFFICE PRACTICE

GENERAL DRAUGHTING

(8090194)

12 April 2019 (X-Paper)
09:00–13:00

CLOSED-BOOK EXAMINATION

REQUIREMENTS: ONE A2 drawing sheet

Calculators may be used.

This question paper consists of 4 pages and 5 diagram sheets.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
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MULTIDISCIPLINARY DRAWING OFFICE PRACTICE
GENERAL DRAUGHTING
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. ALL drawings must be large, clear, neat and in good proportion.
5. Keep subsections of questions together.
6. ALL drawings must comply with the SABS 0111-1990.
7. Use your discretion where NO dimensions are given.
8. Work neatly.

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QUESTION 1: THE LOCI

FIGURE 1, DIAGRAM SHEET 1 (attached), shows a circle with a centre O and point P on the circumference.

Draw the locus of P when the circle rolls without slipping for one revolution in the direction indicated by arrow R along A to F on contour ABCDEF. Name the locus. Show ALL calculations. **[15]**

QUESTION 2: ORTHOGRAPHIC PROJECTION

FIGURE 2, DIAGRAM SHEET 2 (attached), shows the front and auxiliary views of a compound solid.

Draw the following views in third-angle orthographic projection:

2.1 Front view and auxiliary view (9)

2.2 Top view (8)

2.3 Right view (8)

Show ALL hidden details. **[25]**

QUESTION 3: GEOMETRIC CONSTRUCTION

FIGURE 3, DIAGRAM SHEET 3 (attached), shows a front view of a cast sector support.

Draw, to scale 1:1, the front view of the cast sector support. Insert any 10 dimensions. Show ALL construction lines. Print the following title and scale centred beneath the view:

CAST SECTOR SUPPORT
SCALE 1:1

[25]

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QUESTION 4: INTERPENETRATION

FIGURE 4, DIAGRAM SHEET 4 (attached), shows the front and top views of a cylinder with a triangular pyramid. The axes of the solids are at a right angle to each other and lie in the same plane.

4.1 Draw, to scale 1:1, the given views.

4.2 Complete the curve of interpenetration on the front view.

4.3 Complete the curve of interpenetration on the top view.

Show ALL projection lines. **[15]**

QUESTION 5: DEVELOPMENT

FIGURE 5, DIAGRAM SHEET 5 (attached), shows a pictorial view of two cylinders interpenetrating each other.

5.1 Draw the development of the branch pipe

5.2 Draw the development of the main pipe.

Show ALL construction lines. **[20]**

TOTAL: 100

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DIAGRAM SHEET 1

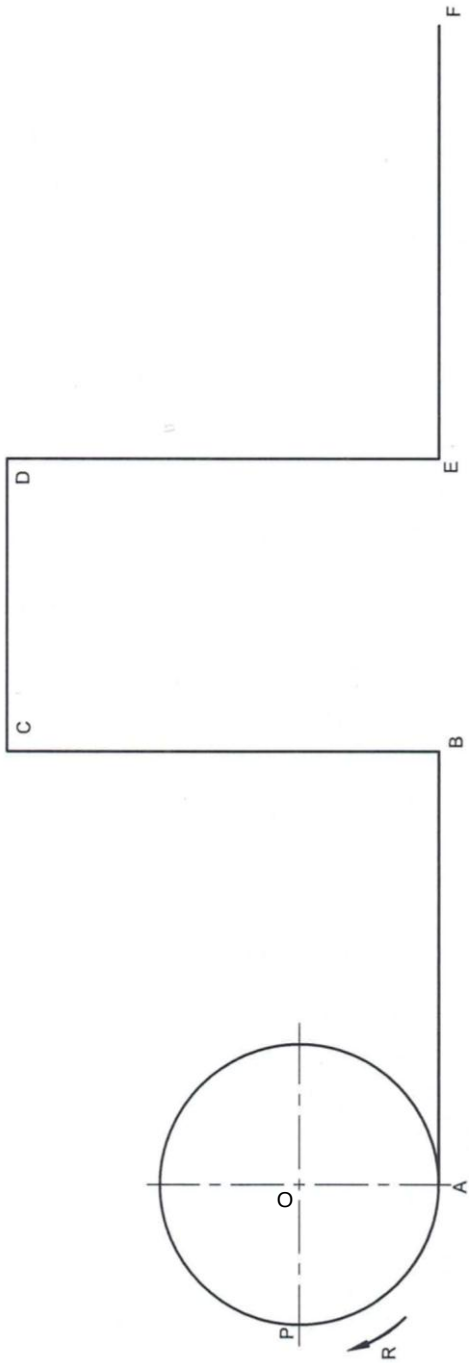


FIGURE 1

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DIAGRAM SHEET 2

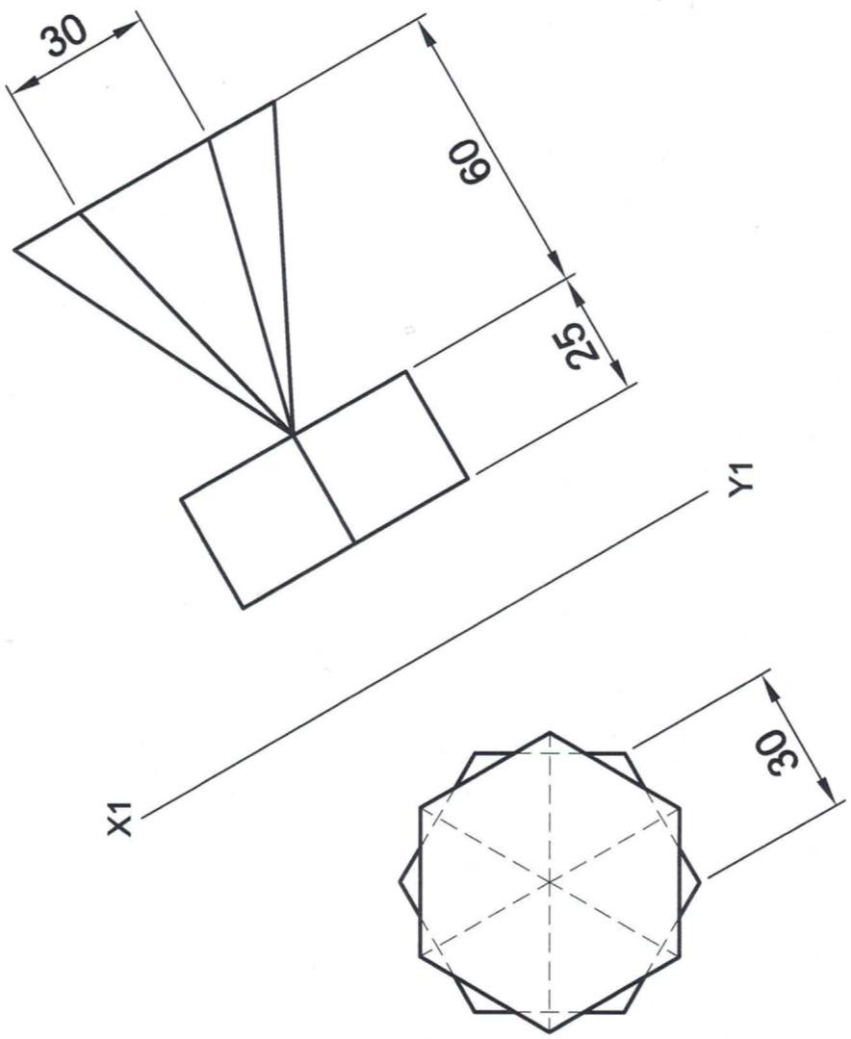


FIGURE 2

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DIAGRAM SHEET 3

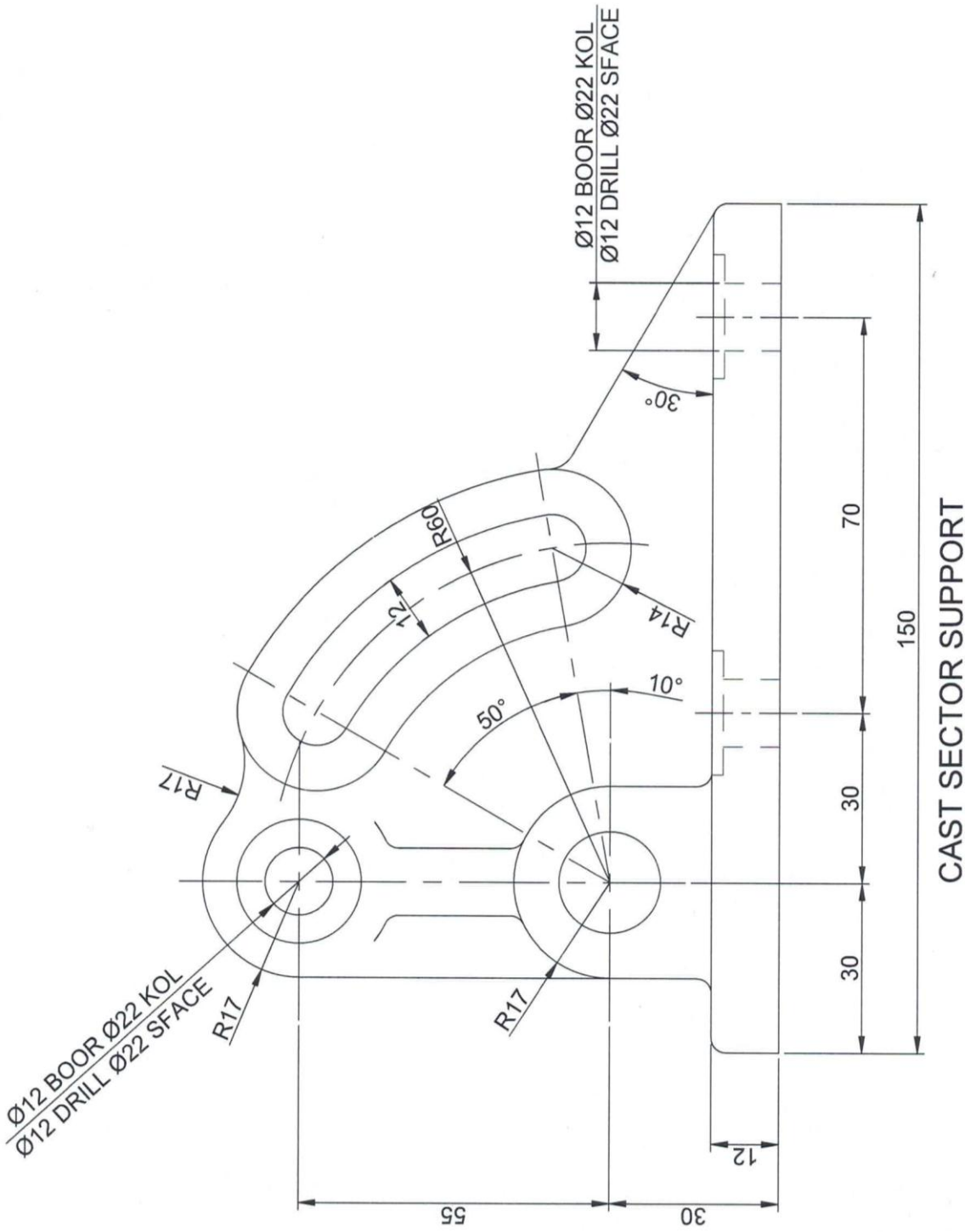


FIGURE 3

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DIAGRAM SHEET 4

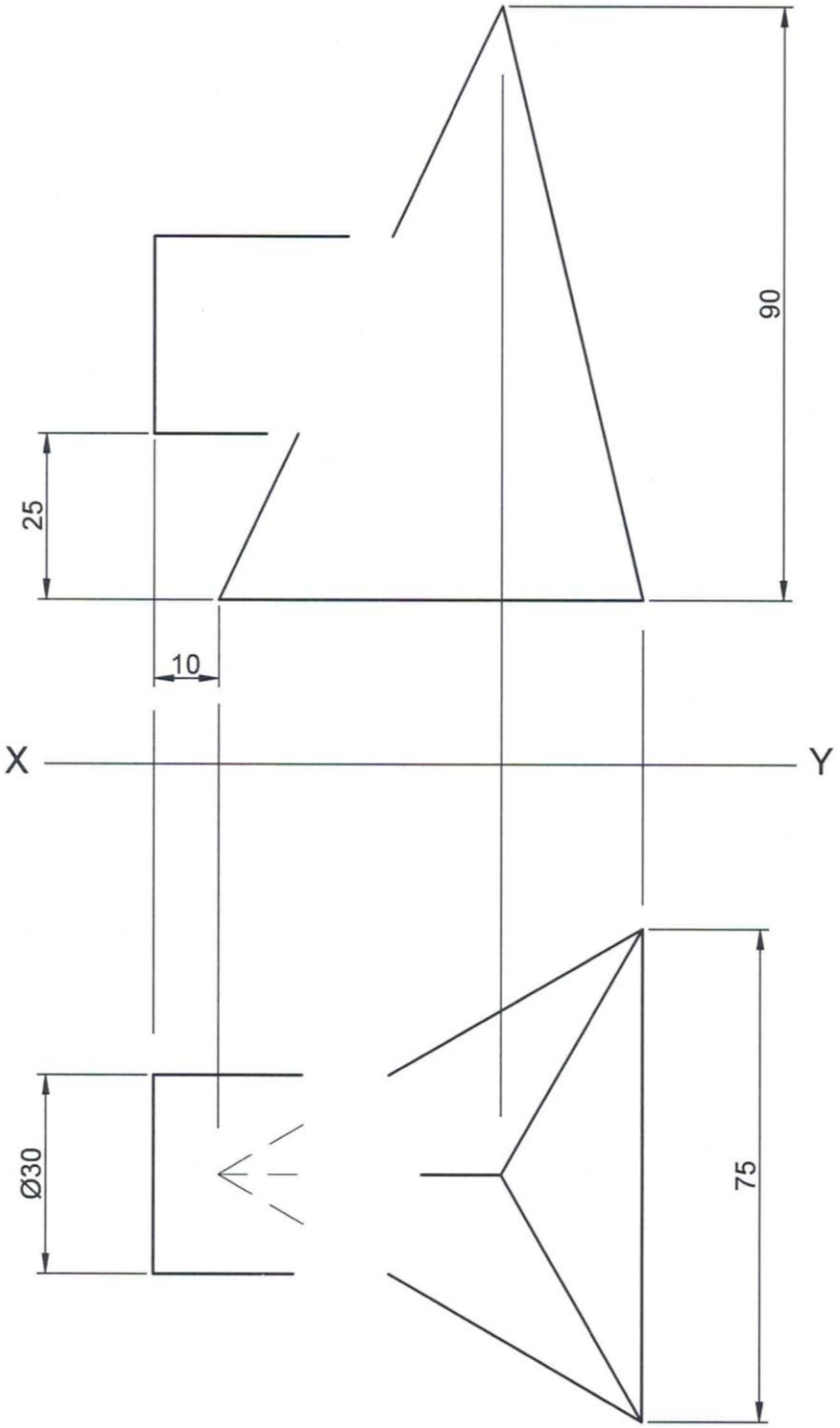


FIGURE 4

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DIAGRAM SHEET 5

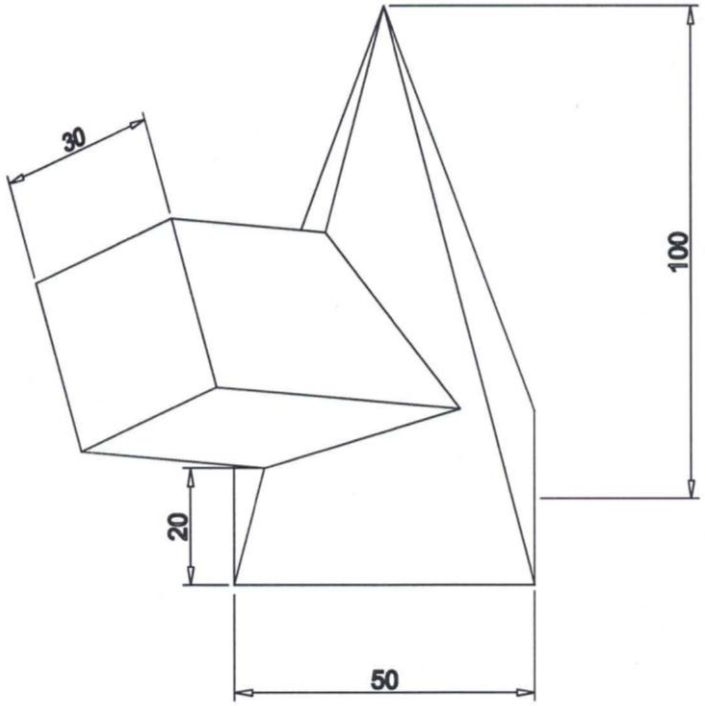


FIGURE 5

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