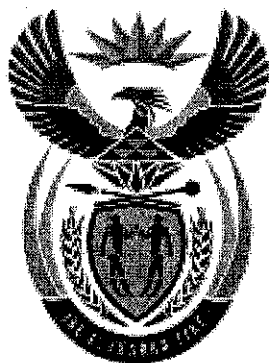


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# higher education & training

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

T680(E)(J22)T  
**AUGUST EXAMINATION**

**NATIONAL CERTIFICATE: MULTI-DISCIPLINARY DRAWING  
OFFICE PRACTICE**

**GENERAL DRAUGHTING**

(8090194)

**22 July 2015 (Y-Paper)**  
**13:00–17:00**

**REQUIREMENTS: One sheet A2 drawing paper**

**This question paper consists of 7 pages.**



**DEPARTMENT OF HIGHER EDUCATION AND TRAINING  
REPUBLIC OF SOUTH AFRICA**

**NATIONAL CERTIFICATE: MULTI-DISCIPLINARY DRAWING**

**OFFICE PRACTICE  
GENERAL DRAUGHTING**

**TIME: 4 HOURS**

**MARKS: 100**

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**INSTRUCTIONS AND INFORMATION**

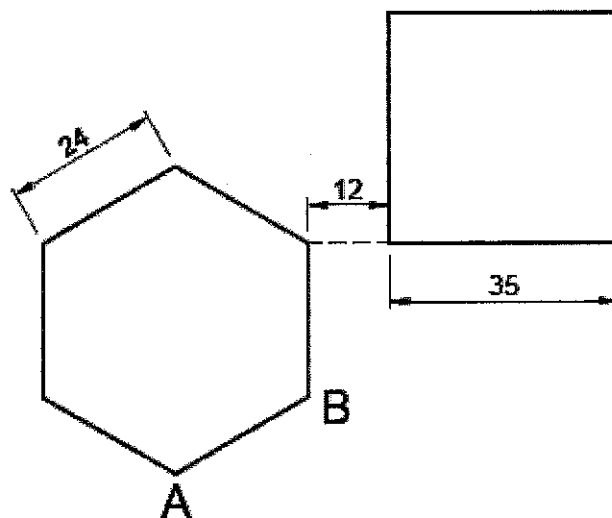
1. Answer ALL the questions.
  2. Read ALL the questions carefully.
  3. Number the answers according to the numbering system used in this question paper.
  4. Use both sides of the drawing paper.
  5. A balanced layout is very important.
  6. A 15 mm border must be drawn around the drawing sheet (on both sides).
  7. ALL drawing work, including candidate information, must be done in pencil.
  8. ALL the drawings must comply with the SABS 0111-1990.
  9. Where no dimensions are given, use your own discretion and draw it in good proportion to the drawing.
  10. Write neatly and legibly.
-

**QUESTION 1: LOCI**

FIGURE 1, shows a hexagon and a square. A piece of string has been wound tightly around the square in an anti-clockwise direction from point B to point A. (Point B is a fixed point.)

Trace the locus of point A of the string as it is unwound in a clockwise direction until point A touches the square.

Show ALL the geometrical construction lines.

**FIGURE 1****[15]**

**QUESTION 2: ORTHOGRAPHIC PROJECTION**

FIGURE 2, shows a cylinder with a hexagonal prismatic hole 14 mm deep, which in turn rests on a truncated octagonal prism.

Draw to scale 1 : 1 and in FIRST-ANGLE ORTHOGRAPHIC PROJECTION, the following views:

- 2.1 The given front view including the auxiliary view
- 2.2 A left view
- 2.3 A top view

Show ALL the hidden detail.

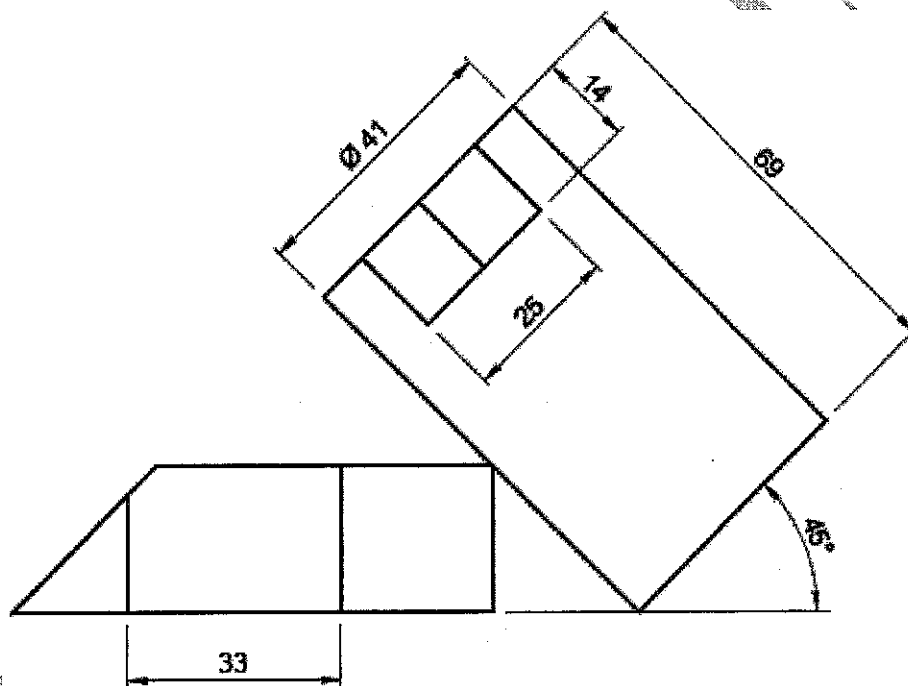
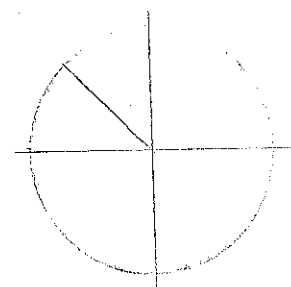


FIGURE 2

[25]



**QUESTION 3: GEOMETRICAL CONSTRUCTIONS**

FIGURE 3 shows a front view of a hinge arm. Draw to scale 1 : 1 the front view of the hinge arm. Insert any TEN dimensions. Print the following title and scale centrally beneath the view:

HINGE ARM  
Scale 1 : 1

Show ALL the geometrical construction lines.

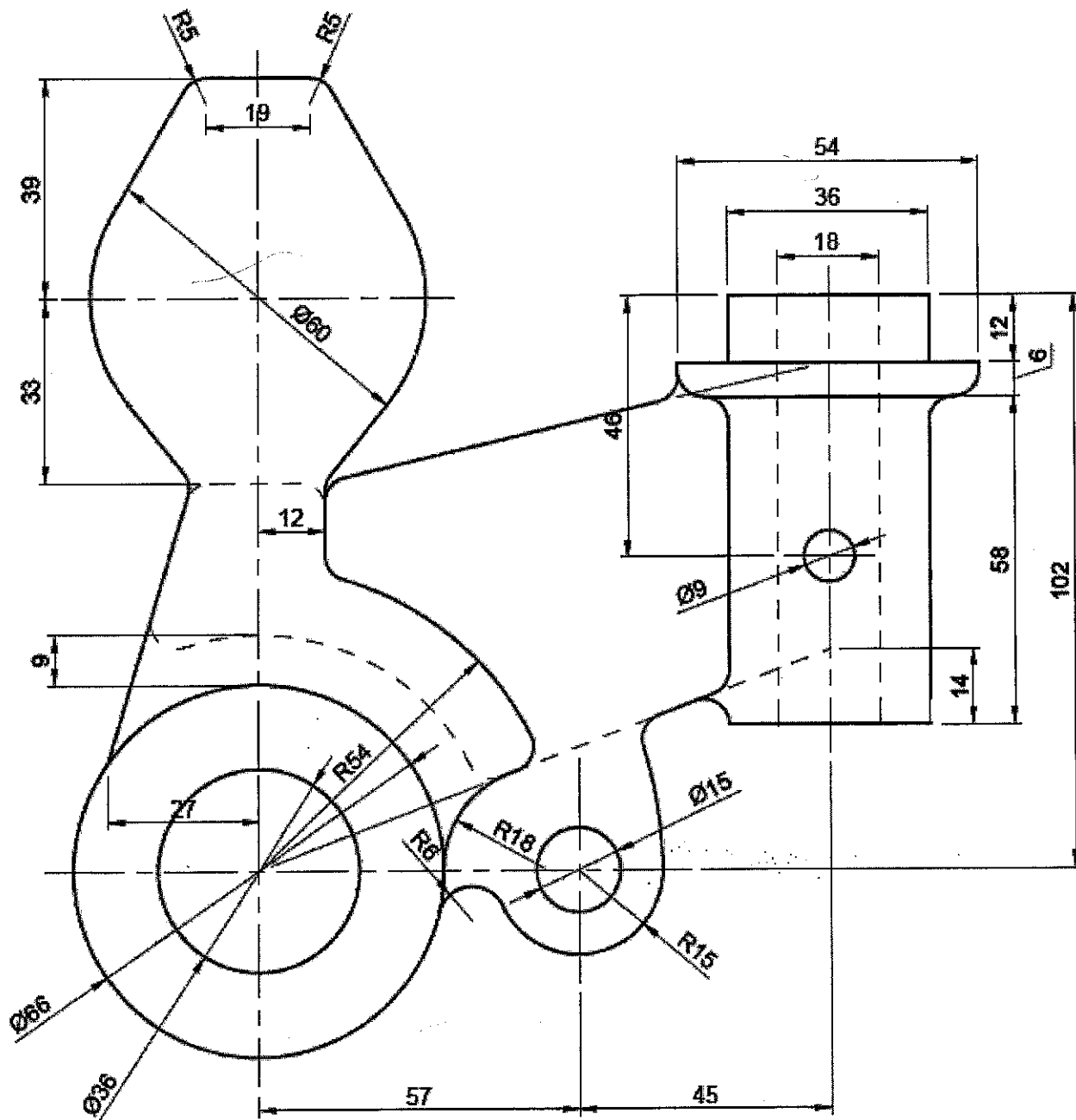


FIGURE 3

[25]

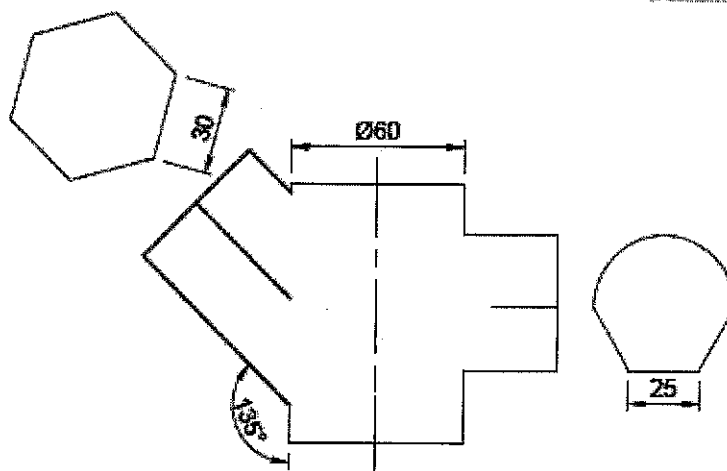
**QUESTION 4: INTERPENETRATION CURVES**

FIGURE 4 shows a vertical pipe intersected by two branch pipes.

Draw the following views according to scale 1 : 1:

- 4.1 The given front view
- 4.2 Complete the curves of interpenetration
- 4.3 Develop only the hexagonal branch pipe

Show ALL construction lines and hidden detail



**FIGURE 4**

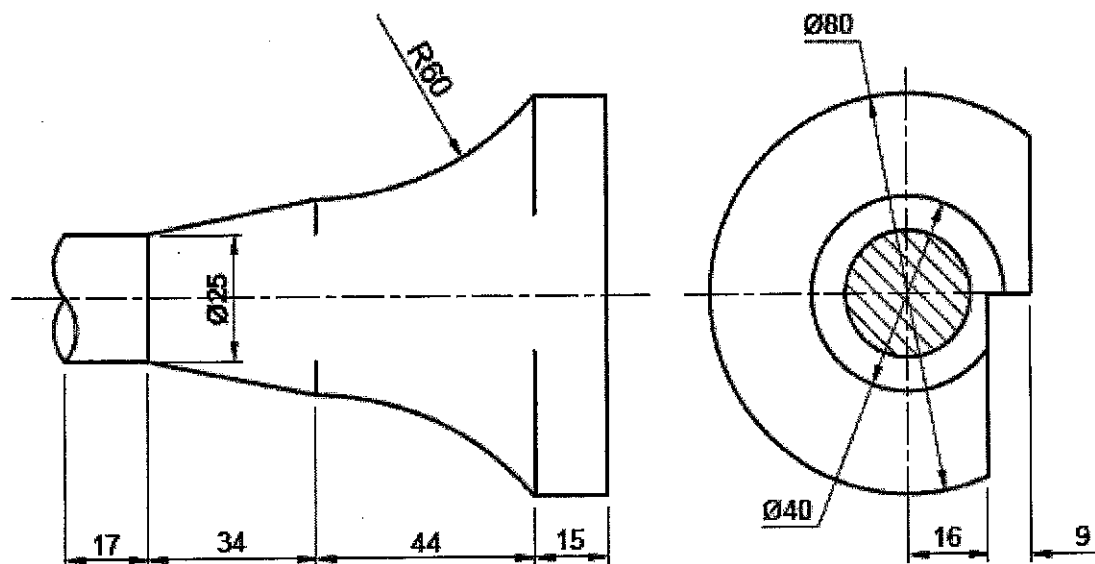
**[20]**

**QUESTION 5: INTERPENETRATION CURVES**

FIGURE 5 shows two views of a T-end.

Draw to scale 1 : 1, the given front view and construct the curve of interpenetration.

Show ALL construction lines and hidden detail.

**FIGURE 5****[15]****TOTAL: 100**





