

higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T700(E)(N23)T
NOVEMBER 2010

NATIONAL CERTIFICATE

ENGINEERING DRAWING N3

(8090283)

23 November (X-Paper)
09:00 – 13:00

REQUIREMENTS: One A2 drawing sheet.

Candidates will require drawing instruments.

This question paper consists of 8 pages.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
ENGINEERING DRAWING N3
TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Use BOTH sides of the DRAWING SHEET.
4. A 15 mm border MUST be drawn on BOTH sides of the DRAWING SHEET.
5. ALL drawing work, including candidate information, MUST be done in PENCIL.
6. A radius curve stencil may be used to draw smaller arcs.
7. Unspecified radii must be R3.
8. A balanced layout is very important and candidates are advised to plan properly.
9. ALL drawing work MUST CONFORM to the latest SABS 0111 Code of Practice for Engineering Drawing.
10. Number the answers correctly according to the numbering system used in this question paper.
11. Write neatly and legibly.

QUESTION 1: ASSEMBLY DRAWING

FIGURE 1, shows the primary views of the components of a pulley assembly.

The complete list of parts is as follows:

Item 1	Base	.....	1 off	.....	Cast iron
Item 2	Support	.....	1 off	.....	Cast iron
Item 3	Pulley	.....	1 off	.....	Cast iron
Item 4	Shaft	.....	1 off	.....	Mild steel
Item 5	Collar	.....	1 off	.....	Mild steel
Item 6	Pin	.....	2 off	.....	Mild steel
Item 7	M14 Bolt	.....	1 off	.....	Mild steel
1.1	Draw, as an assembly drawing, to scale 1:1, a full-sectional front view of the assembly.				
1.2	Insert a suitable title and scale centrally below the drawing.				

(28)

(2)

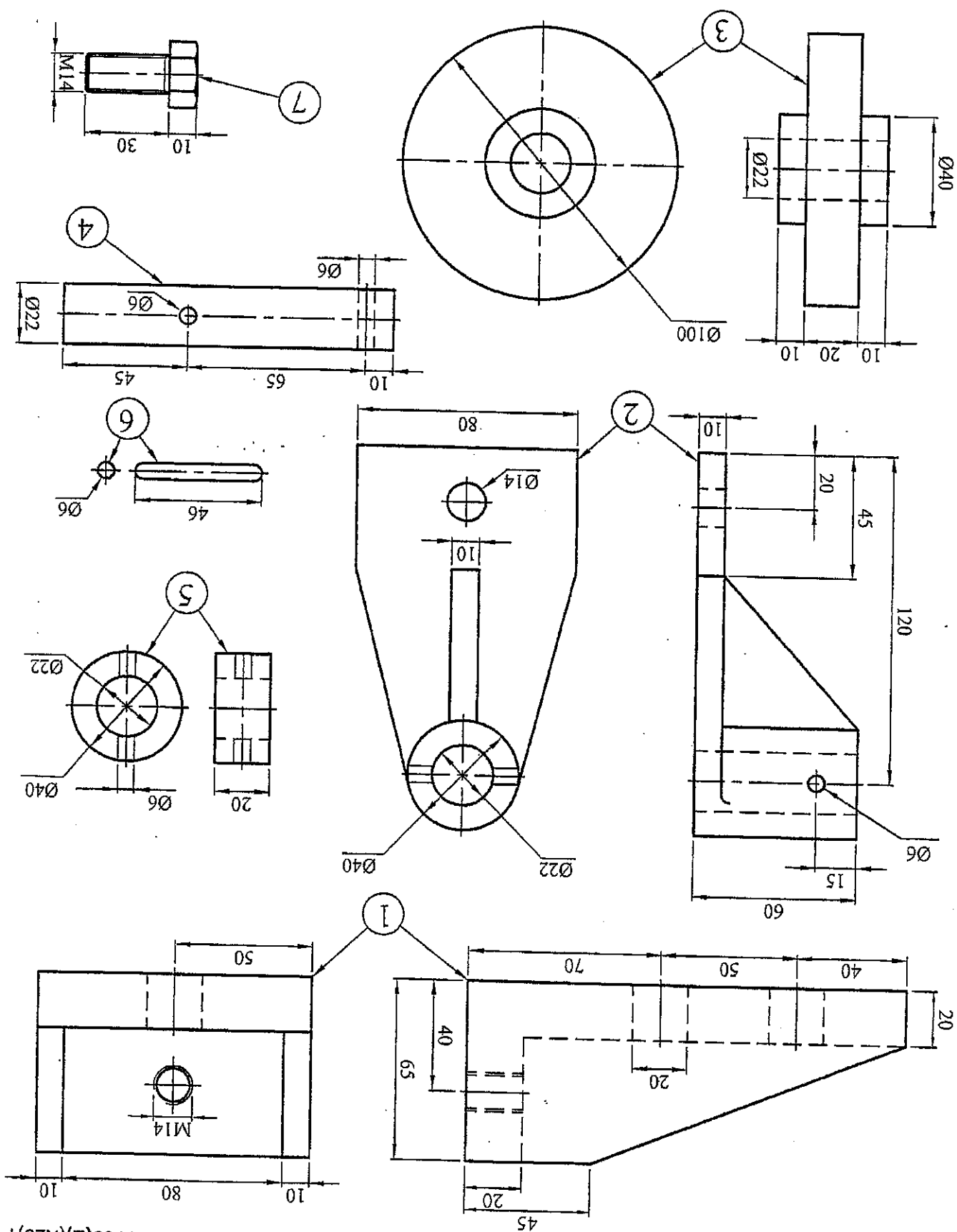


FIGURE 1

[30]

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QUESTION 2: SECTIONAL DRAWING

FIGURE 2, shows TWO primary views of a component.

Draw, to scale 1:1 and in first-angle orthographic projection, the following views of the component:

- 2.1 A full-sectional view (10)
- 2.2 A full-sectional left view (10)

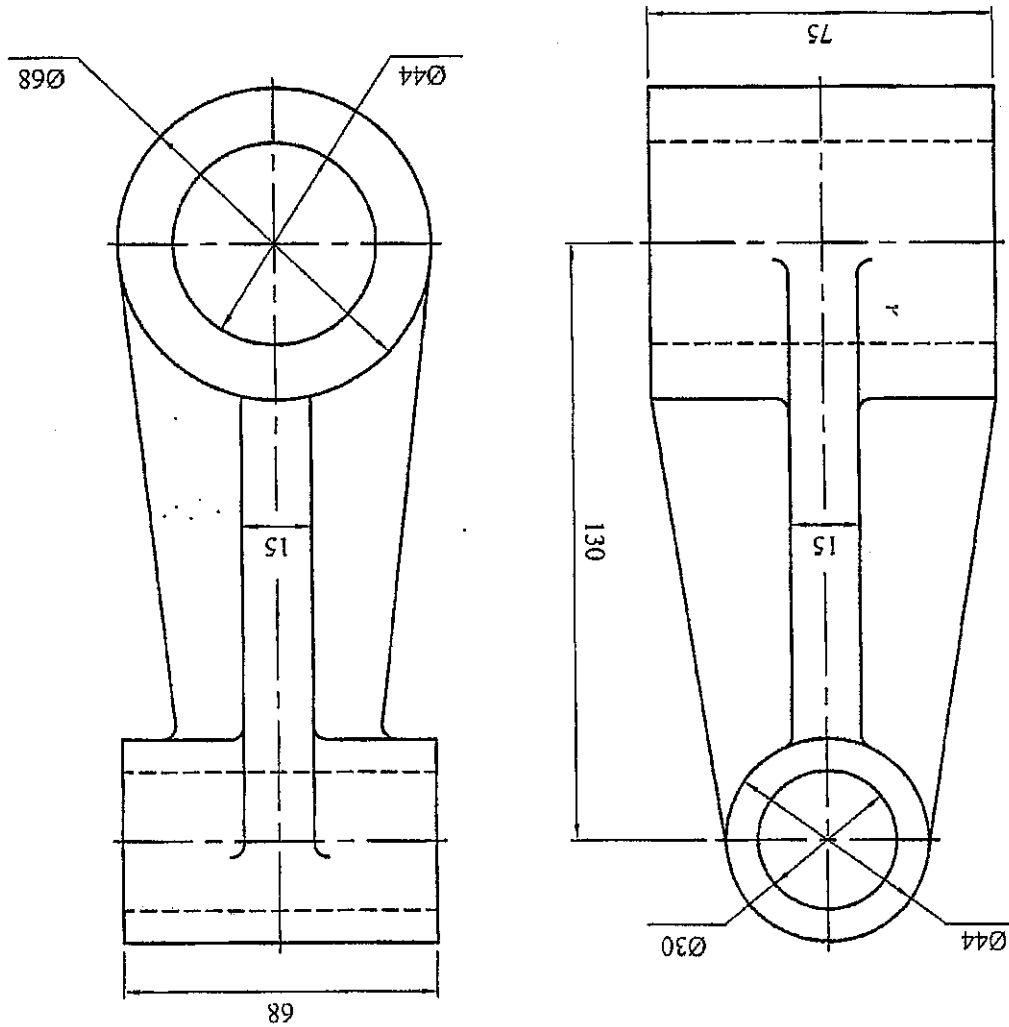


FIGURE 2



QUESTION 3: DETAILED DRAWING

FIGURE 3 below, shows TWO views (a partial section front view) and a full-sectional left view on cutting plane (X - X) of a belt drive assembly.

Draw, to scale 1:1 and in third-angle orthographic projection, detail drawings of the following parts:

- 3.1 The pulley (item 1) showing the following views:
- 3.1.1 A half-sectional front view with the top half in section (9)
- 3.1.2 A right view (4)
- 3.2 The body (item 2) showing the following view:
- 3.2.1 A full-sectional front view (7)
- NO hidden details are necessary.

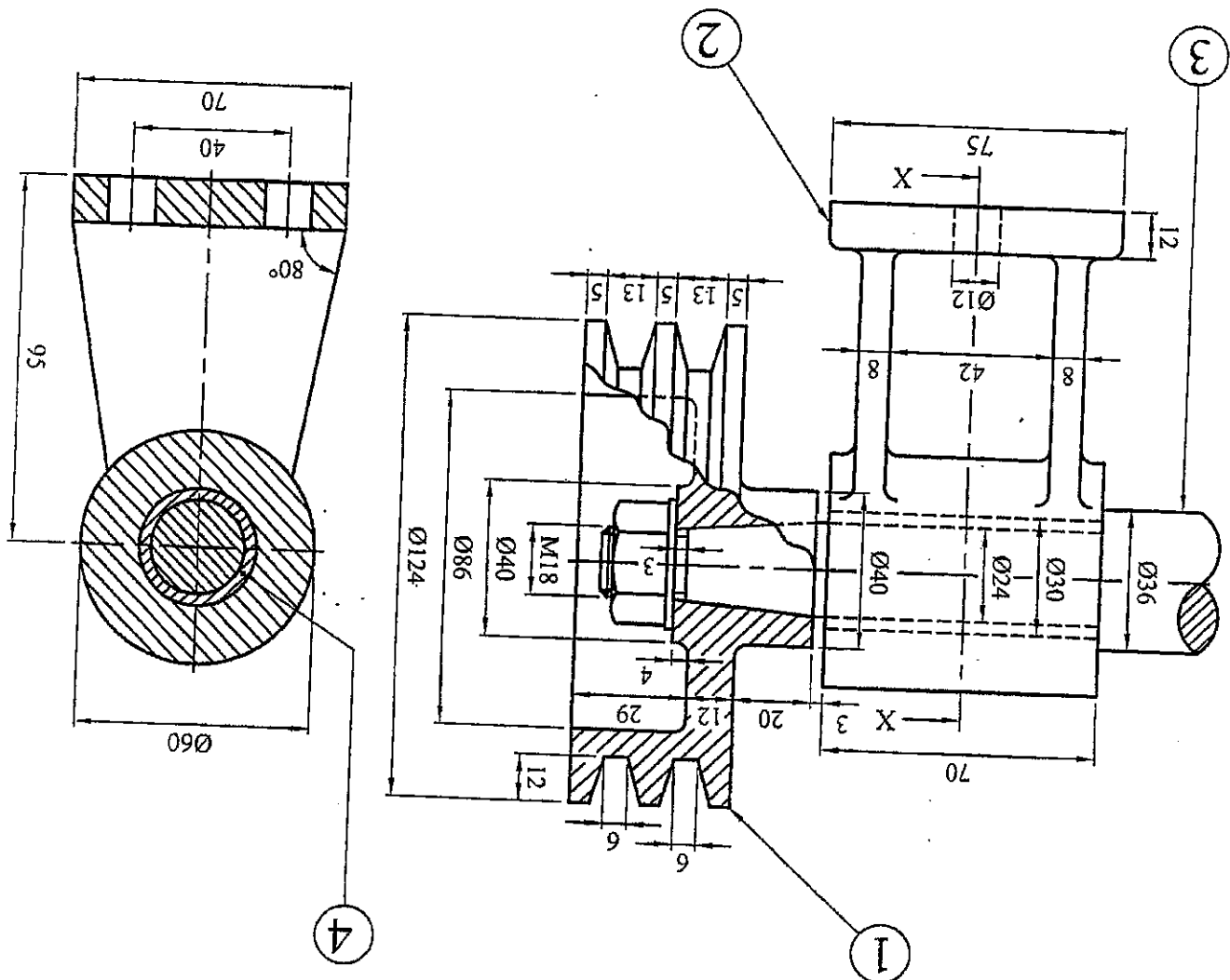


FIGURE 3

[20]
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QUESTION 4: FREEHAND DRAWING

FIGURE 4 below, shows the front view of a casting. Draw a freehand drawing of the component approximately full size.

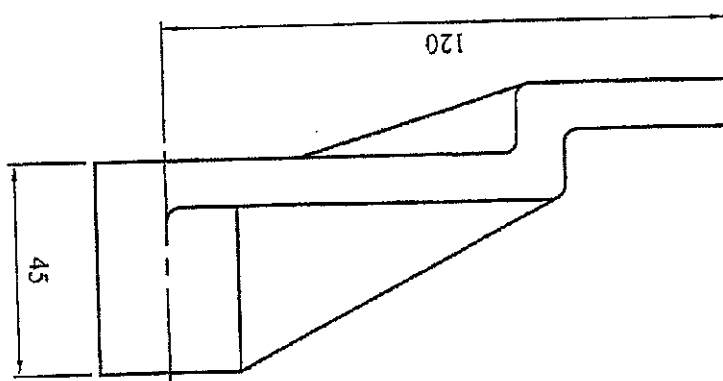


FIGURE 4

[10]

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QUESTION 5: ISOMETRIC PROJECTION

FIGURE 5, shows TWO primary views of a geometric model.

Construct an isometric scale and then draw an isometric projection of the model.

NO hidden details are required.

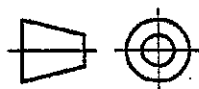
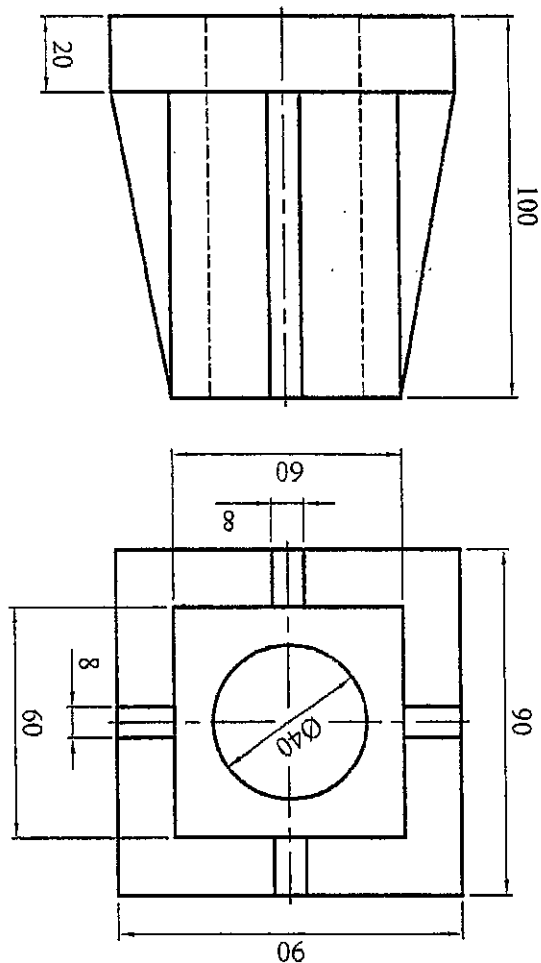


FIGURE 5

[15]

Layout, neatness and the general impression of the ANSWER SHEET, are important.

[5]

TOTAL: 100

