



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

**T690(E)(M26)T
APRIL 2010**

NATIONAL CERTIFICATE

ENGINEERING DRAWING N3

(8090283)

**26 March (X-Paper)
09:00 – 13:00**

REQUIREMENTS: ONE A2 drawing sheet

This question paper consists of 8 pages.

**DEPARTMENT OF EDUCATION
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. Number the answers correctly according to the numbering system used in this question paper.
 4. Use both sides of the drawing sheet.
 5. A 15 mm border must be drawn on both sides of the drawing sheet.
 6. ALL drawing work including candidate information must be done in pencil.
 7. A radius curve stencil may be used to draw smaller arcs.
 8. Unspecified radii must be R3.
 9. A balanced layout is very important and candidates will be penalised for poor planning.
 10. ALL drawing work must conform to the latest SABS 0111 Code of Practice for Engineering Drawing.
 11. Write neatly and legibly.
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QUESTION 1: ASSEMBLY DRAWING

FIGURE 1, (next page) shows the primary views of the components of a belt tensioner assembly.

The complete list of parts is as follows:

Item 1	.....	Shaft support	.....	1 off	.....	Cast iron
Item 2	.....	Pulley	.....	1 off	.....	Cast iron
Item 3	.....	Shaft	.....	1 off	.....	Mild steel
Item 4	.....	Bush	.....	1 off	.....	Mild steel
Item 5	.....	M12 hexagon head bolt	.....	1 off	.....	Mild steel
Item 6	.....	M12 washer	.....	1 off	.....	Mild steel
Item 7	.....	M20 washer	.....	1 off	.....	Mild steel
Item 8	.....	M20 hexagonal nut	.....	1 off	.....	Mild steel

- 1.1 Draw, as an assembly drawing, to scale 1:1, a full-sectional front view of the assembly on cutting plane X-X.

NOTE: Point P on Item 3 must coincide with Point P on Item 1.

(28)

- 1.2 Insert a suitable title and scale centrally below the drawing.

(2)
[30]

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FIGURE 1

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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 front view on cutting plane X-X (10)

2.2 A full-sectional top view on cutting plane Y-Y (10)

NO hidden detail is necessary.

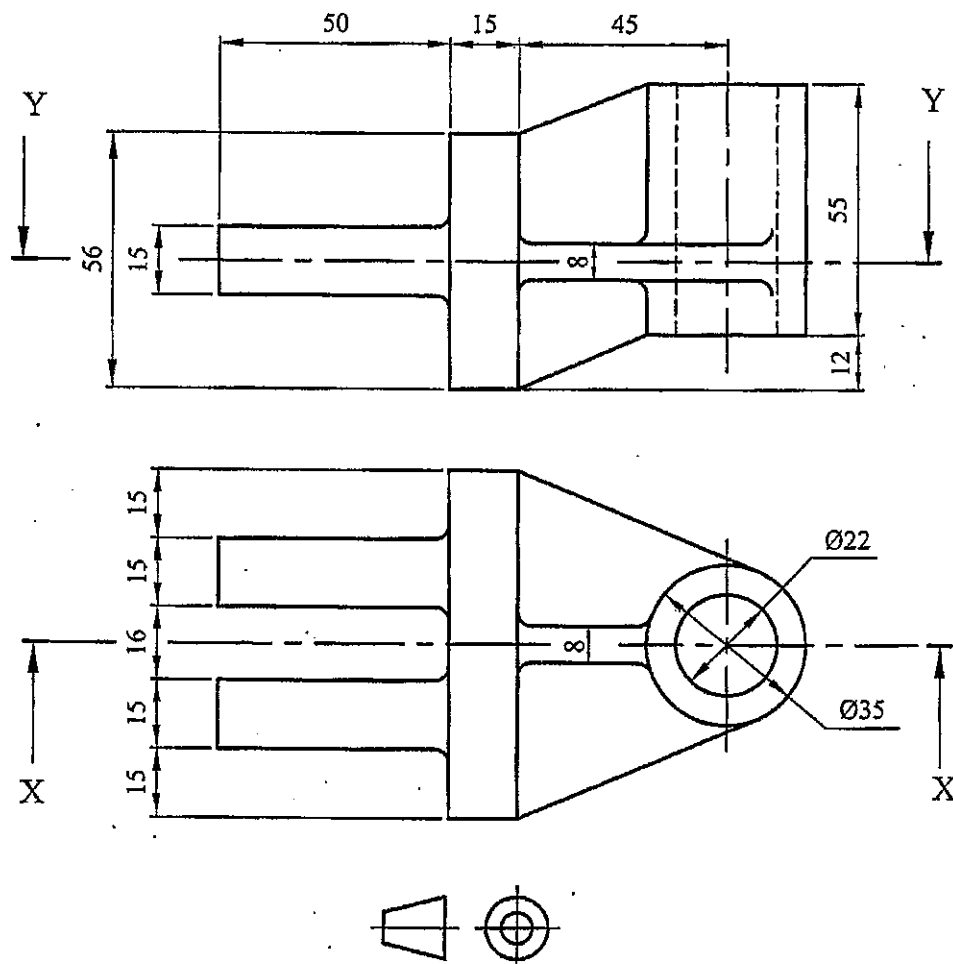


FIGURE 2

[20]

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QUESTION 4: FREEHAND DRAWING

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

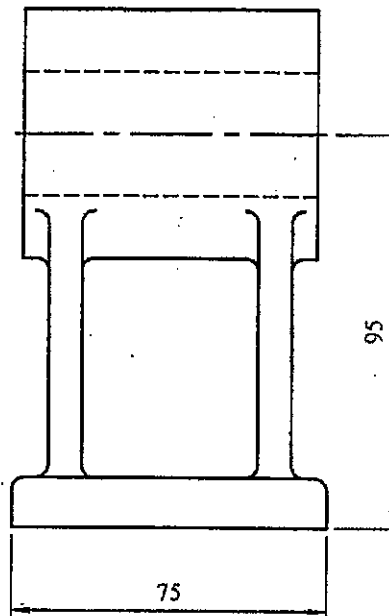


FIGURE 4

[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 detail is required.

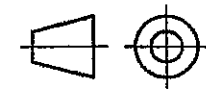
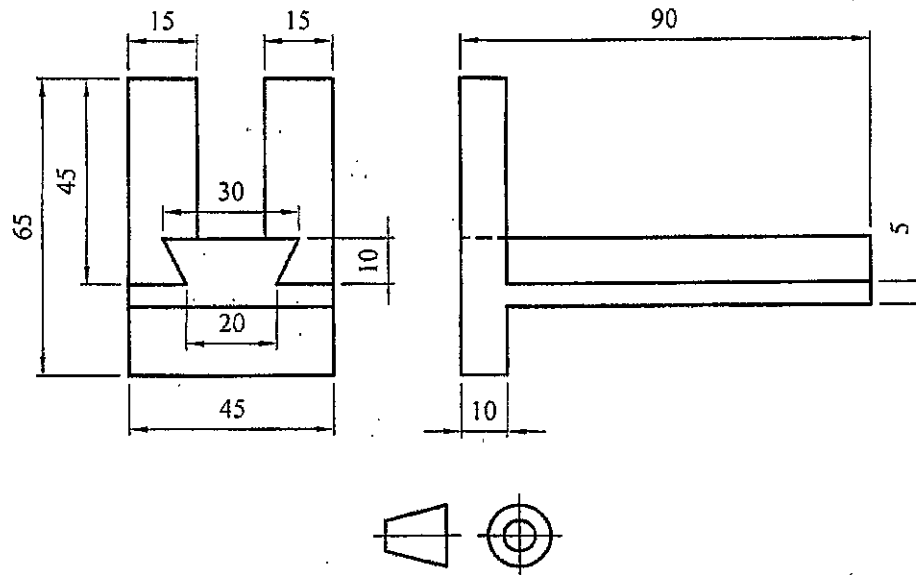


FIGURE 5

[15]

Layout, neatness and general impression of the drawing sheet.

[5]

TOTAL: 100