higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T420**(E)**(A6)T

NATIONAL CERTIFICATE: MULTI-DISCIPLINARY DRAWING OFFICE PRACTICE

COMPUTER-AIDED DRAUGHTING

(6010035)

6 August 2018 (X-Paper)
09:00–12:00

CLOSED-BOOK EXAMINATION

REQUIREMENTS: **Cover folder BOE 8/17**
A4 drawing sheets

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

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
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NATIONAL CERTIFICATE: MULTI-DISCIPLINARY DRAWING OFFICE PRACTICE
COMPUTER-AIDED DRAUGHTING
TIME: 3 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. Answer only QUESTION 1 on the attached ANSWER SHEET.
5. Answer ALL other questions on the A4 DRAWING SHEETS. Do NOT use A3 DRAWING SHEETS.
6. Use only ONE side of the DRAWING SHEETS to plot or print answers.
7. Plot or print each drawing on a separate DRAWING SHEET.
8. The QUESTION NUMBER must appear at the top left corner of each DRAWING SHEET.
9. Plot ALL candidate information in the title block.
10. Provide each DRAWING SHEET with a border line.
11. Draw ALL drawings to the given scale.
12. Use your own discretion where dimensions are NOT given.
13. Candidates must plot or print their own drawings.
14. A balanced layout must be maintained. Candidates must plan well in order to earn marks.
15. Insert the ANSWER SHEET and ALL loose DRAWING SHEETS in the cover folder BOE8/15. Do NOT staple them.
16. Write neatly and legibly.

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QUESTION 1: COMPUTER ORIENTATION

1.1 What does CPU stand for? (2)

1.2 Define the term *default* in computer technology. (2)

1.3 Name ONE method by which information can be sent from a computer to a cellphone (or vice versa) without using cabling. (1)

1.4 Give the main difference between *hardware* and *software*. (2 + 2) (4)

1.5 What do each of the following abbreviations stand for:

1.5.1 RAM

1.5.2 IT

1.5.3 ISP

(3 × 2) (6)

[15]

QUESTION 2: ELECTRICAL DRAUGHTING

FIGURE 1, DIAGRAM SHEET 1 (attached), shows a typical electrical circuit diagram.

Trace onto a landscape-orientated A4 DRAWING SHEET a large, neat and well-proportioned layout of the given diagram. Include ALL labels. **[15]**

QUESTION 3: STRUCTURAL STEEL DETAILING

As a draughtsperson working for an engineering firm you are required to trace the structural steel roof truss detailed in FIGURE 2, DIAGRAM SHEET 2 (attached). The diagram shows a dimensioned structural steel roof truss made up of 80 × 80 × 8 rolled steel equal angles.

Use a landscape-orientated A4 DRAWING SHEET and trace the exact given structural steel roof truss. Print to scale 1:25. Show ALL given dimensions and labels. **[20]**

QUESTION 4: GENERAL AND MECHANICAL DRAUGHTING

FIGURE 3, DIAGRAM SHEET 3 (attached), shows a section through a live centre for a lathe.

Use a landscape-orientated A4 DRAWING SHEET and draw, to scale 1:1, the exact diagram as shown in FIGURE 3. Show ALL given dimensions and labels. **[20]**

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QUESTION 5: BUILDING DRAUGHTING

FIGURE 4, DIAGRAM SHEET 4 (attached), shows a section through a 280 mm cavity wall and foundation.

Use a landscape-orientated A4 DRAWING SHEET and trace the given layout to scale 1 : 10. The completed plan layout must indicate the following:

- 25 mm screed on a 75 mm concrete slab
- 280 mm cavity wall with wall ties
- Weep hole
- DPM
- DPC
- 250 mm × 750 mm foundation
- 150 mm hard core
- FFL and NGL

The completed section must be fully dimensioned including ALL labels. **[30]**

TOTAL: 100

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ANSWER SHEET EXAMINATION NUMBER: | | | | | | | | | | | | | |

Candidates may use a pencil or pen. Detach the ANSWER SHEET and submit with ALL DRAWING SHEETS.

QUESTION 1: COMPUTER ORIENTATION

1.1

(2)

1.2

(2)

1.3

(1)

1.4

(2 + 2) (4)

1.5 1.5.1

1.5.2

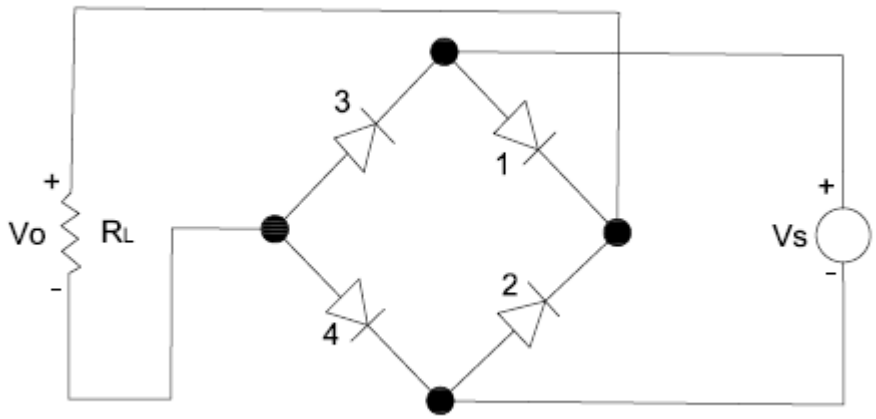
1.5.3

(3 × 2) (6)

[15]

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DIAGRAM SHEET 1

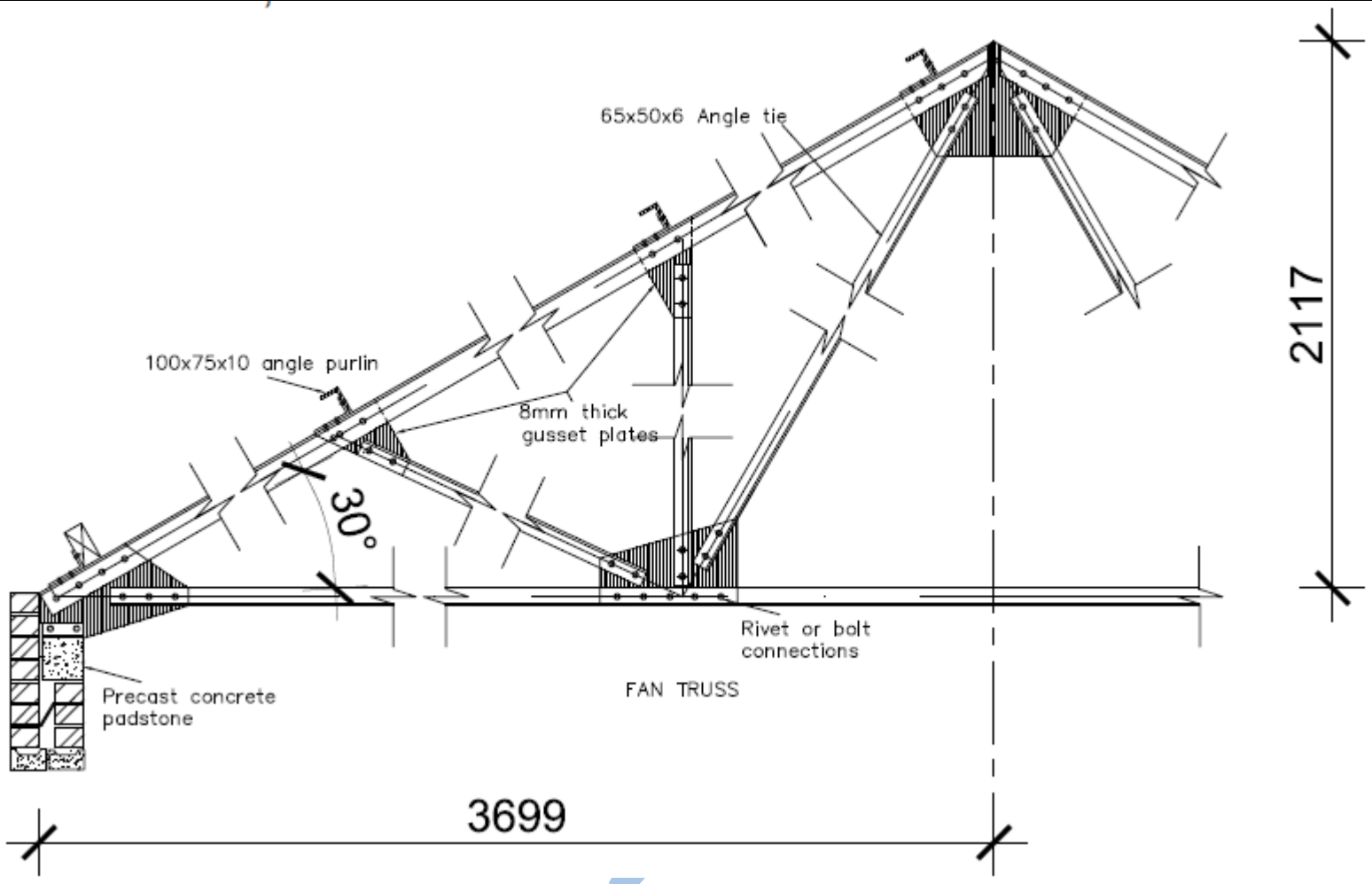


ELECTRICAL CIRCUIT DIAGRAM

FIGURE 1

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DIAGRAM SHEET 2

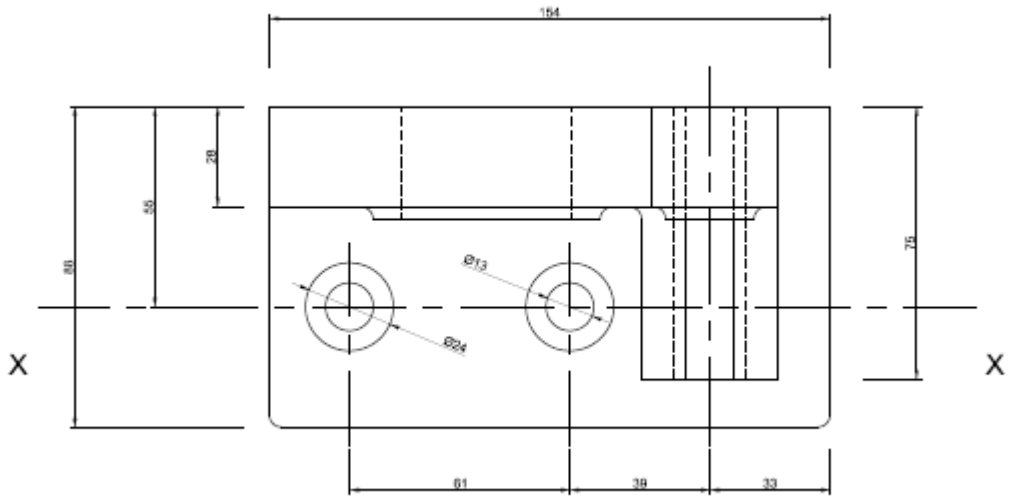


STRUCTURAL STEEL DETAILING
SCALE 1:25 (A4)

FIGURE 2

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DIAGRAM SHEET 3

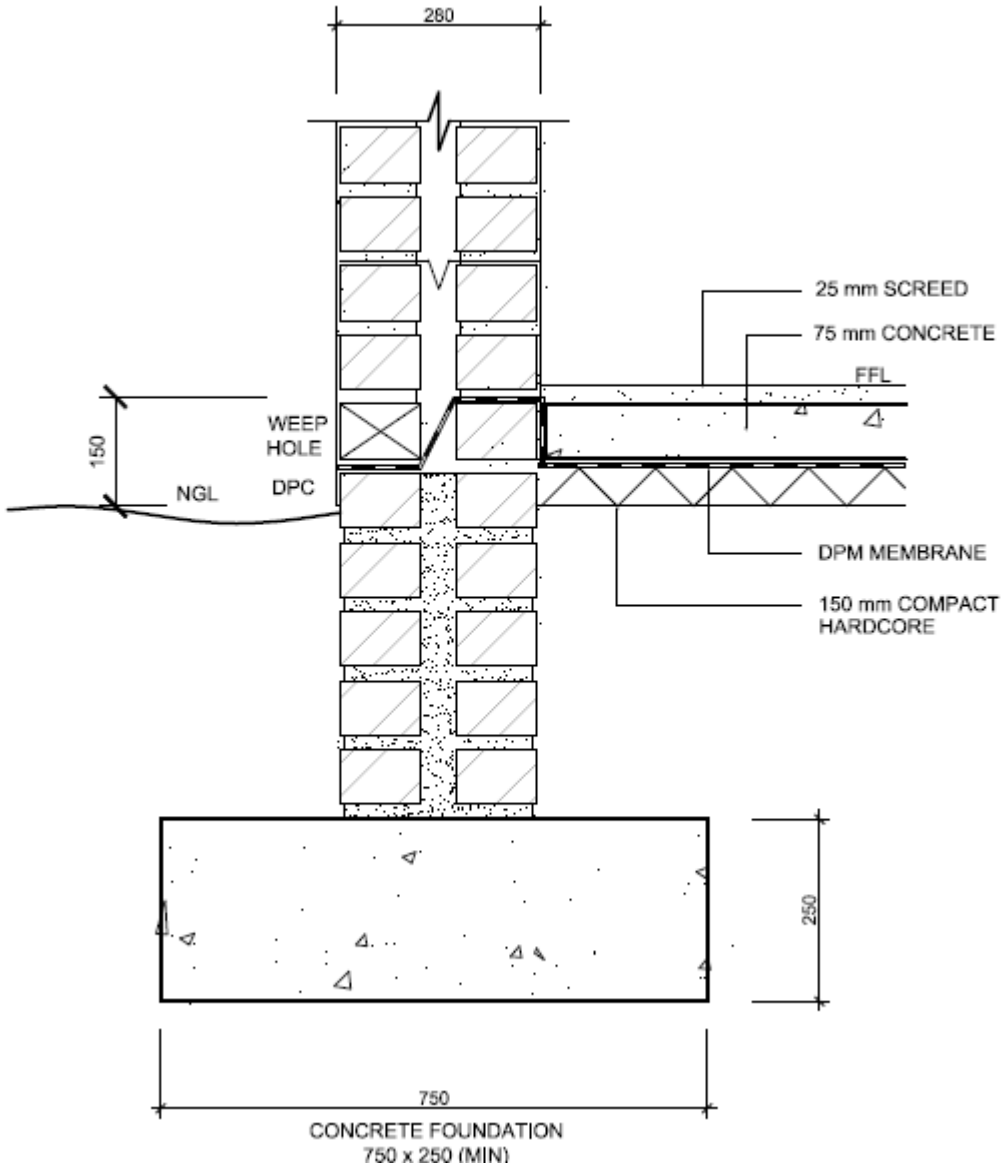


MECHANICAL DIAGRAM

FIGURE 3

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DIAGRAM SHEET 4



SECTION 1:10 (A4)

FIGURE 4

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