higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

CIVIL AND STRUCTURAL STEEL WORK DETAILING

(Second paper)

NQF LEVEL 4

(12050674)

8 November 2022 (X-paper)
09:00–11:00

REQUIREMENTS: **A4 drawing sheets**
Yellow cover folder (BOE 8/15)
Standard hot-rolled structural steel sections (BOE 8/1)
Calculators and CAD software may be used.

Drawing instruments may be used.

This question paper consists of 4 pages.

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TIME: 2 HOURS
MARKS: 75

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. Indicate your EXAMINATION NUMBER on all the drawing sheets.
5. Write neatly and legibly.

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QUESTION 1

Use a suitable scale and redraw the rectangular grid in FIGURE 1 using CAD.
Use your discretion for dimensions and or specifications not given

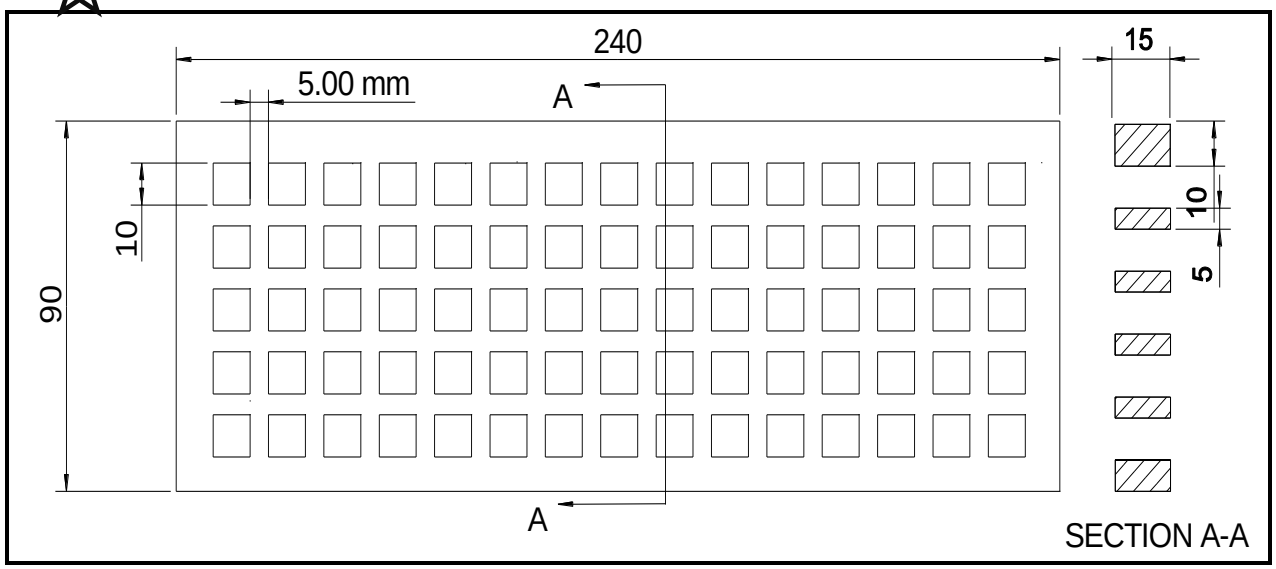

FIGURE 1

(25)

QUESTION 2

Draw to scale 1 : 1 a fully labelled and dimensioned typical internal truss joint shown in FIGURE 2.
Use your discretion for dimensions and or specifications not given

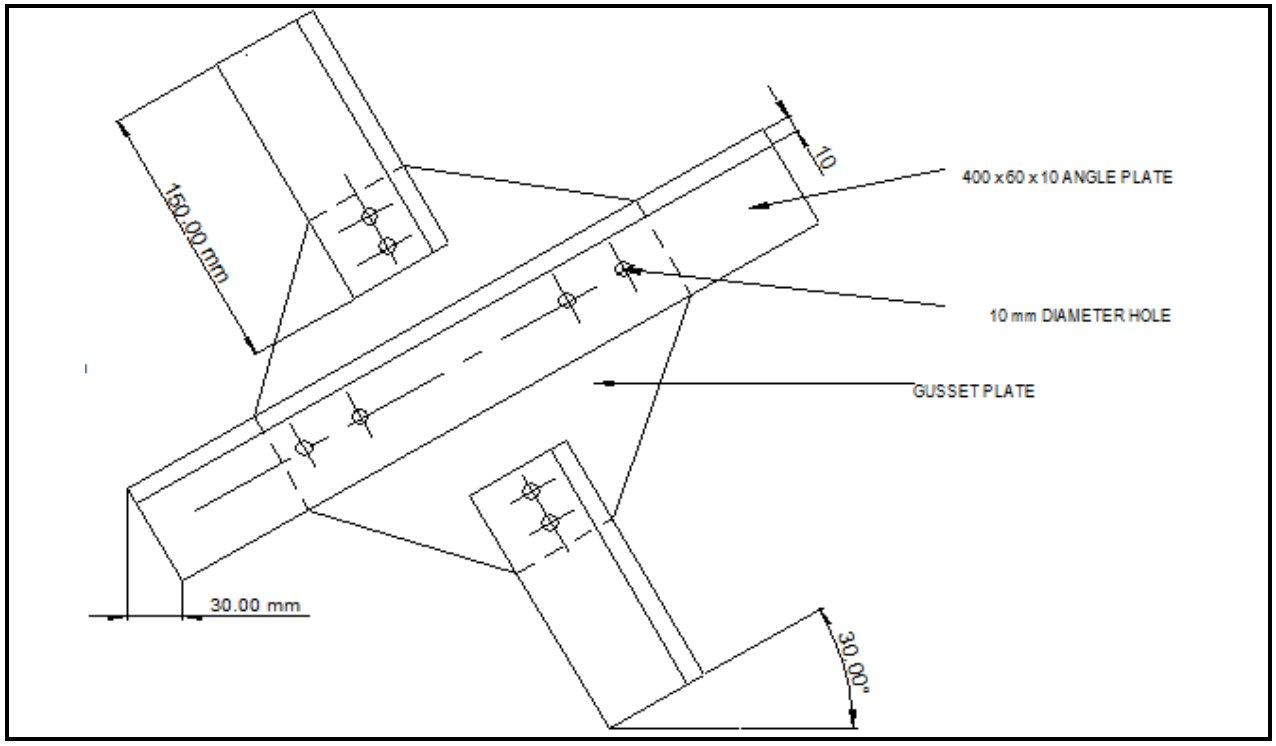

FIGURE 2

(20)

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QUESTION 3

Draw to scale 1: 100, the side view of a typical building floor layout shown in FIGURE 3, using the following specifications:
Use your discretion for dimensions and or specifications not given

- Number of stories: 2
- Longitudinal spacing: 6 m
- Transverse column spacing: 6 m
- Column size: 300 × 300
- Longitudinal beams: 300 × 300 × 24300
- Transverse beams: 300 × 300 × 12300
- Height of 1 story: 3.2 m
- Depth of footings: 600
- Length of footings: 1000
- All footings are embedded by 1500 mm from the ground level to the top of the footing.

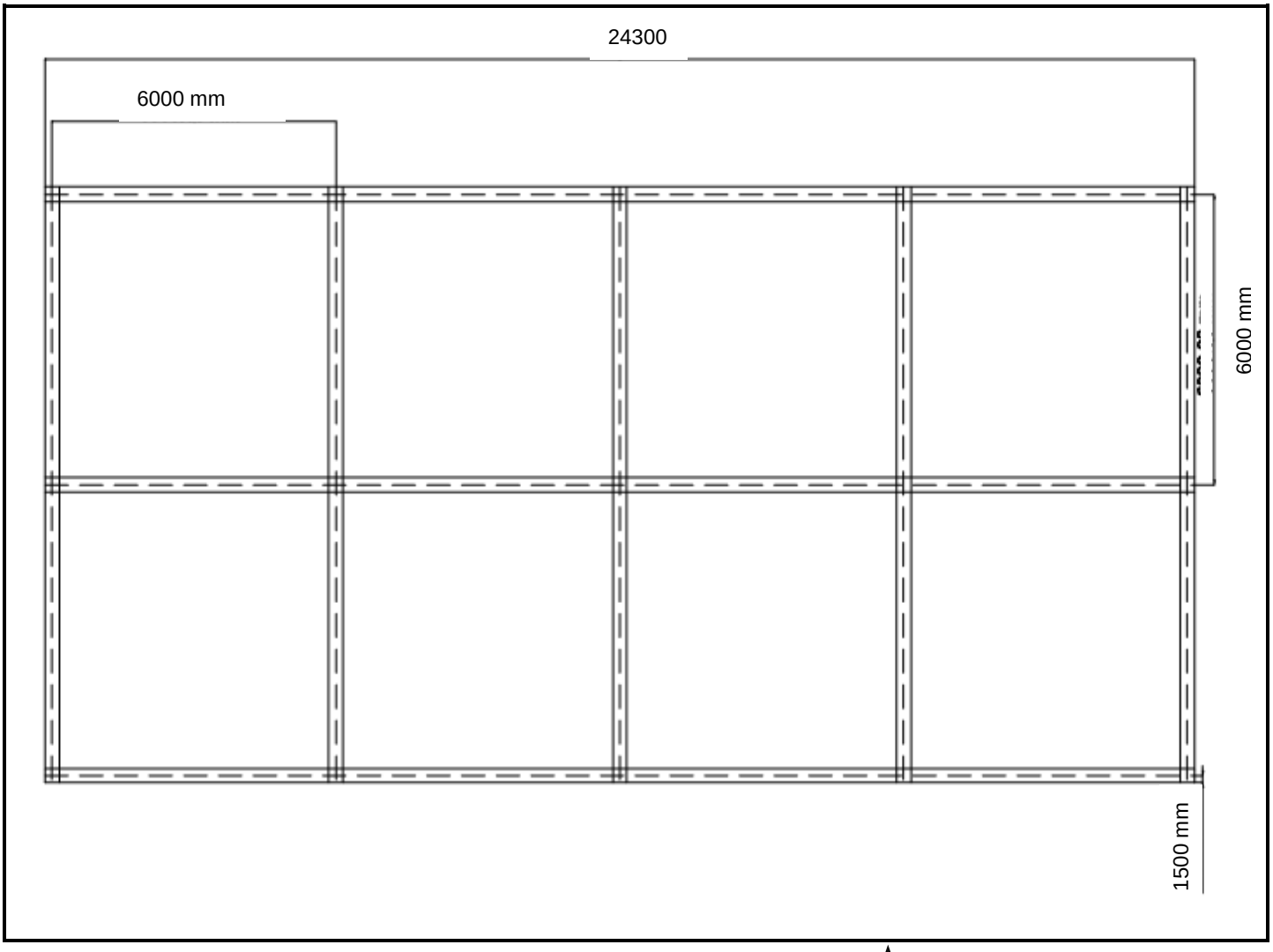

FIGURE 3

(30)
[75]

TOTAL: 75

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