higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

DRAWING OFFICE PROCEDURES AND TECHNIQUES

(First Paper)

NQF LEVEL 3

(12050713)

21 November 2019 (X-Paper)
09:00–12:00

This question paper consists of 5 pages.

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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. The drawings, sketches and diagrams must be done in pencil.
5. Freehand drawings, sketches and/or diagrams must be neat, reasonably large, in proportion and fully labelled.
6. Rule off across the page after each completed question.
7. ALL work you do NOT want to be marked must be clearly crossed out.
8. ALL the abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
9. Write neatly and legibly.

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QUESTION 1: PLANNING AND DESIGN SPECIFICATIONS

1.1 Choose the correct word from the options given in brackets to complete the sentence below. Write only the word next to the question number (1.1) in the ANSWER BOOK.

(Ergonomics, Anthropometrics) is the scientific research concerning die efficiency of workers within the working environment and the problems that come with it. (2)

1.2 Make a freehand drawing in good proportion, showing SIX of the mean dimensions of an adult female. Also give the measurements. (8)

1.3 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (2.1.1–2.1.2) in the ANSWER BOOK.

2.1.1 The mean height for females is greater than the mean height for males.

2.1.2 Architects need to consider anthropometrics when designing a building.

(2 × 1) (2)

1.4 State THREE main categories into which wheelchairs can be divided. (3)

1.5 Name FOUR categories into which worktops can be divided. (4)

1.6 Choose an item from the following list to complete the sentences below by writing the missing word next to the question number (1.6.1–1.6.3) in the ANSWER BOOK.

disabled people; 100 mm; 150 mm; 1 000 mm; toilet; sink; bath; manoeuvre; mobility; comfortably; doorways; corridors; 2,27; canes; 900 mm

An access-friendly environment will allow a wheelchair to fit (1.6.1) … in the toilet area. This means that the user is able to easily (1.6.2) … around the toilet and basin.

A minimum internal door size of (6.1.3) … should be used in most buildings.

(3 × 2) (6)

[25]

QUESTION 2: DRAWING OFFICE ORGANISATION

2.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (2.1.1–2.1.4) in the ANSWER BOOK.

2.1.1 The aim of an interview for the position of a trainee in the drawing office should be to discover the initiative and attitude of the applicant.

2.1.2 A drawing office manager must be able to make decisions, often at very short notice, and be willing to change a decision if it becomes obvious that it is faulty.

2.1.3 A good manager will know which of the staff the top performers are and which are doing little more than taking up space.

2.1.4 Understanding that your staff are people with lives outside the office, is important.

(4 × 1) (4)

2.2 Make a fully labelled freehand drawing in good proportion, to indicate the internal lines of communication in a drawing office from the board of directors at the top to the officials at the bottom. (10)

2.3 State THREE administrative tasks that a drawing office manager has to undertake. (3 × 2) (6)

[20]

QUESTION 3: HEALTH AND SAFETY FOR A DRAUGHTSPERSON

3.1 What does the acronym SHE stands for? (3)

3.2 State NINE fundamentals regarding health and safety in the workplace contained in the basic health and safety induction course. (9)

3.3 State the steps when dealing with a person choking in the workplace with the casualty as follows:

3.3.1 Conscious (6)

3.3.2 Unconscious (4)

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3.4 Make freehand drawings in good proportion of the following safety hazard signs warning against:

3.4.1 Suspended load hazard

3.4.2 Methane hazard

3.4.3 Slippery steps hazard

3.4.4 Workers overhead

(4 × 2) (8)
[30]

QUESTION 4: MEASURING INSTRUMENTS AND EQUIPMENT

4.1 Make a freehand drawing in good proportion of each of the following:

4.1.1 The firm-joint inside calliper with labelling (5)

4.1.2 Measurement transfer (2)

4.2 Make a labelled, freehand drawing in good proportion to show each of the following:

4.2.1 The spring-type inside calliper

4.2.2 The method of inserting this calliper into the bore

(2 × 6) (12)

4.3 4.3.1 State TWO uses of inside callipers. (2 × 2) (4)

4.3.2 State the use of outside callipers. (2)
[25]

TOTAL: 100

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