higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ARCHITECTURAL GRAPHICS AND TECHNOLOGY

(Second Paper)

NQF LEVEL 3

(12050633)

13 March 2018 (X-Paper)
09:00–12:00

Calculators may be used.

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. ALL abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
5. A balanced layout is very important and candidates will be penalised for poor planning.
6. Write neatly and legibly.

New

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QUESTION 1: COMMUNICATION IN THE CONSTRUCTION INDUSTRY

1.1 Communication is vital on any construction project. The client's needs and expectations are sometimes compromised due to poor communication or lack of it.

State FOUR of these challenges. (4)

1.2 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (1.2.1–1.2.6) in the ANSWER BOOK.

1.2.1 Drawings are identified in terms of types and application for a construction process.

1.2.2 Communication in two or three languages on a site is challenging but will not cause delays.

1.2.3 Architectural drawings do not form part of a legal contract between the supplier and the user.

1.2.4 The building inspector is employed by the local authority to inspect buildings.

1.2.5 The site plan on the drawings shows one where the building is on the site and which direction each side of the building must face.

1.2.6 A code reference is not used in the title block where the project is linked to a major project as a code reference is not needed.

(6 × 1) (6)
[10]

QUESTION 2: ARCHITECTURAL DRAWINGS AND SPECIFICATIONS

2.1 Give TEN advantages of architectural drawings. (10)

2.2 Name and explain FOUR aspects of freehand drawings. (4 × 2) (8)

2.3 State FOUR responsibilities of an architect. (4)

2.4 State FIVE main functions of construction drawings. (5)

2.5 Give a description of each of the following people:

2.5.1 Architect

2.5.2 Project manager

2.5.3 Client

2.5.4 Building inspector

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2.5.5 Resident engineer

(5 × 2) (10)

2.6 Schedules are normally in tabular layout and state specification requirements.

Give THREE examples of schedules issued on a construction project. (3)

2.7 When one obtains a Surveyor-General's Diagram, one must make sure it will contain the details one needs to draw up a site plan.

List FIVE of these details. (5)
[45]

QUESTION 3: CONSTRUCTION OF DRAWINGS

3.1 Define each of the following terms used in construction and building:

3.1.1 Brickforce

3.1.2 DPM

3.1.3 Ring beam

3.1.4 Battens

3.1.5 Superstructure brickwork

(5 × 2) (10)

3.2 State FIVE features of waffle foundations. (5)
[15]

QUESTION 4: ROOF STRUCTURES

4.1 Name FIVE dead loads that a roof structure must be able to carry. (5)

4.2 Define each of the following roof terms:

4.2.1 Eave

4.2.2 Fascia

4.2.3 Fly rafter

4.2.4 Joist

4.2.5 King post

(5 × 2) (10)
[15]

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QUESTION 5: WINDOWS AND DOORS

5.1 Define each of the following terms used in construction and building:

5.1.1 Single glazing

5.1.2 French door

5.1.3 Head

5.1.4 Lintel

5.1.5 Panel

(5 × 2) (10)

5.2 Name the TWO main types of traditional and modern windows. (2)

5.3 Casement windows, which open outwards and inwards, are constructed with one, two, three or four lights.

List THREE types of casement windows. (3)

[15]

TOTAL: 100

New

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