

CHAPTER 3

CIVIL TECHNOLOGY

3.1 CIVIL SERVICES

The following report should be read in conjunction with the Civil Services question paper of the November 2018 examinations.

3.1.1 PERFORMANCE TRENDS (2018)

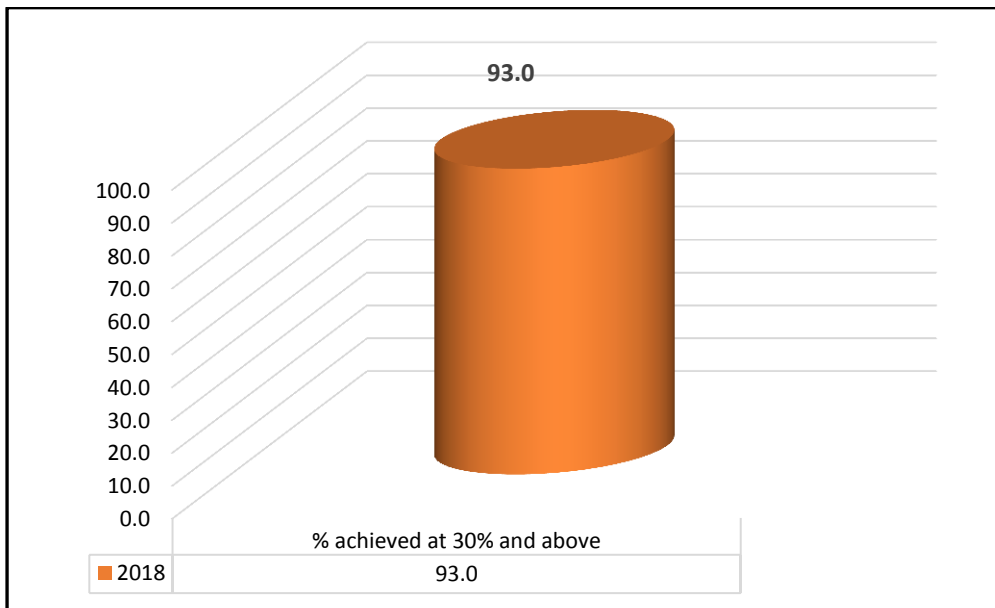
In 2018, 795 candidates sat for the Civil Services examination. The performance of the candidates in 2018 cannot be compared to previous years, because 2018 was the first year that this subject was written.

Table 3.1.1(a) Overall Achievement Rates in Civil Services

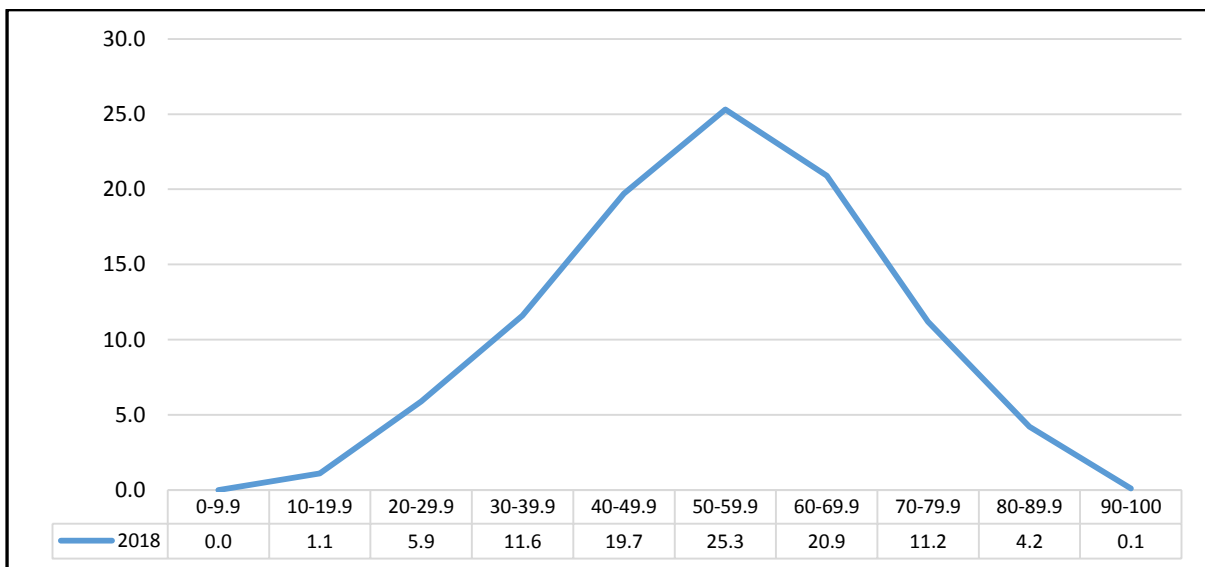
Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above
2018	795	739	93,0

The candidates' performance was satisfactory. Better performance is expected next year as both teachers and candidates become familiar with the assessment style and content of the subject.

Graph 3.1.1(a) Overall Achievement Rates in Civil Services (Percentage)



Graph 3.1.1 (b) Performance Distribution Curves in Civil Services (Percentage)



3.1.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER

DIAGNOSTIC QUESTION ANALYSIS OF PAPER 1

General Comments

- (a) It was noted that many candidates did not start each question on a new page as indicated in the instructions.
- (b) A large number of candidates experienced difficulty with subject specific and academic terminology. It is recommended that a glossary of academic terminology be compiled and given to learners and used throughout the presentation of lessons. The meaning of each of these terms should be clearly explained to the learners.
- (c) Poor drawing and interpretation skills were evident. There was poor distinction between line diagrams, sketches and scale drawings. Many scale drawings were not done using drawing equipment.
- (d) From the responses in the scripts, it is evident that the candidates lacked practical exposure and experience.
- (e) It is imperative that labels be indicated on all drawings. A significant number of candidates were not credited due to a failure to indicate labels.
- (f) Candidates experienced challenges in expressing themselves when responding to describe/explain types of questions. It is important for learners to explain or describe concepts in a logical sequence, e.g. Explain how to use the multi-detector to locate objects inside a wall.
- (g) Matching-column and multiple-choice questions were left unanswered by some candidates and were not credited as a result. Learners should be encouraged to attempt to answer all these types of questions.
- (h) Based on the responses given by the candidates to questions regarding safety and equipment, candidates only gave general responses (that are incorrect) instead of specific responses. E.g. candidates responded by indicating that workers should wear PPE instead of a specific item, like a hard hat.
- (i) Many candidates found it difficult to explain practical applications theoretically.
- (j) It is recommended that learners study drawings by doing the drawing freehand until they know all the parts and the sequence to follow, before they start with scale drawings.
- (k) In a question that counts two marks, a significant number of candidates only provided one response instead of two. Learners must be taught to derive the number of facts that they should state from the mark allocation of the question.

- (l) It is important that all topics be sufficiently covered before the preparatory examination commences.
- (m) Teachers should not only rely on activities that are in the textbooks. Alternative questions at all cognitive levels for all the topics should be developed.

3.1.3 ANALYSIS OF LEARNER PERFORMANCE IN EACH QUESTION IN PAPER 1

QUESTION 1: OHSA, MATERIALS, TOOLS, EQUIPMENT AND JOINING (GENERIC)

Common Errors and Misconceptions

- (a) In Q1.5, some candidates wrote methods of curing, instead of the advantages that were required.
- (b) In Q1.6, many candidates had difficulty in identifying and explaining the use and care of basic tools used in the building industry.
- (c) In Q1.7, candidates were not familiar with fasteners and their uses.

Suggestions for Improvement

- (a) It is recommended that a glossary of subject-specific and academic terminologies be developed and used during the teaching process.
- (b) It is important that learners work physically with tools and equipment to become familiar with them and the skill to use them.
- (c) It will be beneficial to learners to physically work with all the different fasteners.

QUESTION 2: GRAPHICS AS METHOD OF COMMUNICATION (GENERIC)

Common Errors and Misconceptions

- (a) Many candidates experienced challenges with the reading and interpretation of building plans and were not able to identify and interpret drawing symbols.
- (b) In Q2.12, a fair number of candidates could not differentiate between a gable and a hipped roof.
- (c) In Q2.29 and Q2.30, most candidates were not able to calculate the area of a room and the perimeter of a building because they could not interpret the dimensions from the given drawing or convert mm to m.

Suggestions for Improvement

- (a) The SANS Code of Practice for Drawing Symbols should be used when teaching this section.
- (b) More analytical questions/worksheets, like the one in the question paper, should be done in class.
- (c) Building plans should be obtained and used during teaching to assist learners with interpreting building plans.
- (d) More calculations involving area and perimeter should be done during teaching to ensure that learners master the mathematical concepts.
- (e) It is recommended that teachers use correct terminology during teaching, especially when referring to units (width, length and height).

QUESTION 3: CONSTRUCTION ASSOCIATED WITH CIVIL SERVICES, OHSA AND QUANTITIES (SPECIFIC)

Common Errors and Misconceptions

- (a) Q3.2 was poorly answered by most candidates and many candidates' drawings of the brick bond were incorrect, very untidy and out of proportion.
- (b) Many candidates demonstrated a poor understanding of the calculation of quantities of bricks and volume of concrete in Q3.6. Candidates lacked basic mathematical skills and used incorrect units in calculations.

Suggestions for Improvement

- (a) It is advised that learners be allowed to 'dry-pack' different brick bonds and interpret the placement of the bricks from different angles before drawing these sketches. More emphasis should be placed on the use of drawing instruments, correctness, neatness and scale or proportion of drawings during teaching.
- (b) More exercises on each part of the quantities and calculations should be given to learners.

QUESTION 4: COLD AND HOT-WATER SUPPLY, TOOLS, EQUIPMENT AND MATERIALS (SPECIFIC)

Common Errors and Misconceptions

- (a) Q4 involves content that is based on practical experience. Candidates who did not get enough practical exposure did not answer this question well.
- (b) In Q4.2, candidates did not understand the consequences of problems in hot-water systems. E.g. candidates could not explain the cause of a dripping geyser overflow.
- (c) In Q4.4, many candidates drew the wrong symbols for the valves.
- (d) The identification of common pipe joints, pipes and fittings in the hot-water system in Q4.5 and Q4.6 posed a challenge for many candidates.

Suggestions for Improvement

- (a) It is advisable to conduct excursions and site visits so that learners can learn how these systems work in the industry, or if the school has the facilities, learners should be actively involved in the assembly of these systems during practical periods.
- (b) A demonstration will help develop a better understanding of the causes of a faulty hot-water system.
- (c) It will be beneficial to learners if informal assessment tasks are conducted on a regular basis (each term) to test symbols.
- (d) This challenge can be addressed by allowing learners to do practical maintenance on pipework using different types of joints.

QUESTION 5: GRAPHICS AS MEANS OF COMMUNICATION, ROOF WORK AND STORM WATER (SPECIFIC)

Common Errors and Misconceptions

- (a) Poor performance was recorded in the drawing of the development of the cone in Q5.3.
- (b) Some candidates did not have or did not use drawing equipment to draw the developments.
- (c) Many candidates did not show construction lines on the drawing.

Suggestions for Improvement

- (a) Workshops on the development of cones and pipes, conducted by subject specialists, will be beneficial to the development of teachers.
- (b) It is advisable for teachers to ensure that drawing equipment is available in the classroom and that learners make use of it.
- (c) More emphasis should be placed on the importance of good drawing techniques, e.g. showing all construction lines on drawings.

QUESTION 6: SEWERAGE, SANITARY FITTINGS AND JOINING (SPECIFIC)

Common Errors and Misconceptions

- (a) It is evident that many candidates did not know how to draw the correct symbols for sanitary fittings, and they could not draw the drainage plan of a dwelling in Q6.3.
- (b) Candidates were not familiar with the function of the anti-siphonage pipe in Q6.5.
- (c) Joining of materials posed a challenge for many candidates because they could not identify and explain the correct use of the different joining techniques in the context of its use.

Suggestions for Improvement

- (a) A site investigation of a real sewerage system should be conducted where learners can be exposed to the correct layout of a sewerage system. It is also advisable that the correct symbols, line types and abbreviations be used during the explanation of these topics.
- (b) Practical demonstrations can be used to demonstrate the effect of siphonage so that learners can have a better understanding of this concept.
- (c) Different fastening methods and its applications should be explained and practiced during practical periods.

3.2 CONSTRUCTION

The following report should be read in conjunction with the Construction question paper of the November 2018 examinations.

3.2.1 PERFORMANCE TRENDS (2018)

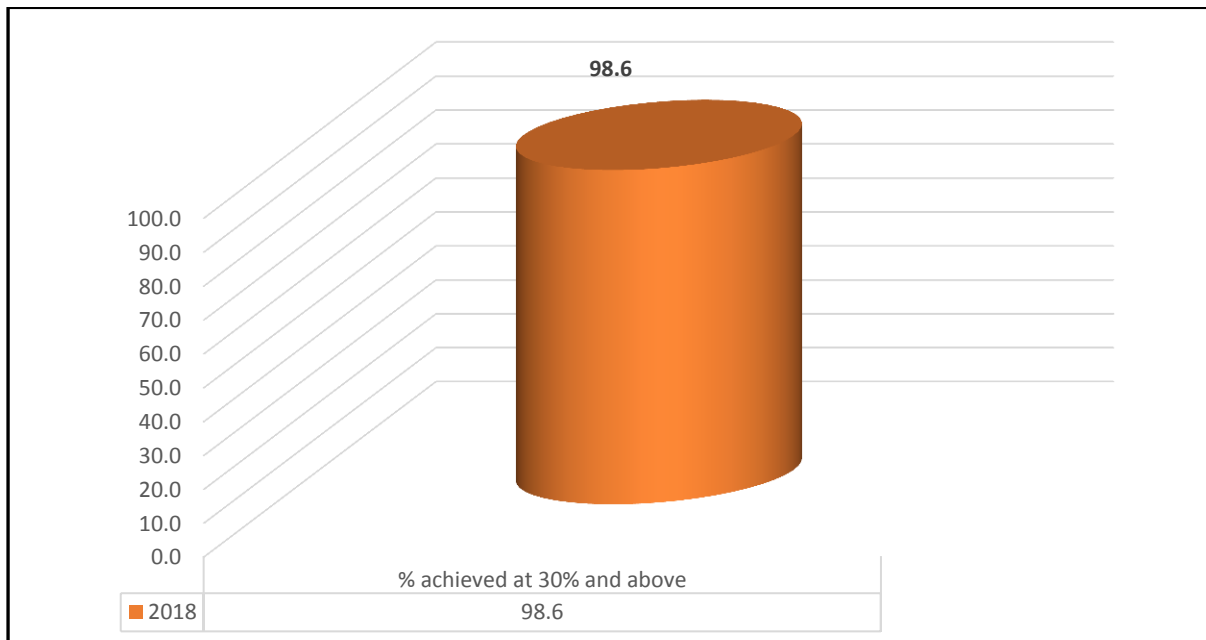
In 2018, 4 350 candidates sat for the Construction examination. The performance of the candidates in 2018 cannot be compared to previous years because 2018 was the first year that this subject was written.

Table 3.2.1(a) Overall Achievement Rates in Construction

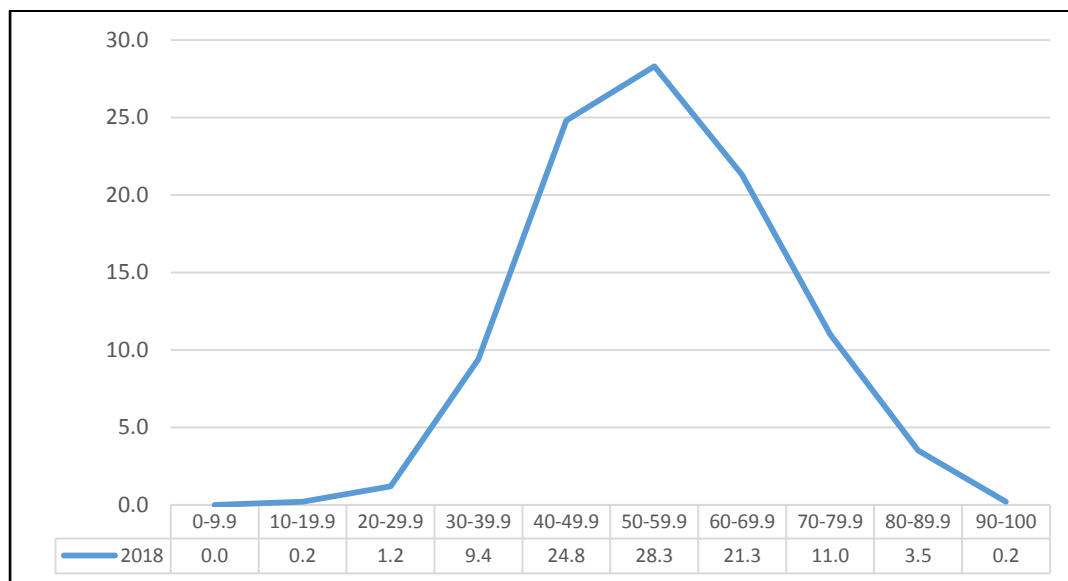
Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above
2018	4 350	4 288	98,6

The candidates' performance was satisfactory. Better performance is expected next year as both teachers and candidates become familiar with the assessment style and content of the subject.

Graph 3.2.1(a) Overall Achievement Rates in Construction (Percentage)



Graph 3.2.1(b) Performance Distribution Curves in Construction (Percentage)



OVERVIEW OF LEARNER PERFORMANCE IN CONSTRUCTION

DIAGNOSTIC QUESTION ANALYSIS OF PAPER

General Comments

- (a) It was noted that many candidates did not start each question on a new page as indicated in the instructions.
- (b) A large number of candidates experienced difficulty with subject specific and academic terminology. It is recommended that a glossary of academic terminology be compiled and given to learners and used throughout the presentation of lessons. The meaning of each of these terms should be clearly explained to the learners.
- (c) Poor drawing and interpretation skills were evident. There was a poor distinction between line diagrams, sketches and scale drawings. Many scale drawings were not done using drawing equipment.
- (d) From the responses in the scripts, it was evident that the candidates lacked practical exposure and experience.
- (e) It is imperative that labels be indicated on all drawings. A significant number of candidates were not credited due to a failure to indicate labels.
- (f) Candidates experienced challenges with expressing themselves when responding to describe/explain type of questions. It is important for learners to explain or describe concepts in a logical sequence, e.g. Explain how to use the multi-detector to locate objects inside a wall.

- (g) Matching-column and multiple-choice questions were left unanswered by some candidates and were not credited as a result. Learners should be encouraged to attempt to answer all these types of questions.
- (h) Based on the responses given by the candidates to questions regarding safety and equipment, candidates only gave general responses that are incorrect instead of specific responses. E.g. candidates responded by indicating that workers should wear PPE instead of a specific item, like a hard hat.
- (i) Many candidates encountered difficulty explaining practical applications theoretically.
- (j) It is recommended that learners study drawings by doing the drawing freehand until they know all the parts and the sequence to follow, before they start with scale drawings.
- (k) In a question that counts two marks, a significant number of candidates only provided one response instead of two. Learners must be taught to derive the number of facts that they should state from the mark allocation of the question.
- (l) It is important that all topics be sufficiently covered before the preparatory examination commences.
- (m) Teachers should not only rely on activities that are in the textbooks but alternative questions on all cognitive levels for all the topics should be developed.

3.2.3 ANALYSIS OF LEARNER PERFORMANCE IN EACH QUESTION

QUESTION 1: OHSA, MATERIALS, TOOLS, EQUIPMENT AND JOINING (GENERIC)

Common Errors and Misconceptions

- (a) In Q1.5, some candidates wrote methods of curing, instead of the advantages that were required.
- (b) In Q1.6, many candidates had difficulty with identifying and explaining the use and care of basic tools used in the building industry.
- (c) In Q1.7, candidates were not familiar with fasteners and their uses.

Suggestions for Improvement

- (a) It is recommended that a glossary of subject-specific and academic terminologies be developed and used during the teaching process.
- (b) Learners should work physically with tools and equipment to become familiar with them and to develop the skill to use them.
- (c) Learners should physically work with all the different fasteners.

QUESTION 2: GRAPHICS AS METHOD OF COMMUNICATION (GENERIC)

Common Errors and Misconceptions

- (a) Many candidates experienced challenges with the reading and interpretation of building plans and were not able to identify and interpret drawing symbols.
- (b) In Q2.12, a fair number of candidates could not differentiate between a gable and a hipped roof.
- (c) In Q2.29 and Q2.30, most candidates were not able to calculate the area of a room and the perimeter of a building because they could not interpret the dimensions from the given drawing or convert mm to m.

Suggestions for Improvement

- (a) The SANS Code of Practice for Drawing Symbols should be used when teaching this section.
- (b) Enough analytical questions/worksheets, like the one in the question paper, should be done in class.
- (c) Building plans should be obtained and used during teaching to familiarise learners with interpreting building plans.
- (d) More calculations involving area and perimeter should be done during teaching to ensure that learners have mastered the mathematical concepts.
- (e) It is recommended that teachers use correct terminology during teaching, especially when referring to units (width, length and height).

QUESTION 3: ROOFS, STAIRCASES AND JOINING (SPECIFIC)

Common Errors and Misconceptions

- (a) It was observed that many drawings were not drawn to good proportion and members of the roof were incorrectly drawn in Q3.7.
- (b) Candidates were not familiar with the terminology associated with staircases.
- (c) Q3.9, Q3.10, Q3.11 and Q3.12 showed that not all candidates were able to distinguish among the purpose, safety precautions, maintenance and care and uses of materials and equipment.

Suggestions for Improvement

- (a) It is recommended that samples of roof members be given to learners for them to draw the members to the actual size. The same members can then be drawn either bigger or smaller, maintaining the proportion.
- (b) Use actual staircases on the school premises to show the learners the different parts of a staircase.
- (c) A glossary of subject-specific and academic terminologies will reinforce the understanding of the purpose, safety precautions, maintenance and care and uses of material and equipment.

QUESTION 4: EXCAVATIONS, FORMWORK, TOOLS AND EQUIPMENT AND MATERIALS (SPECIFIC)

Common Errors and Misconceptions

- (a) Most candidates could not draw the correct details of the shuttering for firm soil and formwork for a beam in Q4.3 and Q4.5 and could not label the members correctly.
- (b) In Q4.11, many candidates were not able to differentiate between the purpose and the methods of curing.

Suggestions for Improvement

- (a) It is recommended that learners study drawings by doing the drawing freehand until they know all the parts and the sequence to follow, before they start with scale drawings.
- (b) A glossary of academic terms should be developed and used in lessons to give learners a better understanding of the terms. It is also advised that questions from previous NSC examination question papers be given to learners for class and homework to expose them to the phrasing of questions so that they can learn to interpret them correctly.

QUESTION 5: PLASTER AND SCREED, BRICKWORK AND GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)

Common Errors and Misconceptions

- (a) Many candidates drew a sectional view instead of external elevations of the cavity wall in Q5.2.
- (b) Some candidates were not able to draw the open eave in Q5.4.

Suggestions for Improvement

- (a) More emphasis should be placed on the difference between sectional views and external elevations of a cavity wall.
- (b) A tour around the school premises will assist the learners to understand the difference between open eaves and closed eaves. It will be beneficial to learners to draw freehand sketches of the eaves that they see.

QUESTION 6: REINFORCEMENT IN CONCRETE, FOUNDATIONS, CONCRETE FLOOR AND QUANTITIES (SPECIFIC)

Common Errors and Misconceptions

- (a) In Q6.2, many candidates were not able to correctly draw the reinforced concrete column from the given specifications and were not familiar with the correct names of the different members of the reinforcing.
- (b) In Q6.4, the explanation of the installation process of in-situ driven piles posed a challenge to a significant number of candidates.
- (c) In Q6.5, candidates were not familiar with the different components of a rib and block floor and could not distinguish between safety factors and disadvantages of rib and block floors.
- (d) In Q6.6, many candidates were not able to calculate the length of skirting required for a room, e.g. the external length of the wall was used instead of the internal length to calculate the length of the skirting.

Suggestions for Improvement

- (a) Models can be used during teaching to explain the position of the different reinforcement members in a real-life context.
- (b) During teaching, learners should be given the opportunity to verbally explain the different processes of installing piles.
- (c) It would be beneficial if workshops are equipped with a full-scale model of a rib and block floor so that it can be used to practically demonstrate the different components, installation processes and safety factors.
- (d) A challenge could be that learners were not exposed to practical examples of the position of the different materials for which the quantities should be calculated. It is recommended that more exercises on the calculation of quantities of materials for a building should be done in order to give learners a better understanding of the topic.

3.3 WOODWORKING

The following report should be read in conjunction with the Woodworking question paper of the November 2018 examinations.

3.3.1 PERFORMANCE TRENDS (2018)

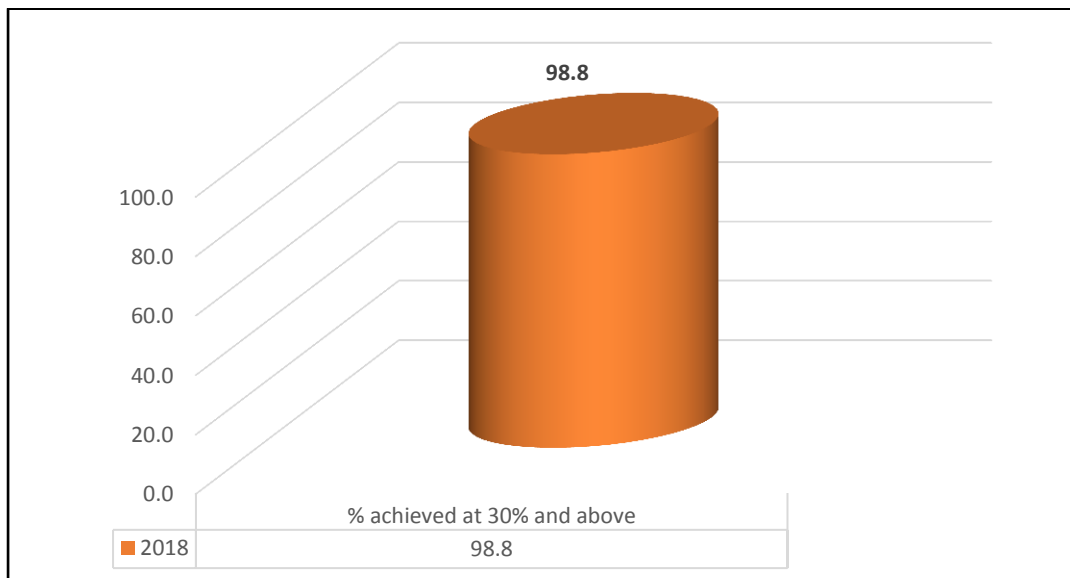
In 2018, 795 candidates sat for the Woodworking examination. The performance of the candidates in 2018 cannot be compared to previous years, because 2018 was the first year that this subject was written.

Table 3.3.1(a) Overall Achievement Rates in Woodworking

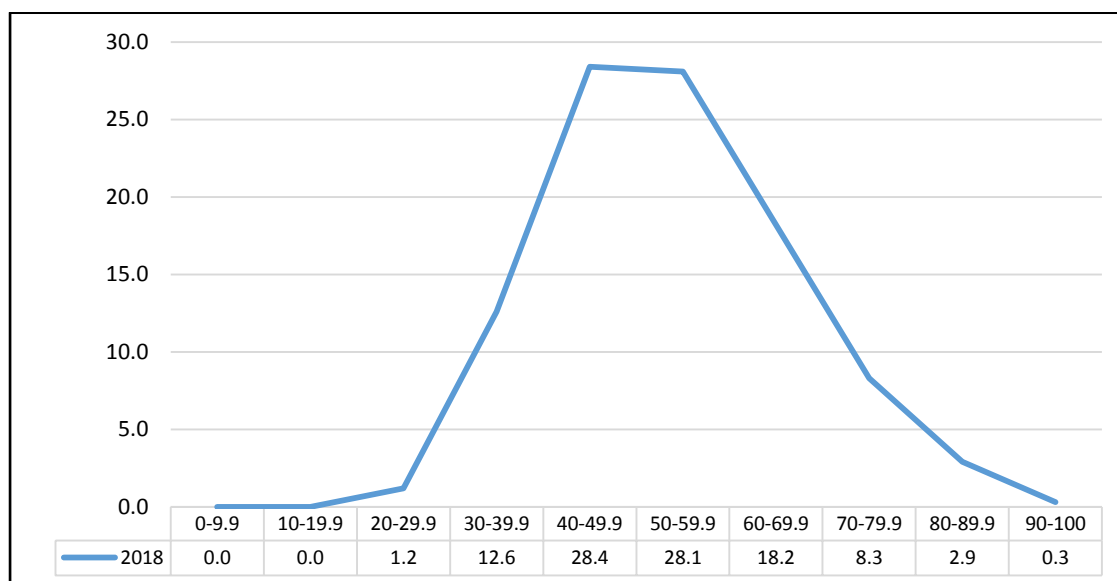
Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above
2018	2 606	2 574	98,8

The candidates performed satisfactorily. We look forward to the next year's performance and this will be complemented by the stability in the curriculum as both teachers and candidates become familiar with the assessment style and content of the subject.

Graph 3.3.1(a) Overall Achievement Rates in Woodworking (Percentage)



Graph 3.3.1(b) Performance Distribution Curves in Woodworking (Percentage)



3.3.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER

DIAGNOSTIC QUESTION ANALYSIS OF PAPER

General Comments

- (a) It was noted that many candidates did not start each question on a new page as indicated in the instructions.
- (b) A large number of candidates experienced difficulty with subject specific and academic terminology. It is recommended that a glossary of academic terminology be compiled and given to learners and used throughout the presentation of lessons. The meaning of each of these terms should be clearly explained to the learners.
- (c) Poor drawing and interpretation skills were evident. There was poor distinction between line diagrams, sketches and scale drawings. Many scale drawings were not done using drawing equipment.
- (d) From the responses in the scripts, it was evident that the candidates lacked practical exposure and experience.
- (e) It is imperative that labels be indicated on all drawings. A significant number of candidates were not credited due to a failure to indicate labels.
- (f) Candidates experienced challenges with expressing themselves when responding to describe/explain types of questions. It is important for learners to explain or describe concepts in a logical sequence, e.g. Explain how to use the multi-detector to locate objects inside a wall.

- (g) Matching-column and multiple-choice questions were left unanswered by some candidates and were therefore not credited. Learners should be encouraged to attempt to answer all these types of questions.
- (h) Based on the responses given by the candidates to questions regarding safety and equipment, candidates only gave general responses instead of specific responses, e.g. candidates responded by indicating that workers should wear PPE instead of a specific item like a hard hat.
- (i) Many candidates encountered difficulty explaining practical applications theoretically.
- (j) It is recommended that learners study drawings by doing the drawing freehand until they know all the parts and the sequence to follow, before they start with scale drawings.
- (k) In a question that counts two marks, a significant number of candidates only provided one response instead of two. Learners must be taught to derive the number of facts that they should state from the mark allocation of the question.
- (l) It is important that all topics be sufficiently covered before the preparatory examinations commence.
- (m) Teachers should not only rely on activities that are in the textbooks, alternative questions on all cognitive levels for all the topics should be developed.

3.3.2 ANALYSIS OF LEARNER PERFORMANCE IN EACH QUESTION

QUESTION 1: OHS&A, MATERIALS, TOOLS, EQUIPMENT AND JOINING (GENERIC)

Common Errors and Misconceptions

- (a) In Q1.5, some candidates wrote on methods of curing, instead of the advantages that were required.
- (b) In Q1.6, many candidates had difficulty with identifying and explaining the use and care of basic tools used in the building industry.
- (c) In Q1.7, candidates were not familiar with fasteners and their uses.

Suggestions for Improvement

- (a) It is recommended that a glossary of subject-specific and academic terminology be developed and used during the teaching process.
- (b) It is critically important that learners work physically with tools and equipment to become familiar with them and to develop the skill to use them.
- (c) It will be beneficial to learners to physically work with all the different fasteners.

QUESTION 2: GRAPHICS AS METHOD OF COMMUNICATION (GENERIC)

Common Errors and Misconceptions

- (a) Many candidates experienced challenges with the reading and interpretation of building plans and were not able to identify and interpret drawing symbols.
- (b) In Q2.12, a fair number of candidates could not differentiate between a gable and a hipped roof.
- (c) In Q2.29 and Q2.30, most candidates were not able to calculate the area of a room and the perimeter of a building, because they could not interpret the dimensions from the given drawing or convert mm to m.

Suggestions for Improvement

- (a) The SANS Code of Practice for Drawing Symbols should be used when teaching this section.
- (b) Enough analytical questions/worksheets, like the one in the question paper, should be done in class.
- (c) Building plans should be used during teaching to familiarise learners in interpreting building plans.
- (d) More calculations involving area and perimeter should be given to ensure that learners have mastered the mathematical concepts.
- (e) It is recommended that teachers use correct terminology during teaching, especially when referring to units (width, length and height).

QUESTION 3: CASEMENTS, CUPBOARDS, WALL-PANELLING AND QUANTITIES (SPECIFIC)

Common Errors and Misconceptions

- (a) In Q3.1.1 and Q3.3.2, it was evident from a lot of candidate's responses that they were unable to distinguish between the properties of different board products, e.g. instead of identifying the board product, it was referred to as wood or timber.
- (b) In Q3.4, some responses indicated that the parts of the wall panelling were difficult to identify, e.g. candidates could not differentiate between a quarter round moulding and a skirting.
- (c) in Q3.5.1 and Q3.5.2, the given specifications were incorrectly interpreted and incorrect conversion of units resulted in incorrect calculations, e.g. the location of wall plates and purlins in a building were unfamiliar to most candidates.

Suggestions for Improvement

- (a) It is recommended that the names and properties of materials be revised in Grade 12 when cupboards are being taught.
- (b) A model of wall panelling can be used to demonstrate the installation process of all components in a systematic way. This will enable learners to understand the concept of wall panelling. Learners should do freehand drawings of the physical model as seen from the front and side.
- (c) Practical exercises in measuring that will allow the learners to measure the inside as well as the outside of a room will ensure that they understand the difference between inside measurements and outside measurements. More exercises on calculations of quantities of materials should be done. It is advisable that learners be taught to read and interpret drawings and the correct positions of material in a building.

QUESTION 4: ROOFS, CEILINGS, TOOLS AND EQUIPMENT, AND MATERIALS (SPECIFIC)

Common Errors and Misconceptions

- (a) In Q4.2.1, poor performance was recorded. The challenge could be that the candidates were not familiar with the different parts and dimensions of a roof.
- (b) In Q4.5, most candidates were not familiar with the difference between the profiles of IBR sheeting and corrugated iron sheeting.
- (c) In Q4.8, the different parts of a ceiling trap door posed a challenge to many candidates. For example, they were not familiar with the different parts of the ceiling trap door and used brand names of the material instead of the correct names of the parts.

Suggestions for Improvement

- (a) Emphasis must be placed on the subject terminology throughout the year. A model of the roof layout for a building should be used to teach this topic.
- (b) Examples of different types of roof coverings should be available and used during the teaching of these topics.
- (c) Reference must be made to ceiling construction when teaching trapdoors for ceilings and the correct terminology must be used throughout the presentation of lessons.

QUESTION 5: CENTERING, FORMWORK, SHORING AND GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)

Common Errors and Misconceptions

- (a) In Q5.2, the naming of materials used for making formwork posed a challenge to a significant number of candidates.
- (b) In Q5.5, the positions of the different types of laggings were unfamiliar to many candidates and this resulted in poor performance in this question.
- (c) In Q5.6, most candidates could not differentiate between the uses of the flying and dead shores. A challenge could be that candidates confused one with the other.
- (d) In Q5.9, only a few candidates were able to draw a neat line diagram of a couple roof truss.

Suggestions for Improvement

- (a) The revision of the names and properties of these materials in Grade 12 when formwork is being taught will be beneficial to learners.
- (b) A model can be used during the presentation of lessons to show the difference between closed laggings and open laggings.
- (c) It is advised that an opening in a wall be identified (e.g. window opening) and props, beams and wedges are used to erect temporary dead shores and temporary flying shores in a passage. This will improve the understanding of the use and purpose of shoring.
- (d) More emphasis should be placed on the difference between line diagrams, freehand sketches, sketches and scale drawings during the teaching of drawings.

QUESTION 6: SUSPENDED FLOORS, STAIRCASES, IRONMONGERY, DOORS AND JOINING (SPECIFIC)

Common Errors and Misconceptions

- (a) In Q6.2, the methods of joining floor joists to walls were not correctly drawn by many candidates.
- (b) In Q6.3, most candidates drew the external walls instead of the pier of a suspended timber floor.
- (c) In Q6.6, many candidates could not specify where the different parts of a lock should be mounted. It is possible that candidates were not exposed to the fitting of locks.
- (d) In Q6.7, many candidates were not able to draw the top views of a raised panel and a raised and fielded panel correctly.

Suggestions for Improvement

- (a) Use any board to represent a wall and on the board, demonstrate the different methods on how joists or beams can be attached to it.
- (b) The use of a model of a suspended timber floor showing all components including the supporting piers will assist learners to get a better understanding of a suspended timber floor.
- (c) Practical demonstration on the fitting of locks on a door and frame should enable learners to know the appropriate position of the different parts of a lock.
- (d) Different panels can be used to demonstrate to the learners the different views of the panels. Learners can draw the views of the panels as they see it.