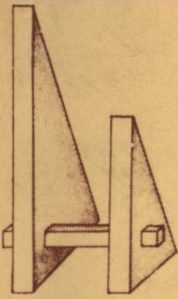


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HSRC Guidance Series G1-3

***training and career opportunities
for school-leavers before
standard ten***

human sciences research council

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HSRC Guidance Series G.I-3

**TRAINING AND CAREER OPPORTUNITIES FOR
SCHOOL-LEAVERS BEFORE STANDARD TEN**

*C.J.S. COETZEE, B.Com., M.Ed.
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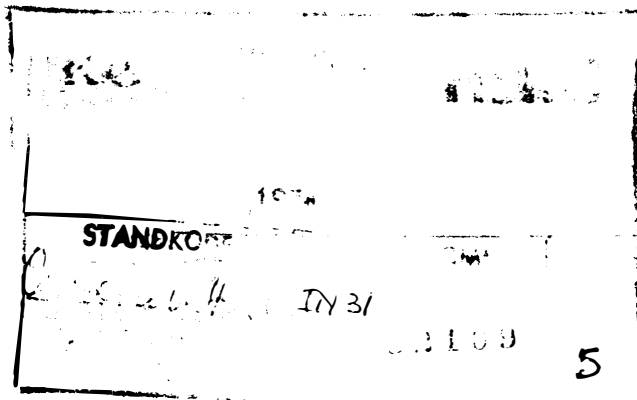
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PREFACE

This book, No. GS-3 in the HSRC's Guidance Series, is a revised edition of Training and career opportunities for school-leavers before Standard Ten which was published in 1974. Together with two other publications in this series, University training and career possibilities (GS-5) and Tertiary training outside universities and career opportunities (GS-4), it provides information on training and career opportunities covering a very wide field.

Thanks are due to all bodies who co-operated to provide information. Particular mention must be made of the Department of National Education, the colleges for advanced technical education, technical colleges and technical institutes, the Department of Labour and the editorial staff of the periodical Mv Career, the Public Service Commission, for direct information as well as information obtained from the publication Careers in Government Departments, and various other government departments.

The Human Sciences Research Council trusts that this publication will contribute towards assisting young people who are compelled to leave school before Standard Ten to decide on their future.


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CHAPTER I

G E N E R A L

JOY FROM LABOUR

People differ from one another in talents, aptitude, interest, physical fitness, outlook on life, personality characteristics and so on. However, one of the purposes for which all people, irrespective of differences, have been placed on earth is to work. Everyone must share in this activity and, what is more, should derive joy from it. What one produces by one's own labour provides, or should provide the greatest joy and satisfaction. A child, for instance, will find much greater fun in playing with a toy, no matter how primitive, which he has made himself than with one from a shop. Every growing child should be educated to experience the joy derived from personal effort and the impetus which is thereby given to his own development towards independence. This will also help to engender a positive attitude and a feeling of responsibility towards the family, the nation and the welfare of the country. Everybody is expected to discover, develop and utilize his talents, so that he will experience the joy which labour brings. To be able to work is a privilege.

THE DEMANDS OF THE PRACTICAL SITUATION

South Africa is a country with virtually unlimited opportunities for development and there is an incessant demand for an efficient labour force. New, attractive and widely divergent occupations and occupational fields daily appear on the horizon and cause many young boys and girls to feel uncertain about their future.

There are, of course, those who have no doubts about a career but there are possibly many more who are uncertain about either an occupational field or the necessity of attaining the highest standards of training. However, one thing is very clear, the social and economic structure is imposing ever increasing demands on all workers, and once a direction has been taken, it is not easy to turn back. This is true of the individual in all types of occupations, as well as of a nation as a whole. The occupational world of to-morrow belongs to the young people of today, but their success in it depends on their purposeful approach to the struggle to live and to conquer. This requires a positive attitude, a will to work, readiness to learn from one's own faults and acceptance of the advice and guidance of those who know. This applies to the young men and women who continue their studies at higher educational institutions and who enter the labour sector at a later stage, but also to the school-leavers before Standard Ten. They are also expected to pull their weight and play their part in keeping the great labour machine moving and in making their lives rewarding and happy. We cannot all do the same work but nobody's work is more important than that of anybody else, although some have to bear greater responsibility than others.

WHO PROVIDES THE NECESSARY GUIDANCE?

In today's occupational world there is no time or place for failures; the price which must be paid for failure is much too high. Fortunately, there are opportunities for receiving guidance. There is no lack of good human potential or training facilities, but young people often find themselves in the wrong field because they did not receive proper guidance and did not know about all the possibilities. For this reason, pupils are encouraged to make use of the many guidance facilities at their disposal. Self-investigation in respect of one's own desires, interest and school achievement is of great importance. In addition to this, however,

the parents and relatives, the teachers and guidance experts of the education departments and other persons who are equipped to provide guidance, should be consulted. There are also bodies such as, for example, the Railways, the Police, Posts and Telecommunications and the Department of Defence which provide guidance in respect of occupations within their own context. The National Institute for Personnel Research of the CSIR also undertakes testing and the conducting of interviews in cases where vocational guidance is necessary. However, as regards guidance apart from that provided by the school, the attention of the school-leavers prior to Standard Ten is drawn in particular to the extensive and valuable services rendered by the Department of Labour.

THE DEPARTMENT OF LABOUR

In addition to other functions of this Department, the Professional Section was established to help persons who require assistance in choosing the occupation best suited to them and in which they can perform the most effective work and make the best progress. Members of the staff of this section are stationed in Pretoria, as well as in different district offices in the most important cities and towns throughout the country. (See p.130 for the addresses of these offices.) It is their task, on the one hand, to study the occupational world and the requirements for individual occupations while, on the other, the candidates are examined in various ways, so that candidate and occupation may eventually be brought together. Officials in the district offices have three main tasks, viz

- the provision of vocational guidance to young people under the age of 19 years, as well as to adults who require it;
- the selection of personnel for government departments and private employers;
- the rehabilitation of handicapped persons by means of selective in-service placement and psychological guidance.

In addition, professional officers also devote considerable time to after-care and to visits to employers in order to determine whether employees whom they have placed in employment are adapting themselves effectively to their new environment. They also assist in solving any problems which may arise.

In the Head Office important services are likewise rendered to young people and adults. There are, for example, the sections for Planning, Statistics and Information. The latter section concerns itself with the distribution of information on careers. This is done in particular by means of the quarterly My Loopbaan/My Career, which is sent to all high schools and interested persons. The information contained in it is of great value to every boy and girl who wishes to know more about occupations, working conditions, et cetera. A second quarterly, Rehabilitation in South Africa, is also published by this Section. It contains, inter alia, summaries of speeches, case studies and other information which is directly related to rehabilitation.

The section for Readjustment Services in its turn provides young employees with a particularly valuable service. It devotes attention to persons who are already working but who, as a result of some personality problem or other, cannot adjust themselves successfully or make satisfactory progress. In the case of faulty vocational choice, guidance is given and an alternative placement arranged. In other cases, for example those of persons with emotional or other problems, a psychotherapeutic service is provided by psychologists with wide experience of this work.

Young jobseekers and persons with occupational problems are invited to visit the offices of the Department of Labour with a view to vocational guidance and selective in-service placement.

GUIDANCE AT SCHOOL

The importance of vocational and other guidance at school cannot be overemphasised, particularly in these times of an abundance of occupations and a vocational structure which is becoming increasingly complicated. It is part of the task of the school, and an increasingly important part at that, to provide the pupil with expert guidance, on the basis of his aptitude, talents, background, interest and desires, concerning his possibilities and the opportunities existing for him, as well as to inspire the child not only to choose within his capacity but to harness and develop that capacity to the maximum. The work done by the Department of Labour and other bodies is extremely important, but the work which the school should do is even more important, since it is the school's task in the first place to assist the child to make the correct choice.

TRAINING INSTITUTIONS

Colleges for advanced technical education

At present there are six colleges for advanced technical education in the RSA. They are situated in Cape Town, Durban, Port Elizabeth, Pretoria, Vanderbijlpark and Johannesburg. These institutions concentrate on advanced training and teaching at post-Std 10 level, i.e. at the level of tertiary or higher education. They are autonomous institutions which, like universities, are subsidised by the Department of National Education and offer a wide variety of technical, commercial and other courses on a full-time, part-time and sandwich basis. The courses are arranged as far as possible on a practical-academic basis. This training enables the candidate to enter commerce and industry directly and to perform his task effectively. There is no large gap between the theoretical education and the demands of the practical situation.

Technical colleges

The colleges for advanced technical education are normally no longer concerned with the training of apprentices at pre-Std 10 level. There are technical colleges for this purpose, a large number of which were previously apprentice schools. The main function of these institutions is to provide theoretical apprentice training for persons who normally leave school at an early stage and have to serve their apprenticeship in the various trades in industry. It can generally be stated that apprentices should, at least, no longer be of school-going age when they are admitted to a technical college.

There are 26 larger and smaller technical colleges in the country. They are polytechnic in nature in the sense that they offer a variety of technical and commercial courses on a full-time and part-time basis. Several of the courses offered by the colleges for advanced technical education are also provided by the technical colleges.

Technical institutes

Continuation classes in technical and commercial subjects were established in centres not served by institutions for vocational training to fulfil the need felt by young employees and adults to increase their knowledge and improve their qualifications. In the course of time the continuation classes, which are now known as Technical Institutes, have expanded to such an extent that they have their own buildings and a full-time staff and they provide opportunities for post-school technical training at no fewer than 34 centres. They, in turn, can develop into fully fledged technical colleges and later even into colleges for advanced technical education.

Pupils are prepared for the National Commercial and Technical Examinations at the technical institutes and by means of the subject-success system it

is possible for them to obtain the complete certificate in stages. The technical institutes also provide training for apprentices.

Correspondence colleges

Education through correspondence is extremely important in South Africa, since for many students it is the only way in which they can improve their qualifications. Nowadays the colleges succeed in maintaining a high standard of training by virtue of excellent organization, realistic fees, modern teaching methods and the opportunity to make a selection from a large number of fields of study. The interests of students are protected by the Correspondence College Council. This statutory body was established by law in 1965 with the aim of controlling the standard and services of the colleges. All private correspondence colleges have to be registered with the Council.

Most of the colleges make provision for technical courses up to various levels, secretarial and commercial courses which lead to the national diplomas and certificates and for the courses of some of the professional institutes. In addition, the majority of these institutions also offer courses for their own diplomas and certificates, for which no official examinations are written and no certificates or diplomas issued by the Department of National Education or any other official body. Practically all individual subjects, as well as various general courses for men and women, are catered for by most of the colleges.

Note: Candidates who enter for courses offered by correspondence colleges and by other non-official institutions must make sure beforehand whether the certificates to be obtained through such courses are officially recognized for employment purposes.

It is well-nigh impossible to publish a complete list of all the courses offered by every correspondence college. Further particulars can be obtained direct from the colleges. A list of the names and addresses of correspondence colleges appears on p.128.

CHAPTER II

FROM APPRENTICE TO ARTISAN

A. GENERAL INFORMATION

The word "trade" indicates acquired skill in handwork whereby materials are manufactured or processed. An artisan is thus a qualified person who undertakes practical tasks on trade level. It is also the custom to refer to a person, for example, as a carpenter, motor mechanic, welder, etc. Before anyone, however, can qualify as an artisan he must undergo an apprenticeship. The apprentice learns all the aspects of his trade through practical experience and under the supervision of skilled artisans and is, in addition, obliged to attend theoretical courses at technical colleges or technical institutes. After that he, as an artisan, works, for example, with machines which have been designed by the engineer and assembled by the technician.

In the RSA the training of apprentices is undertaken by various government undertakings and quite a number of large and smaller industries. Approximately seventeen of these industries, of which some provide training in more than forty artisan fields, collaborate closely for this purpose with the Department of Labour. (More information about this is given further on in this book, see p. 23.) The training of apprentices is furthermore subject to the Apprenticeship Act, Act No. 37 of 1944, which is administered by the Department of Labour in co-operation with the Department of National Education. Technical colleges and technical institutes offer theoretical tuition for obtaining various Technical Certificates and Diplomas. The attendance of these classes by apprentices takes place as far as possible through the group training scheme (block-release) which usually comprises full-time attendance over a period of approximately eleven weeks annually and which may be followed, if necessary, by part-time classes to be attended after working hours. In some cases correspondence courses for apprentices are offered by the Division External Studies (Correspondence Courses) of the Witwatersrand College for Advanced Technical Education.

After the designation of a trade in terms of the Apprenticeship Act a contract of apprenticeship must be entered into by the minor prospective apprentice, his guardian and his employer in the trade. The Registrar of Apprentices registers the contract on the recommendation of the apprenticeship committee concerned, after which the contract is binding on the parties. Hereby the apprentice undertakes, inter alia

- to bind himself as an apprentice to the employer mentioned;
- to serve his employer faithfully, honestly and diligently and to comply with all legal orders and requirements;
- to regard all information concerning the employer's firm as confidential;
- to have no interests directly or indirectly in another business or concern as a paid agent or a servant;
- not to be absent from his work without permission from the Registrar;
- to attend the prescribed technical classes, write the examinations and to behave himself properly in such classes and at such examinations.

The employer undertakes, inter alia

- to take on the apprentice for the prescribed period and to give him adequate instruction in the trade concerned;
- to pay the prescribed fees with regard to the technical training of the apprentice;
- to pay the prescribed wages;
- to hand in reports on the progress of the apprentice on request of the Apprenticeship Committee;
- to report any absence from work by the apprentice within seven days;
- to endorse the contract on completion of the apprenticeship and to send it to the Registrar.

Note: A breach of contract by one of the parties is not only of a civil nature, but is also a criminal offence.

Conditions of apprenticeship for each industry, including detailed training schedules and wages are published as a notice in the Government Gazette. Wages are subject to a minimum amount and may differ from one industry to another and from area to area. Conditions of apprenticeship are continually subject to changes and information in this respect may be obtained directly from the vocational counsellors of the Department of Labour. The addresses of their offices are given on p. 131.

As far as prospects of employment for artisans and apprentices are concerned it is enough to state that there is a great demand in all fields. The shortage of artisans, for example, has increased by 34 per cent from 1969 to 1971, and that of apprentices by 16 per cent. Broadly speaking, there are thus abundant employment opportunities in our country and the future is rosy for any youth who is prepared to put his shoulder to the wheel.

B. ADMISSION : REQUIREMENTS AND PROCEDURE

After a candidate has obtained either a Std 7, a Std 8 or an equivalent certificate according to the requirements of the artisan field in which he wishes to qualify, and he is not required by law to attend school, he may be registered as an apprentice in a designated trade with an employer in any of the industries concerned, provided the employer is able to provide suitable training. Prospective apprentices must, however, bear in mind that the above-mentioned are only the general minimum requirements and that some employers insist on higher educational qualifications, for example, a Std 9 or even a Std 10 Certificate for a specific artisan field. Exemption with regard to age and educational qualifications may be granted in meritorious cases by the Registrar of Apprentices on the recommendation of the apprenticeship committee concerned.

It is also recommended that candidates contact the Industrial Council of the industry under which the artisan field in which they are interested falls. Thus liaison can be established with the nearest or the numerous other industrial concerns which train apprentices. This will then give them an indication of the concerns which have vacancies for apprentices. The addresses of the Industrial Councils are given on p.132.

Apart from that candidates may present themselves for an aptitude test which may be conducted by the Department of Labour in any of its urban offices in Cape Town, Port Elizabeth, East London, Durban, Pretoria, Johannesburg, Kimberley, Bloemfontein and Windhoek. Should the number of candidates justify it, the Department may send out officials to central test centres in the country to conduct the test and to advise candidates. By taking this test it can be determined which artisan field is the most suitable for a candidate.

C. PERIOD OF APPRENTICESHIP AND ARTISAN STATUS

The period of apprenticeship depends on what is prescribed for the industry and trade concerned and may vary from $2\frac{1}{2}$ years to 5 years. The period for most popular trades is usually four years. Artisan status may be obtained either after the apprenticeship has elapsed or by passing a voluntary or compulsory qualifying trade test at an earlier stage. The Registrar may, however, grant remission from the contract period for appropriate experience gained prior to the entering into of a contract. Compulsory and voluntary qualifying trade tests are conducted by the Department of National Education in conjunction with the Department of Labour at the Central Organization for Trade Testing at Olifantsfontein.

The voluntary tests were introduced mainly for two reasons. In the first place, in order to fill the ranks of the skilled artisans by reducing the period of apprenticeship of a talented apprentice. Secondly, to encourage apprentices to do their utmost in the practical work as well as in the theoretical classes, thus improving their academic qualifications and consequently becoming eligible for artisan status at an earlier stage. Apprentices should also remember though, that although the trade test is a practical test, the theoretical knowledge is complementary to passing the test.

The time when a voluntary qualifying trade test may be taken, is determined by the academic qualifications of an apprentice obtained before or during his apprenticeship. Thus remission from the contract period may be granted and artisan status, according to circumstances, may even be obtained after two years. By way of example, the conditions in force in the motor trade are given below as these conditions are fairly representative of conditions applicable in most industries. An apprentice who has obtained the educational qualifications or equivalent as mentioned in the following list, may take a voluntary qualifying trade test not earlier than the time mentioned:

Educational qualifications obtained before or during apprenticeship	Test may be undertaken voluntarily:	
	In trades requiring 5 years' training	In trades requiring 4 years' training

GROUP I

(a) Std 9 or equivalent certificate with Mathematics as one of the subjects passed	After $4\frac{1}{2}$ years	After $3\frac{2}{3}$ years
(b) Std 10 or equivalent certificate without Mathematics	do	do
(c) National Senior Certificate (non-technical) without Mathematics	do	do

GROUP II

- | | | |
|---|---------------|----------------------------|
| (a) Std 10 or equivalent certificate with Mathematics as a subject passed | After 4 years | After $3\frac{1}{4}$ years |
| (b) National Senior Certificate (non-technical)(Matriculation Exemption) with Mathematics as a subject passed | do | do |
| (c) Artisan Theory passed on NTC II level | do | do |

GROUP III

- | | | |
|--|----------------------------|---------------|
| (a) National Trade School Certificate | After $3\frac{1}{2}$ years | After 3 years |
| (b) National Junior Certificate (Technical) with Workshop Practice as a subject passed | do | do |
| (c) National Technical Certificate, Part II | do | do |
| (d) National Intermediate Certificate (Technology) without Workshop Practice as one of the subjects passed | do | do |

GROUP IV

- | | | |
|---|---------------|----------------------------|
| (a) National Technical Certificate, Part III | After 3 years | After $2\frac{1}{2}$ years |
| (b) National Intermediate Certificate (Technology) with Workshop Practice as a subject passed | do | do |
| (c) National Senior Certificate (Technology) without Workshop Practice | do | do |
| (d) National Diploma for Technicians, Part A (Complete course) | do | do |

GROUP V

- | | | |
|---|----------------------------|---------------|
| National Senior Certificate (Technology) with Workshop Practice as a subject passed | After $2\frac{1}{2}$ years | After 2 years |
|---|----------------------------|---------------|

Diploma for artisans

Although no legal provision has been made the Department of Labour, at the instigation of the National Apprenticeship Board, issues a Trade Diploma to the apprentices who have passed the prescribed trade test.

D. THEORETICAL COURSES FOR APPRENTICES

(1) Remarks

Although the NTC I (N1), NTC II (N2) and NTC III (N3) certificates will be awarded on a minimum of three subjects as indicated for the different courses, it is expected that the apprentices attending block release classes must study at least four of

the subjects indicated for each course.

Employers will advise their apprentices of their conditions of employment as influenced by achievement of academic qualifications.

Training institutions will advise students at the time of enrolment on how to select subjects to the best advantage for possible future advanced studies. The theoretical courses for a few apprenticeship fields have still to be compiled by the Department of National Education.

(2) Introductory Course

In the case of apprentices who are indentured while their qualifications do not measure up to the prescribed minimum requirements, it is recommended that such apprentices follow the Introductory Course.

Note: There will be no national examinations or certificates and only internal promotion examinations will be conducted.

Languages

English and Afrikaans

The purpose of the teaching is to build up the pupils' proficiency in the languages by means of:

Reading and discussing topical events appearing in daily papers and journals; reading, discussing and writing summaries on reports concerning trade and industrial topics;

writing personal and business letters;

writing reports on personal experiences, e.g. a visit to a workshop or factory;

spelling, punctuation and grammar as required for the above.

Calculations

Mental arithmetic, with repeated oral exercise, is demanded in addition to written work.

Tables up to 12; addition, subtraction, multiplication and division of whole numbers; simple fractions and decimals, including metric system, factors, L.C.M. and H.C.F.; square roots; percentage; simple interest, simple calculations of cost.

Angles, rectangles, triangles, circle; perimeter, circumference and area thereof.

Symbolic notation: introduction by means of the perimeter, circumference and area formulae from the above. Addition and subtraction of terms and expressions; multiplication and division of like and unlike terms (positive quantities only); solution of simple equations; substitution in simple practical formulae.

Statistical graphs.

Drawing

The correct use of drawing instruments: scale rules, compass, divider, set squares and protractor, drawing pencils and rubber.

Geometric constructions in connection with angles, triangles, etc., including experimental proofs of simple geometric facts, e.g. any two sides of a triangle are together greater than the third side, or the longest side of a triangle lies opposite the

greatest angle, or the sum of the angles of a triangle = 180° etc.

Basic drawing principles in accordance with Standard Specifications. Printing and dimensioning.

Trade knowledge

History and development of the trades - building, mechanical and electrical, etc.

Industrial "civics": the role of the apprentice in industry; human relations between apprentice, tradesman, foreman, engineer or manager; the influence of industry on man and beast; the craftsman as link between the community and the machine.

Description, sketching and use of general hand tools.

Accident prevention and safety in industry. Elementary first aid.

(3) STRUCTURE OF COURSES FOR THE NATIONAL TECHNICAL CERTIFICATE PARTS I, II AND III

COURSES IN ENGINEERING SUBJECTS

The certificates are awarded on a minimum of THREE subjects selected as follows:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: ONE of the following N1 trade theory subjects:

Aircraft Electrical Theory	Foundry Theory
Aircraft Instrument Trade Theory	Metalworkers' Theory
Aircraft Maintenance Theory	Motor Bodywork Theory
Aircraft Metalwork Theory	Motor Electrical Theory
Armature Winding Theory	Motor Trade Theory
Boatbuilding Theory	Plant Operation Theory
Diesel-electrical Theory	Radio Theory
Electrical Trade Theory	Refrigerator Trade Theory
Electroplating Theory	Rigging Theory
Fitting and Machining Theory	Telecom Trade Theory

Group 2: TWO from:

Applied Science N1 OR Printer's Science N1 (only electroplaters)
Mathematics N1
Plating and Structural Steel Drawing N1 OR Technical Drawing N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: ONE of the following N2 trade theory subjects:

Aircraft Electrical Theory	Fitting and Machining Theory
Aircraft Instrument Trade Theory	Instrument Trade Theory
Aircraft Maintenance Theory	Motor Trade Theory
Aircraft Metalwork Theory	Motor Bodywork Theory
Armature Winding Theory	Motor Electrical Theory
Boatbuilding Theory	Moulding Theory
Construction Plant Trade Theory	Office Equipment Theory
Diesel Trade Theory	Patternmakers' Theory
Diesel-electrical Theory	Plant Operation Theory
Electroplating Theory	Platers and Structural
Electro-mechanics Theory	Steelworkers' Theory
Electrical Trade Theory	Railway Signalling Theory
Elevator Trade Theory	Radio Theory

Railway Vehicle Building Theory	Scale Fitting Theory
Refrigerator Trade Theory	Telecom Trade Theory
Rigging Theory	Toolmaking Theory
Sheetmetal Work Theory	Vehicle Building Theory
Smithing Theory	Welding Theory

Group 2: TWO from:

Applied Science N2 OR Printer's Science N2 (only electroplaters)
 Mathematics N2
 Plating and Structural Steel Drawing N2 OR Technical Drawing
 N2 OR
 Applied Electronics N2 (see remark below)

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: ONE of the following N3 trade theory subjects:

Aircraft Electrical Theory	Moulding Theory
Aircraft Instrument Trade Theory	Office Equipment Theory
Aircraft Maintenance Theory	Patternmaking Theory
Aircraft Metalwork Theory	Plant Operation Theory
Armature Winding Theory	Platers and Structural Steelworkers' Theory
Boatbuilding Theory	Railway Signalling Theory
Construction Plant Trade Theory	Radio Theory
Diesel Trade Theory	Railway Vehicle Building Theory
Diesel-electrical Theory	Refrigerator Trade Theory
Electroplating Theory	Rigging Theory
Electro-mechanics Theory	Sheetmetal Work Theory
Electrical Trade Theory	Smithing Theory
Elevator Trade Theory	Scale Fitting Theory
Fitting and Machining Theory	Telecom Trade Theory
Instrument Trade Theory	Toolmaking Theory
Motor Trade Theory	Vehicle Building Theory
Motor Bodywork Theory	Welding Theory
Motor Electrical Theory	

Group 2: TWO from:

Applied Science N3 OR Printer's Science N3 (only electroplaters)
 Mathematics N3
 Plating and Structural Steel Drawing N3 OR
 Technical Drawing N3 OR
 Applied Electronics N3 (see remark below)

Remark: Applied Electronics N2 and N3

Applied Electronics may be taken as an alternative to Technical Drawing for any trade in which the Principles of Electronics apply.

BUILDING COURSES

The certificates are awarded on a minimum of THREE subjects selected as follows:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: ONE from the following N1 trade theory subjects:

Boatbuilding Theory	Shipbuilding Theory
Bricklaying and Plastering Theory	Upholstery and Trimming Theory
Painting and Decorating Theory	Woodwork Theory
Plumbing Theory	

Group 2: TWO from:

Building Drawing N1 OR Furniture Design N1 OR Technical Drawing
N1
Building Science N1 OR Applied Science N1
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: ONE from the following N2 trade theory subjects:

Boatbuilding Theory	Signwriting Theory
Bricklaying and Plastering Theory	Stone-work Theory
Carpentry and Joinery Theory	Upholstery and Trimming Theory
Furniture Making Theory	Wood Machining Theory
Furniture Polishing Theory	
Painting and Decorating Theory	
Plumbing Theory	
Shipbuilding Theory	

Group 2: TWO from:

Building Drawing N2 OR Furniture Design N2 OR Technical Drawing
N2
Building Science N2 OR Applied Science N2
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: ONE from the following N3 trade theory subjects:

Boatbuilding Theory	Plumbing Theory
Bricklaying and Plastering Theory	Shipbuilding Theory
Carpentry and Joinery Theory	Signwriting Theory
Furniture Making Theory	Stone-work Theory
Furniture Polishing Theory	Upholstery and Trimming Theory
Painting and Decorating Theory	Wood Machining Theory

Group 2: TWO from:

Building Drawing N3 OR Furniture Design N3 OR Technical
Drawing N3
Building Science N3 OR Applied Science N3
Mathematics N3

See also training of General Building Foreman p.84.

COURSES IN THE DIAMOND CUTTING INDUSTRY

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Compulsory subjects

Diamond Trade Theory N1
Mathematics N1
Applied Science N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Compulsory subjects

Diamond Trade Theory N2
Mathematics N2
Applied Science N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Compulsory subjects

Diamond Trade Theory N3

Mathematics N3

Applied Science N3

Note: Apprentices in the Diamond Cutting Industry must receive 6 hours a week tuition on a part-time basis.

HAIRDRESSERS' COURSES

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1:

Hairdressing Laboratory Work I

Hairdressing Theory I

Group 2: ONE from:

Art for Hairdressing

Salon Services and Department

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1:

Hairdressing Laboratory Work II

Hairdressing Theory II

Group 2: ONE from:

Physiology and Public Health

Salon Science I

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1:

Hairdressing Laboratory Work III

Hairdressing Theory III

Group 2: ONE from:

Salon Science II

Salon Management

Remarks: National Technical Certificates Parts I, II and III (Hairdressers)

Admission qualifications: For admission to the course, the candidate shall be required to have passed Std 7 and reached the minimum age of 16 years by 1 January of his year of training in hairdressing.

Duration of the course: The course extends over three years but the following are taken into consideration:

- If an apprentice has followed a full-time one-year course at an approved training institution of the Department of National Education, and has completed the N1 course in the year's first semester and the N2 course in the second semester, then such training is regarded as the first year of the three years of training.
- An apprentice who is in possession of a Standard 10 Certificate or equivalent receives a reduction of 9 months from the stated training period, provided that the school-leaving qualifications include Mathematics as a subject. (Ref. Government Gazette No. 3033 of 26 March 1971, No. R468)
- The Hairdressing Industry, Witwatersrand
In respect of the above-mentioned area, the Minister of Labour has made exceptions which are contained in the Government Gazette No. 3484 of 5 May 1972.

Systems of training for hairdressers

- (a) Full-time: The course comprises full-time training of one year at a college of the Department. The full N1 course is offered in the first semester and the full N2 course in the second semester.

At the end of each semester the theoretical and the practical examinations in the two courses are completed.

After successful completion of the one-year full-time course, that is after the N1 and N2 certificates have been obtained, and the student has been working in a salon, the Registrar of Apprentices will consider granting a reduction of one year in the training period. The apprentice may accordingly take his trade test after two years' experience after his full-time training in a salon.

The student is not apprenticed during the year's full-time training at a college of the Department, since he is not attached to a salon or indentured to an employer.

- (b) Day Release: In the case of day release, the student is an apprentice attached to a salon, under an employer to whom he is indentured.

The employer is compelled to release the apprentice one day a week to attend classes of 8 hours a day at an approved training institution.

This training takes the apprentice one full year for the completion of the N1 course and one full year for the completion of the N2 course.

In the case of the N3 course the employer is not compelled to release the apprentice to attend the course. The time given to the apprentice rests with the employer.

Classes are normally held after working hours, for example on the one afternoon in the week when the salon is closed.

The N3 course is completed after one year's attendance at classes.

- (c) Classes after hours: In cases where day release does not operate, apprentices can attend classes after hours at an institution. Half the study time generally falls in the employer's time and the other half in the apprentice's own time.

- (d) Correspondence courses: In cases where apprentices are unable to attend classes, a correspondence course must be followed. At present this course is offered by the Witwatersrand College for Advanced Technical Education.

Practical examinations (Laboratory Work)

These examinations can be taken only at the following centres:

Pretoria College for Advanced Technical Education
Witwatersrand College for Advanced Technical Education
Port Elizabeth College for Advanced Technical Education
Natal College for Advanced Technical Education
Cape College for Advanced Technical Education
Technical Institute, Tygerberg, Bellville
Technical College, East London
Technical College, Springs
Technical College, Bloemfontein
Department of Education, Windhoek
Technical Institute, Worcester
Technical College, Krugersdorp

JEWELLERS' COURSES

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Jewellers' Theory N1 Group 2: TWO from:
Applied Science N1
Drawing, Design and Model-
ling N1
Jewellers' Materials N1
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Jewellers' Theory N2 Group 2: TWO from:
Applied Science N2
Drawing, Design and Model-
ling N2
Gemology N2
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Jewellers' Theory N3 Group 2: TWO from:
Applied Science N3
Drawing, Design and Model-
ling N3
Gemology N3
Mathematics N3

COURSES FOR MOTOR MACHINING THEORY

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Motor Machining Group 2: TWO from:
Theory N1 Applied Science N1
Mathematics N1
Technical Drawing N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Motor Machining Group 2: TWO from:
Theory N2 Applied Science N2
Mathematics N2
Technical Drawing N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Motor Machining Group 2: TWO from:
Theory N3 Applied Science N3
Mathematics N3
Technical Drawing N3

(4) COURSES FOR RADIO AND TELEVISION MECHANICIANS (See p.28).

(5) STRUCTURE OF COURSES FOR THE NATIONAL PRINTERS' CERTIFICATE PARTS I, II AND III

Carton Making

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Carton Making Theory N1 Group 2: TWO from:
Mathematics N1 OR Printers'
Calculations N1
Printers' Science N1
Technical Drawing N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Carton Making Theory N2 Group 2: TWO from:
Mathematics N2 OR Printers'
Calculations N2
Printers' Science N2
Warehouse and Bindery
Theory N1

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Carton Making Theory N3 Group 2: TWO from:
Afrikaans A (Printers) OR
English A (Printers)
Mathematics N3 OR Printers'
Calculations N3
Printers' Science N3

Composing, and Composing including Machine Minding

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: TWO from: Group 2: ONE from:
Hand Composition Theory N1 Mathematics N1 OR Printers'
Afrikaans A or B (Printers) Calculations N1
OR English A or B (Printers) Typewriting (Junior)
(The theory of one language
is compulsory)

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Hand Composition Group 2: TWO from:
Theory N2 Afrikaans A or B (Printers)
(if not already taken) OR
English A or B (Printers)
(if not already taken)
Mathematics N2 OR Printers'
Calculations N2
Platemaking Theory

Note: If one language was passed during Part I of the course at the A level, the second language may be passed at the A or B level.

Compositor Apprentices are expected to have passed both English (Printers) and Afrikaans (Printers) during Part I and/or Part II before a National Printers' Certificate Part II will be awarded.

(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Hand Composition Theory N3	<u>Group 2:</u> TWO from: Machine Composition Theory Mathematics N3 OR Printers' Calculations N3 Phototypesetting and Film Make-up Theory
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Corrugated Board and Container Machine Minding

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Letterpress Machine Minding Theory N1 (Corrugated Board)	<u>Group 2:</u> TWO from: Applied Science N1 Mathematics N1 Technical Drawing N1
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Letterpress Machine Minding Theory N2 (Corrugated Board)	<u>Group 2:</u> TWO from: Applied Science N2 Mathematics N2 Technical Drawing N2
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(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Letterpress Machine Minding Theory N3 (Corrugated Board)	<u>Group 2:</u> TWO from: Applied Science N3 Mathematics N3 Technical Drawing N3
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Machine Minding (Packaging)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Packaging Theory N1	<u>Group 2:</u> TWO from: Afrikaans A (Printers) OR English A (Printers) Fitting and Machining Theory N1 Mathematics N1 OR Printers' Calculations N1 Printers' Science N1
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Packaging Theory N2	<u>Group 2:</u> TWO from Mathematics N2 OR Printers' Calculations N2 Printers' Science N2 Warehouse and Bindery Theory N1
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(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Packaging Theory N3

Group 2: TWO from:

Afrikaans A or B (Printers)
(if not already taken) OR
English A or B (Printers)
(if not already taken)
Mathematics N3 OR
Printers' Calculations N3
Printers' Science N3

Note: If one language was passed during the National Printers' Certificate Part I at the A level, the second language may be passed at the A or B level.

Machine Minding (Printers)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: TWO from:

Gravure Machine Minding
Theory N1
Letterpress Machine Minding
Theory N1
Lithography Theory N1

Group 2: At least ONE from:

Mathematics N1 OR
Printers' Calculations N1
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: TWO from:

Gravure Machine Minding
Theory N2
Letterpress Machine Minding
Theory N2
Lithography Theory N2

Group 2: At least ONE from:

Mathematics N2 OR
Printers' Calculations N2
Printers' Science N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: TWO from:

Gravure Machine Minding
Theory N3
Letterpress Machine Minding
Theory N3
Lithography Theory N3

Group 2: At least ONE from:

Mathematics N3 OR
Printers' Calculations N3
Printers' Science N3

Monotype Caster Minder Mechanics

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Monotype Theory N1

Group 2: TWO from:

Fitting and Machining
Theory N1
Mathematics N1 OR Printers'
Calculations N1
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Monotype Theory N2

Group 2: TWO from:

Afrikaans A (Printers) OR
English A (Printers)
Mathematics N2 OR Printers'
Calculations N2
Printers' Science N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Monotype Theory N3
(including Photosetting)

Group 2: TWO from:

Afrikaans A or B (Printers)
(if not already taken) OR
English A or B (Printers)
(if not already taken)
Mathematics N3 OR Printers'
Calculations N3
Printers' Science N3

Note: If one language was passed during the National Printers' Certificate Part II at the A level, the second language may be passed at the A or B level.

Printers' Mechanics (General)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1:

Applied Science N1
Fitting and Machine Theory N1
Mathematics N1
Technical Drawing N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: ONE from:

Gravure Machine Minding
Theory N1
Letterpress Machine Minding
Theory N1
Lithography Theory N2

Group 2: TWO from:

Applied Science N2
Mathematics N2
Technical Drawing N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: ONE from:

Gravure Machine Minding
Theory N2
Letterpress Machine Minding
Theory N2
Lithography Theory N3

Group 2: TWO from:

Applied Science N3
Mathematics N3
Technical Drawing N3

Printers' Mechanics (Electrical)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Electrical Trade Theory N1	<u>Group 2:</u> TWO from: Applied Science N1 Technical Drawing N1 Mathematics N1
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Electrical Trade Theory N2	<u>Group 2:</u> TWO from: Applied Science N2 Mathematics N2 Technical Drawing N2
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(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Armature Winding Theory N3	<u>Group 2:</u> TWO from: Applied Science N3 Mathematics N3 Technical Drawing N3
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Printers' Mechanics (Stationery and Envelope Manufacturing)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Letterpress Machine Minding Theory N1	<u>Group 2:</u> TWO from: Applied Science N1 Mathematics N1 Technical Drawing N1
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Fitting and Machining Theory N2	<u>Group 2:</u> TWO from: Applied Science N2 Mathematics N2 Technical Drawing N2
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(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Fitting and Machining Theory N3	<u>Group 2:</u> TWO from: Applied Science N3 Mathematics N3 Technical Drawing N3
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Printers' Mechanics (Typesetting)

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Fitting and Machining Theory N1	<u>Group 2:</u> TWO from: Applied Science N1 Mathematics N1 Technical Drawing N1
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Machine Composition Theory (Line Setting)	<u>Group 2:</u> TWO from: Applied Science N2 Mathematics N2 Technical Drawing N2
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(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Machine Composition Theory (Monotype)	<u>Group 2:</u> TWO from: Applied Science N3 Mathematics N3 Technical Drawing N3
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Engraving and Die Sinking, Photogravure Engraving, Photo-Lithography and Process Engraving

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

<u>Group 1:</u> Photo Mechanics' Theory N1	<u>Group 2:</u> TWO from: Afrikaans A (Printers) OR English A (Printers) Mathematics N1 OR Printers' Calculations N1 Printers' Science N1 Drawing for Printers
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(b) NATIONAL PRINTERS' CERTIFICATE PART II

<u>Group 1:</u> Photo Mechanics' Theory N2	<u>Group 2:</u> TWO from: Afrikaans A or B (Printers) (if not already taken) OR English A or B (Printers) (if not already taken) Mathematics N2 OR Printers' Calculations N2 Printers' Science N2
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Note: If one language was passed during the National Printers' Certificate Part I at the A level, the other language may be passed at the A or B level.

(c) NATIONAL PRINTERS' CERTIFICATE PART III

<u>Group 1:</u> Photo Mechanics' Theory N3	<u>Group 2:</u> TWO from: Mathematics N3 OR Printers' Calculations N3 Printers' Science N3 Phototypesetting and Film Make-up Theory
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Rotary Stereotyping and Rotary Machine Minding

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Rotary Machine
Minding Theory N1

Group 2: TWO from:
Afrikaans A (Printers) OR
English A (Printers)
Mathematics N1 OR Printers'
Calculations N1
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Rotary Machine
Minding Theory N2

Group 2: TWO from:
Mathematics N2 OR Printers'
Calculations N2
Printers' Science N2
Warehouse and Press Work
Theory

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Rotary Machine
Minding Theory N3

Group 2: TWO from:
Mathematics N3 OR Printers'
Calculations N3
Platemaking Theory
Printers' Science N3

Stereotyping

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Stereotyping Theory N1

Group 2: TWO from:
Letterpress Machine Minding
Theory N1
Mathematics N1 OR Printers'
Calculations N1
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Stereotyping Theory N2

Group 2: TWO from:
Letterpress Machine Minding
Theory N2
Mathematics N2 OR Printers'
Calculations N2
Printers' Science N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Plate Making Theory

Group 2: TWO from:
Hand Composition Theory N1
Mathematics N3 OR Printers'
Calculations N3
Printers' Science N3

Bookbinding, Bookbinding/Ruling, Cutting including Printers'
Warehousing, Printers' Warehousing including Cutting, Ruling

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Warehouse and Bindery
Theory N1

Group 2: TWO from:
Afrikaans A (Printers) OR
English A (Printers)
Mathematics N1 OR Printers'
Calculations N1
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Warehouse and Bindery
Theory N2

Group 2: TWO from:
Afrikaans A or B (Printers)
(if not already taken) OR
English A or B (Printers)
(if not already taken)
Mathematics N2 OR Printers'
Calculations N2
Printers' Science N2

Note: If one language was passed during the National Printers' Certificate Part I at the A level, the other language may be passed at the A or B level.

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: (Compulsory subjects)
Warehouse and Bindery Theory N2
Printers' Science N3
Mathematics N3 OR Printers'
Calculations N3

Group 2: (Not compulsory
subjects) ONE from:
Afrikaans A or B (Printers)
(if not already taken) OR
English A or B (Printers)
(if not already taken) OR
Letterpress Machine Minding
Theory N1

E. INDUSTRIES AND DESIGNATED TRADES

The industries mentioned here have applied through the agency of their Industrial Councils to the Department of Labour for Apprenticeship Committees. These committees function under the supervision of the Department and the provisions for the training of apprentices recommended by them for their particular industry, are approved by the Minister of Labour. The industrial councils are consequently very much concerned with the training of apprentices and are also aware of any existing vacancies for apprentices.

AEROSPACE INDUSTRY

Aircraft Electrician's Work
Aircraft Electronics
Aircraft Engine Fitting
Aircraft Instrument Mechanics
Aircraft Maintenance Mechanics
Aircraft Radar/Radiotrician's Work
Aircraft Sheetmetal Work
Aircraft Spraypainting
Aircraft Welding
Airframe Fitting
Carpentry
Electrician's Work

Electromechanics
Electroplating
Fitting and Turning
Fitting (including Machining)
Machine Tool Setting
Milling (Electromechanics)
Patternmaking
Plastics and Fibreglass Work
Tool and Jigmaking
Turning (including Machining)

AUTOMOBILE MANUFACTURING INDUSTRY

Automotive Electrician's Work
Automotive Machining and Fitting
Die and Press Toolmaking
Electrician's Work
Electromechanics
Fitting and Turning
Machine Fitting (including
Hydraulics)

Motor Mechanics
Patternmaking
Tool and Jigmaking
Turning (including Machining)
Welding

BUILDING INDUSTRY

Bricklaying
Bricklaying and Plastering
Carpentry
Carpentry and Joinery
Ceiling Erecting
Electrical Wiring
Joinery
Letter Cutting and Stone
Decorating
Marble Masonry
Painting and Decorating
Plastering
Plumbing
Polishing

Reconstructed Stone and
Terrazzo Working
Resilient Floor and Wall
Covering
Saw Doctoring
Sheetmetal Work
Shopfitting (Architectural
Metal Working)
Shopfitting (Wood)
Signwriting
Stone Masonry
Wall and Floor Tiling
Woodmachining

COAL MINING INDUSTRY

Electrician's Work
Fitting and Turning
Plating (Boilermaking)

DIAMOND CUTTING INDUSTRY

Diamond Brillianceering
Diamond Crossworking

Diamond Cutting
Diamond Sawing

ELECTRICITY SUPPLY UNDERTAKING

Automotive Electrician's Work
Blacksmithing
Bricklaying
Bricklaying (Refractory)
Carpentry and Joinery
Diesel Mechanics
Electrician's Work
Fitting and Turning
Instrument Mechanics (Industrial)

Motor Mechanics
Painting and Decorating
Patternmaking
Plating (Boilermaking)
Plumbing
Rigging
Welding

EXPLOSIVES AND ALLIED INDUSTRIES

Blacksmithing
Boilermaking
Boilermaking/Welding
Bricklaying (Refractory and/or
Chemical)
Chemical Plumbing (including Sheet=
metal working)
Diesel Mechanics
Electrician's Work
Fitting and Turning

Fitting (including Machining)
Instrument Mechanics
(Industrial)
Painting
Rigging
Turning (including Machining)
Welding
Woodmachining
Woodworking (Carpentry and
Joinery)

FURNITURE INDUSTRY

Orange Free State, Transvaal and Port Elizabeth

Cabinetmaking (including Veneering)	Furniture Polishing
Framemaking (including Chairmaking)	Upholstering
Furniture Machining	Woodcarving (Hand)

East London

Cabinetmaking (including Chairmaking and Framemaking)	Upholstering
Furniture Polishing	Veneering
Furniture Wood Machining	Woodcarving (Hand)

Cape Division

Cabinetmaking	Saw Doctoring
Framemaking (including Chairmaking)	Upholstering
Furniture Machining	Veneering
Furniture Polishing	Woodcarving

Natal

Cabinetmaking (including Veneering)	Furniture Polishing
Framemaking (including the making of frames for chairs requiring upholstery)	Upholstering
Furniture Machining	Woodcarving (Hand)

GOVERNMENT UNDERTAKINGS

Armament Fitting	Moulding
Automotive Electrician's Work	Painting and Decorating
Automotive Machining and Fitting	Panelbeating (including Spray-painting)
Blacksmithing	Patternmaking
Bricklaying	Plastering
Carpentry	Plating and Boilermaking
Carpentry and Joinery	Plating (including Welding)
Construction Plant Mechanics	Plumbing
Coppersmithing	Radiomechanics (Communication)
Diesel Fitting	Radiotrician's Work
Diesel Mechanics	Refrigeration Mechanics
Die Sinking and Engraving	Rigging
Electrical Fitting	Sailmaking and Upholstering
Electrical Wiring	Sheetmetal Work
Electrician's Work	Shipbuilding
Electromechanics	Shop Fitting (Wood)
Fitting and Turning	Signwriting
Fitting (including Machining)	Tool and Jigmaking
Instrumentmaking	Turning (including Machining)
Instrument Mechanics	Welding
Joinery	
Machining and Tool Setting	
Marine Fitting	
Marine Pipe Fitting	
Milling (Electromechanics)	
Motor Mechanics	

HAIRDRESSING INDUSTRY

Gentlemen's Hairdressing
Ladies' Hairdressing

JEWELLERS' AND GOLDSMITHS' INDUSTRY

Diamond and Jewel Setting
Diamond and Jewel Setting (excluding marcasite setting)
Engraving
Mounting and Precious Metal Working
Precious Metal Working and Mounting (including diamond mounting)
but excluding marcasite working)
Precious Metal Working (including diamond mounting)

METAL INDUSTRY

Architectural Metal Working	Moulding
Armature Winding	Patternmaking
Blacksmithing	Plating
Boatbuilding and Shipwrighting (Wood)	Plating/Boilermaking
Bricklaying (Refractory)	Plumbing
Carpentry	Radio and Television Mechanics
Coppersmithing	Radio Communication Servicing
Diesel Fitting	Refrigeration Mechanics (Commercial)
Die Sinking and Engraving	Rigging
Domestic Appliances Mechanics	Roll Tool and Template Making
Domestic Radio Servicing	Roll Turning
Electrical Wiring	Scale Fitting
Electrician's Work	Sheetmetal Work
Electrician's Work (Engineering)	Telecommunication Electrician's Work
Electromechanics	Telecommunication Mechanics
Electroplating	Tool, Jig and Diemaking
Fitting	Tractor Mechanics
Fitting and Turning	Turning
Instrument Mechanics (Industrial Instrumentation and Process Control)	Vehicle Body Building (Compo= site)
Lift Mechanics	Vehicle Body Building (Metal)
Milling (Electromechanics)	Welding
Motor Mechanics	

MINING INDUSTRY

Blacksmithing	Moulding
Bricklaying	Painting and Decorating
Carpentry	Patternmaking
Carpentry and Joinery	Plating
Diesel Mechanics	Plating (Boilermaking)
Electrician's Work	Plumbing
Fitting (including Machining)	Rigging and Roping
Fitting and Turning	Sheetmetal Work
Instrument Mechanics (Industrial)	Welding
Motor Mechanics	

MOTOR INDUSTRY

Auto Body Repairing	Motor-cycle and Scooter Mecha= nics
Automotive Acetylene and Electrical Welding	Motor Mechanics
Automotive Electrician's Work	Panel Beating (including Spray Painting)
Automotive Machining and Fitting	Panel Beating (including Trim= ming)
Automotive Sheetmetal Working	Spray Painting
Automotive Turning and Machining	Tool and Diemaking
Diesel Mechanics	Tool and Jigmaking
Engine Fitting	Tractor Mechanics
Fitting and Turning	
Fuel Injection Mechanics	

Motor Industry (cont.)

Trimming
Trimming (including Spray Painting)
Vehicle Body Building
Woodmachining

PRINTING INDUSTRY

Bookbinding	Photogravure Engraving
Bookbinding/Ruling	Photo-Lithography
Carton Making	Printers' Mechanics (Electrical)
Composing	Printers' Mechanics (General)
Composing (including Machine Minding)	Printers' Mechanics (Stationery and Envelope Manufacture)
Corrugated Board and Container Machine Minding	Printers' Mechanics (Typesetting)
Cutting (including Printers' Warehousing)	Printers' Warehousing (including Cutting)
Engraving and Die Sinking	Process Engraving
Gravure Machine Minding	Rotary Stereotyping and Rotary Machine Minding
Letterpress Machine Minding	Ruling
Lithography	Stereotyping
Machine Minding (including Composing)	
Machine Minding (Packaging)	
Monotype Caster Minder Mechanics	

SOUTH AFRICAN RAILWAYS

Aircraft Electrician's Work	Milling
Aircraft Instrument Mechanics	Motor Mechanics
Aircraft Mechanics	Motor Vehicle Body Building
Aircraft Metalwork	Moulding
Aircraft Radiotrician's Work	Painting
Blacksmithing	Patternmaking
Boilermaking	Plumbing
Bricklaying	Rigging
Carpentry	Scales Fitting
Communications Radiotrician's Work	Sheetmetal Work
Construction Plant Mechanics	Shipwrighting
Diesel Electrical Fitting	Toolmaking
Electrician's Work	Trimming
Electrician's Work (armature winding)	Turning and Machining
Electrician's Work (signals)	Underframe Making
Electrician's Work (telecommunications)	Vehicle Building
Electroplating	Welding
Fitting (electric train shed)	
Fitting (steam)	
Instrument Mechanics	
Machining (wood)	

SUGAR MANUFACTURING AND REFINING INDUSTRY

Automotive Electrician's Work	Instrument Mechanics (Industrial)
Blacksmithing	Motor Mechanics
Bricklaying and Plastering	Moulding
Carpentry	Plating/Boilermaking
Diesel Fitting	Radio Communication Servicing
Diesel Mechanics	Turning (including Machining)
Electrician's Work	Welding
Electromechanics	
Fitting (including Machining)	

(4) COURSES FOR RADIO AND TELEVISION MECHANICIANS

(a) NATIONAL CERTIFICATE FOR RADIO AND TELEVISION MECHANICIANS
PART I

Electronic Systems I
Principles I
Calculations I
Trade Technique I

(b) NATIONAL CERTIFICATE FOR RADIO AND TELEVISION MECHANICIANS
PART II

Electronic Systems II
Principles II
Trade Technique II

(c) NATIONAL CERTIFICATE FOR RADIO AND TELEVISION MECHANICIANS
PART III

Electronic Systems III
Television III
Trade Technique III

Training centres

Colleges for advanced technical education: Pretoria, Witwaters= rand
Technical colleges: Bloemfontein, Brakpan, Congella, East London, Howard Place, Johannesburg, Pietermaritzburg, Port Elizabeth, Vereeniging.

F. FURTHER TRAINING POSSIBILITIES FOR ARTISANS

It is possible for an artisan to continue studying and, for example, advance to the status of a technician. Candidates in possession of the National Technical Certificate Part III or a Standard 10 Certificate or equivalent may continue to work while studying at colleges for advanced technical education, some technical colleges and a few technical institutes, where they can first obtain the National Certificate for Technicians, followed by the Higher National Certificate for Technicians.

According to the regulations of the Department of National Education a Certificate student who obtains 50% in all his subjects may change over to the course for the National Diploma for Technicians and supplement the missing subjects plus laboratory work and the subject General Studies. In order to obtain the Diploma the candidate must pass in six T1, six T2, six T3 and six T4 subjects, in addition to practical training.

Nowadays many technicians have an artisan background. In practice, especially in the private sector where there is a system of upgrading, many artisans are used on the technical level without any further formal training.

Artisan training and technician training often go hand in hand. A technician student in radio engineering, for example, qualifies for the National Diploma for Technicians after two years of theoretical training at a college for advanced technical education and two years' practical training. After the two years of theoretical training he may enter into a contract of apprenticeship and be granted exemption for the time when he studied full-time. Consequently he may obtain the NDT and artisan status simultaneously.

CHAPTER III

C A R E E R S I N P U B L I C S E R V I C E S

A. THE PUBLIC SERVICE

AIRPORT ASSISTANT

Requirements: Prospective candidates must be at least 18 years of age and not older than 35 years. Persons in possession of Std 8 or higher education qualifications enjoy preference.

Training: Takes place during ordinary hours of duty and includes, briefly, the following:

- Fire fighting and rescue work;
- loading area and related services; inter alia, the shunting of aircraft.

Vocational service: Airport Assistants are employed by the Department of Transport and are stationed at the different State airports through the Republic and South-West Africa.

The duties of the Airport Assistant are twofold, viz:

- Control of airport fires and rescue work, i.e. the safeguarding and protection of aircraft, passengers, airport buildings and other airport property against fire;
- loading area services and related services, i.e. the safe and effective parking of aircraft on the loading area and the handling of air freight and baggage.

Opportunities for advancement: Airport Assistants whose work is meritorious may be promoted to posts of Senior Airport Assistant and Principal Airport Assistant.

ARTISAN

Requirements: At least a Std 8 Certificate. A candidate has to undergo an aptitude test at the Department of Labour to ensure that he enters the right trade.

Training: To qualify as an artisan, an apprenticeship has to be served and completed. (See Chapter II.) The period of apprenticeship is five years if the apprentice has a Std 8 Certificate and four years if he has a Std 10 Certificate.

Vocational service: There are several Government departments requiring artisans in all sorts of trades. Among the wide variety of trades there are a few that are more generally in demand, e.g. that of bricklayer, electrician, fitter and turner, joiner, motor mechanic, painter and plumber. (See p. 25.)

Journeymen in the printing industry such as compositors, blockmakers, printers, bookbinders, proof-readers and machinists are employed and trained by the Government Printer.

Apart from the above-mentioned journeymen, there are also blacksmiths, boilermakers, fitters, metalsmiths, radio technicians, riggers, toolmakers and welders who work in the various Government departments.

Artisans in the Public Service work a five-day week. The departments employing artisans are Bantu Administration and Development, Forestry, Health, Agricultural Technical Services and Public Works.

Opportunities for advancement: The Artisan may advance to Artisan Instructor or he may be appointed Inspector of Works or Trade Testing Officer. The Inspector of Works and the Trade Testing Officer may in turn progress further.

ARTISAN INSTRUCTOR

Requirements: Persons who wish to be appointed as Artisan Instructors must hold at least a Std 8 Certificate; have served their apprenticeship; have extensive practical experience in their trade, and be able to mix with people and put their knowledge across. Higher technical qualifications and experience in a training institution will be a recommendation.

Training: To ensure that they keep abreast of the latest developments in their field, Artisan Instructors occasionally attend short training courses offered by other bodies.

Vocational service: Artisan Instructors in the service of the Department of Agricultural Technical Services are employed mainly at agricultural colleges where they instruct prospective farmers and farm labourers. Students at agricultural colleges also take a course in Agricultural Engineering which is offered by the Artisan Instructor. Artisan Instructors also give instruction at the short courses which are offered to farmers and farm labourers at the agricultural colleges during the holidays. The courses deal mainly with the maintenance of tractors, lorries, combines as well as with minor repair jobs. He is also responsible for the maintenance of workshops, buildings and implements at the agricultural college and experimental farms in the vicinity.

Artisan Instructors of the Department of Coloured, Rehoboth and Nama Relations present a number of courses to Non-Whites at Kromme Rhee.

Opportunities for advancement: Deserving cases are considered when posts for technicians have to be filled.

BUILDING CLERK

Requirements: Std 8 Certificate.

Training: In-service training supplemented by manuals and codes of practice, as well as by group discussions.

Vocational service: The State undertakes building projects to the value of millions of rands. Any building project entails a great deal of clerical work. One of the persons performing this function is the Building Clerk in the Public Works Department.

The duties are varied, being concerned mainly with a material control system and certain departmental workshop personnel matters, including, inter alia, the following: the opening of duty files; the distribution of work orders; the completion of stock requisitions; the costing of materials; the issue of rail warrants and bus tickets to workshop personnel; and control of the use of Government vehicles. Building Clerks perform their duties in offices situated at the various workshops of the Department.

Opportunities for advancement: Building Clerks can progress to Senior Building Clerks.

CLERICAL ASSISTANT

Requirements: At least a Std 8 Certificate. Although qualifications in Typewriting, Shorthand, Bookkeeping and commercial training are not prerequisites for appointment, they are nevertheless very desirable.

Training: Newcomers are trained in the work situation by experienced senior workers. In due course they attend an induction course arranged by the Public Service Commission.

Machine Operators receive intensive in-service training in the operation and handling of the various machines. Short courses offered by the firms which supply the machines, are attended during office hours. For programmers there is a specialized course at the Public Service Commission which may be attended only by selected candidates.

Vocational service: Owing to the differences in the aims and functions of the various Government departments the work of Clerical Assistants is of a varied nature. They perform duties in registry sections and financial sections, act as correspondence clerks and machine operators and are also considered for special posts.

Registry section: The Clerical Assistant performs activities such as the opening, entry and distribution of incoming post, the dispatching of outgoing letters and the filing of correspondence.

Financial section: The Clerical Assistant works with various books such as cashbooks, journals, ledgers, subsidiary books or personal ledgers and item registers. He/she also writes out receipts and cheques and undertakes the checking of wage sheets.

Correspondence Clerk: Correspondence includes, inter alia, the answering of letters, as well as the writing of letters to obtain information. In some departments the Clerical Assistants are responsible for the regular dispatch of printed letters requesting certain data. The more experienced Clerical Assistants are expected to take minutes during meetings.

Machine Operator: Many Government departments have machine rooms where Clerical Assistants act as machine operators and attend to punching machines, calculating machines, tabulators, grading machines, adding machines, etc.

Special posts: Nearly every department has one or more experienced Clerical Assistants who accompany the Parliamentary Sections from Pretoria to Cape Town each year as Parliamentary Assistants for the duration of the parliamentary session. There are also posts for Clerical Assistants at a number of embassies and legations abroad.

Opportunities for advancement: Clerical Assistants may be promoted Senior Clerical Assistants and later Special Grade Clerical Assistants.

With a view to the further promotion of efficiency in the Public Service, diploma courses (requirement is a Std 10 Certificate) in Public Administration, State Accounts and Finance (General and Inland Revenue) are offered by the colleges for advanced technical education. See Tertiary training outside universities and career opportunities 1977, (pp. 84, 90) for further details with regard to these courses.

COMMUNICATOR

Requirements: Std 8 Certificate. Preference will be given to candidates who possess higher qualifications; are able to type; or are familiar with radio reception and transmission equipment.

Training: In addition to practical in-service training, candidates receive theoretical training in the use of the telex machine and the radio telephone. Candidates usually undergo their training at the airport where they are stationed, or else at Jan Smuts Airport.

Vocational service: The Communicator is an officer in the Department of Transport, whose responsibility it is to furnish accurate data to all aircraft and airports at all times of the day or night. He has to maintain regular contact with the various airports, the Weather Bureau, etc. Communication is effected by telex machine or, where this is not feasible, by radio.

The Communicator's main function is to collect information from different sources, e.g. the Weather Bureau, various airports as well as overseas countries, and to issue reports on prevailing weather conditions, cyclones and anti-cyclones, air currents at different levels in the atmosphere, etc. This information is then relayed by air traffic controllers to the various pilots, who have to be kept abreast of weather conditions.

Opportunities for advancement: What with the rapid development, the enormous increase in air traffic, the high cost of commercial aircraft, not to mention all the human lives involved, the rôle of the Communicator is a vital one.

The line of promotion is as follows: Communicator, Senior Communicator, Chief Communicator and Control Communicator.

FARM ASSISTANT

Requirements: A farming background is desirable.

Training: In-service training from experienced Farm Foremen.

Vocational service: Most Farm Assistants are employed on the research farms of the Department of Agricultural Technical Services. The Farm Assistant helps the Farm Foreman with the supervision of the work done on the farm. In the absence of the Farm Foreman the Farm Assistant acts as foreman. The Farm Assistant is, inter alia, responsible for the care of the animals, the maintenance of the farm implements and he also has to supervise the labourers.

Farm Assistants on the farms of the Department of Health must be able to work alongside the patients who are receiving therapeutic treatment on the farms.

Opportunities for advancement: The Farm Assistant whose work is meritorious may be promoted Farm Foreman.

FARM FOREMAN

Requirements: The Farm Foreman must have a farming background.

Training: In-service training. The Training Section of the Public Service Commission assists the Transvaal Region from time to time in the presentation of farm managers' courses which are also attended by Senior Farm Foremen.

Vocational service: Agricultural research is done mainly on experimental farms of the Department of Agricultural Technical Services throughout the Republic. The Farm Foreman is responsible for the daily upkeep and general management of the experimental farms.

He plans and organizes White and Non-White labour on the farm and supervises the jobs that have to be done. He must organize the preparation of the fields for the planting of crops, the cultivation and the harvesting. It is also part of his work to do minor repairs to implements and machines. He must see to the careful handling and maintenance of irrigation equipment. The Farm Foreman is also responsible for the care of the livestock. He must dose the animals regularly against parasites and immunise them against diseases. He is also responsible for the research staff's quarters.

Farm Foremen employed by the Department of Social Welfare and Pensions work on settlements for the needy aged in the Warrenton, Knysna and Brits districts. They assist the settlers in farming matters and general maintenance work.

Opportunities for advancement: Farm Foremen whose work is meritorious and who have a Std 8 or equivalent Certificate and nine years' appropriate experience may be Promoted Technician. In the Department of Social Welfare and Pensions a Farm Foreman may progress to Farm Manager.

FINGERPRINT OFFICER

DEPARTMENT OF BANTU ADMINISTRATION AND DEVELOPMENT

Requirements: Std 8 Certificate. They must have excellent eyesight to be able to analyse fingerprints.

Training: Prospective fingerprint officers are trained intensively at the Training School of the Identification Section. The training includes theoretical training, in other words, how to distinguish between different pattern types by means of definitions, how to do ridge-counting and ridge-tracing, and to allocate alphabetical and numerical symbols to the findings. After the fingerprint officers have passed a theory test they undergo practical training under the direction of a Principal Fingerprint Officer.

Vocational service: With the aid of a fingerprint identification system, the Bantu Reference Bureau maintains a population register for the various Bantu nations. The fingerprint register consists of about 13 million sets of fingerprints of Bantu men and women. Any person whose fingerprints are on record can be identified beyond doubt by a trained fingerprint officer who has been given a full set of fingerprints.

The Fingerprint Identification Section of the Bantu Reference Bureau is in Pretoria. The Section is divided into four subsections, viz the Bantu Males Subsection, the Bantu Females Subsection, the Foreign Bantu Subsection and the Numerical Index Subsection.

Opportunities for advancement: For officers whose work is meritorious, there are excellent prospects of promotion to the following grades: Senior Fingerprint Officer, Principal Fingerprint Officer, Assistant Chief Fingerprint Officer and Under-Secretary: Identification.

FORESTRY CLERK

Requirements: Std 8 Certificate.

Training: In-service training under the supervision of the Forester.

Vocational service: The Forestry Clerk in the Department of Forestry is concerned mainly with the clerical work performed under the direct supervision of a Forester. His duties include staff matters involving correspondence on employment and the termination of service of White and Non-White employees, the handling of leave applications and cases of injuries on duty, as well as the issuing of permits to Bantu labourers. Among his general duties is the keeping of the rainfall register; the grazing register; the livestock register, and register of leases.

Marketing duties involve the ordering of poles, seedlings and other forest produce. He is also responsible for the purchasing of stocks, the handling of mail and State moneys.

Duties are performed in the forest reserve offices of the nine forestry regions, viz Western Cape, Southern Cape, Tsitsikamma, Eastern Cape, Natal, Zululand, Southern Transvaal, Eastern Transvaal and Northern Transvaal. Official accommodation is provided since the forest reserves are not situated near towns and cities.

Opportunities for advancement: After obtaining a Std 10 Certificate, a Forestry Clerk may apply for transfer to the clerical division of the Department.

GARDEN LABOURER

Requirements: The Department of Public Works reserves these posts especially for White men and boys with low qualifications but who are physically fit. The minimum age is 16 years. The subsidised labour scheme of the Department of Labour provides for the placing of partially disabled persons as garden labourers.

Training: In-service training.

Vocational service: The garden labourers who are physically strong are responsible for hoeing, preparing soil mixtures, taking out trees or sawing off branches, pruning, digging, bedding out plants and the preparation of beds. The partially disabled labourers are responsible for the lighter jobs like watering, loosening the soil in the beds, raking and cutting the grass-borders.

The Department of Public Works is responsible for the upkeep of all government gardens. Consequently there are employment opportunities throughout the country.

Opportunities for advancement: A garden labourer who makes good progress and is diligent and responsible may eventually be appointed as foreman. A foreman can in turn be promoted to handyman.

HEALTH SUPERVISOR AT AN AIRPORT

DEPARTMENT OF HEALTH

Requirements: A Std 8 Certificate. He must be tactful and diplomatic.

Training: In-service training at an airport. A Health Inspector's Diploma is not required, but it is necessary for promotion elsewhere in the Department of Health. (See Tertiary training outside universities and career opportunities 1977, for the National Diploma in Public Health, p.127.)

Vocational service: The Health Supervisor is responsible for maintaining sanitary and hygienic conditions on all aircraft and for applying the International Health Regulations.

He is the first person to enter an aircraft which has landed after an international flight. He checks the General Health Declaration as well as the International Health Certificates of Vaccination of all the passengers. If there are any insects e.g. mosquitoes on the aircraft, they are collected (if possible) and sent to the Siegfried Annecke Institute, Tzaneen, for identification.

The work of a health supervisor includes a number of clerical duties. Records are kept of the number of aircraft which arrive from international flights, times of arrival and the number of passengers on board.

OUTDOOR OFFICER

Requirements: Std 8 Certificate. In the departments where the officer must necessarily use a motor car, a valid driver's licence is, of course, essential.

A good knowledge of the two official languages is important and in the case of a Passport Control Officer, a knowledge of foreign languages will be a recommendation.

The minimum age is 18 years. The Departments of Planning and Community Development require candidates to be at least 25 years old.

To be able to carry out the duties of an Outdoor Officer efficiently in the Department of Agricultural Credit and Land Tenure, a knowledge of farming is essential.

Training: The Department of Agricultural Credit and Land Tenure offers an intensive training course of four to six weeks at head office in Pretoria, followed by in-service training in the various areas.

In the other departments no formal or specific training course is offered. The Outdoor Officers are given effective in-service training by senior officers.

Vocational service: No country can be administered solely from an office. Officers in the field are essential, since they act as the antennae of departments in the community served. The Outdoor Officer is one of these antennae and serves as a direct link between the department concerned and the public affected by the service rendered by that department.

Outdoor Officers are employed in the following Government departments:

- Department of Planning and the Environment

The Outdoor Officer in this department performs the necessary inspection work in respect of, inter alia, the following, as well as the clerical duties involved:

- Collecting and checking data and ascertaining the conditions in areas intended to be declared specified, defined, trading or group areas;
- applications for the establishment of townships, amendments to township development schemes and other matters;
- keeping records and preparing reports on research and inspection work.

- Department of Inland Revenue

In broad outline, the duties of the Outdoor Officer in this department amount to the following:

- Regular visits to all businesses to ensure that the prescribed trading licenses have been taken out;
- tracing of taxpayers;
- attendance at court as the department's representative at criminal trials involving tax matters;
- any other duties entrusted to him and requiring a personal visit to a place or a taxpayer.

- Department of the Interior

Outdoor Officers in this department act as Passport Control Officers. One of their major duties is to ensure that no undesirable or prohibited person is allowed into the country and that no one enters or leaves the country illegally.

Because of the nature of his activities he is in constant touch with visitors from abroad, and since he is one of the first South Africans with whom they come into contact, it is extremely important that his manner and bearing should make a favourable impression.

- Department of Customs and Excise

The Customs Officer has to ensure that passengers comply with customs requirements upon their arrival in South Africa, whether by sea, air or road.

Customs control entails not only the collection of the duties owing, but also measures to prevent the importation into the country of harmful and undesirable goods.

- Department of Community Development

The duties of an Outdoor Officer in this department involve resettlement, letting, the collection of moneys payable, socio-economic surveys, deeds work and permit investigations.

- Department of Agricultural Credit and Land Tenure

This department controls the granting and administration of loans to farmers and is also responsible for the purchase of State land on behalf of departments and for supervision and control of such land. In the various areas served, the department has 22 stations from which control is exercised, of which six are situated in South-West Africa.

As regards loans, the farmer's land, implements, annual crop, etc., serve as the State's security for the loan concerned, and the Outdoor Officer's duties consist mainly in controlling and supervising such security, as well as supervising State land. This involves routine investigations, special investigations and inspections, as well as clerical duties arising from these and the maintenance of the standard office system at the place where the office is stationed.

Opportunities for advancement: Generally the line of promotion is Outdoor Officer, Senior Outdoor Officer, Chief Outdoor Officer to Control Outdoor Officer.

PHOTOGRAPHER

Requirements: A Std 8 Certificate plus an appropriate apprenticeship or a Std 10 Certificate plus four years' appropriate experience or a Std 8 Certificate plus six years' appropriate experience.

Training: In-service training.

Vocational service: Many departments issue publications ranging from popular prestige to highly scientific issues. For these publications good photographs are essential. Photographs play an important rôle at the exhibitions which departments hold to acquaint the public with their functions and activities. The photographs required range from portraits, pictures of tourist attractions and nature studies to shots of events of national importance or human interest.

Photographers are generally expected to develop their own exposures. Dark room work will depend on the kind of photograph desired. Sometimes the Photographers have to make prints for the press and sometimes enlargements for exhibitions.

Opportunities for advancement: The normal promotion ranks are as follows: Pupil Photographer, Photographer, Senior Photographer and Chief Photographer.

(See also Photographer, p.104.)

POLICE

DEPARTMENT OF THE SOUTH AFRICAN POLICE

- (i) BASIC TRAINING OF CONSTABLES
- (ii) COURSES FOR PROMOTION
- (iii) DETECTIVE PROBATIONER'S COURSE
- (iv) OTHER TRAINING AND TRAINING CENTRES

(i) BASIC TRAINING OF CONSTABLES

Requirements: A White male person who desires to enlist in the South African Police Force must be a South African citizen, be at least 16 years and not older than 35 years, be not less than 1,68 metres in height without shoes and have a normal chest measurement of not less than 86,36 cm, be free from all mental and physical defects, have a strong constitution and be fit for police service, produce proof of good character, be in possession of at least a Std 8 Certificate and be bilingual. Women must hold a Std 10 Certificate. (For the training of women in the Police Service see Tertiary training outside universities and career opportunities 1977, p. 165.)

Training: The training includes classroom instruction, practical training in musketry, self-defence, first aid, drill and other facets in order to develop the student into a full-fledged constable in the South African Police. The period of training of candidates with a Std 10 or equivalent certificate or with a degree is 5 months. For students who do not possess a Std 10

Certificate, the training period is 10 months. Thereafter the training is completed by means of practical man-to-man training at the Constable's division and thereafter at his station or post. The duration of this training depends on the nature of the work and the branch in which the member serves.

Subjects

Force Administration	Afrikaans and English
Investigation of Crime	Criminology and Ethnology
South African Criminal Law	First Aid
Criminal Procedure	Self-defence
Statute Law	Musketry
Law of Evidence	Anti-riot Training
Police Science	Drill exercises

Training centre

South African Police College, Pretoria.

(ii) COURSES FOR PROMOTION

Note: Constables can be promoted through all the military ranks from Sergeant up to and including General. Examinations are written up to and including the rank of Lieutenant. Courses are, however, not held for all ranks.

Requirements: A Constable must complete two years' service in order to qualify for participation in an examination for promotion to the rank of Sergeant (three years if he does not possess a Std 10 Certificate), two years' service in the rank of Sergeant in order to qualify for participation in an examination for promotion to the rank of Warrant Officer and one year's service in that rank in order to qualify for participation in an examination for promotion to the rank of Lieutenant. A policeman who has obtained a suitable degree or diploma may be considered for promotion without writing the departmental promotion examinations on the following basis:

He must serve the same qualifying periods in the various ranks as mentioned above. To be considered for promotion to the rank of Sergeant he must have successfully completed four subjects or the first year of his degree or diploma, depending on the number of subjects prescribed for the first year by the university or college, and be at least 20 years of age; for promotion to the rank of Warrant Officer he must have completed eight subjects or the second year, and to be promoted Lieutenant he must obtain the full degree or diploma. The B.A.(Pol.) degree, the Police Diploma and the B.Juris degree are, amongst others, suitable qualifications.

Training: The courses are theoretical and practical and are intended to prepare policemen for future responsibilities as Commanders and simultaneously to serve as selection courses. The duration of these courses vary from three weeks to three months and are at present presented to members being considered for promotion to the ranks of Sergeant, Lieutenant and Major.

Subjects

Commanding Techniques	Crowd Control
Control of Personnel	Financing
Personnel Administration	Provision of Stores
Force Administration	Particular aspects of Law
Background Knowledge	Police Science
Crime Prevention and Control	Criminology

Training centre

The In-service Training Unit of the South African Police at the SA Police College, Pretoria.

(iii) DETECTIVE PROBATIONERS' COURSE

Requirements: To qualify for the course, members must have at least two years' service, show the necessary interest and aptitude and be recommended by their Commanders.

Training: The course is practical and theoretical, is of six weeks' duration and serves to prepare the policeman as a detective. After completion of the course he receives man-to-man training for a period of twelve months after which period he is appointed as detective, provided he is successful in his work.

Subjects

Investigation of Crime	Background Training
Statute Law	Criminology
South African Criminal Law	Police Science
Law of Criminal Procedure	Force Administration

Training centre

The In-service Training Unit of the South African Police at the SA Police College, Pretoria.

(iv) OTHER TRAINING AND TRAINING CENTRES

The Department provides a wide variety of training in other facets of operations in which the police are involved or which are necessary in order to ensure that the Department will be able to fulfil its functions effectively. These courses vary in duration from periods of one week to six months and are both theoretical and practical. All members of the Force qualify for these courses which, with few exceptions, are all provided by the Department itself. Financial aid is provided in that all members, while on course, are entitled to their full salaries, free board and lodging is normally provided and travelling and subsistence allowance are paid where applicable.

The following may serve as examples:

Organisers of Training	Counter-insurgent training
Registration Clerks	State security
Bandsmen	Commercial Branch
Radio technicians	Prosecutors
District Motor Mechanics	Instructors
Builders	Members of the S A Narco= tic Bureau (SANAB)
Farriers	Caterers
Storemen	
Mess, Canteen and Sports Club	
Secretaries	

The South African Police also have the following training centres at their disposal:

- (1) The SA Police School for Mechanical Training at Benoni, where police drivers are trained in the maintenance and driving of police vehicles. The course is theoretical and practical and is of six to eight weeks' duration. Motor mechanics receive six months' technical training in order to qualify as tradesmen.
- (2) The SA Police Dog School in Pretoria, where police dogs and dogmasters are trained. The course for dogmasters lasts for seven months, of which four months are spent at the dog school and the remaining three months at a station. Patrol dog handlers receive training for between three and four months. Courses for dogs and their handlers who specialize in the tracing of drugs are of four months' duration.
- (3) The SA Criminal Bureau at Pretoria, where training is provided for experts in the identification of fingerprints, photography in criminal cases, examination of disputed documents and the identification of handwriting, firearms and projectiles.
- (4) The SA Police Forensic Scientific Laboratory at Pretoria, where practical training is provided in the field of forensic science for selected applicants who are in possession of at least a B.Sc. degree. The training covers a period of approximately 18 months.

Vocational service: The South African Police is a semi-military organization consisting of the uniformed, detective and security branches and is responsible for the security of the State, maintenance of law and order and the prevention and investigation of crime in the Republic of South Africa and South-West Africa in accordance with section 5 of Act 7 of 1958: Police Act. The aim is that each section of the community shall, as far as possible be served by its own people in compliance with traditional policy. For this reason training centres also exist to provide the same basic training for the Bantu, Coloureds and Indians.

Possibilities for promotion for ambitious men and women are virtually unlimited. Promotion to higher ranks mainly occurs on the successful completion of internal examinations. However, promotion is accelerated if a candidate is already in possession of an appropriate degree or diploma or has had recognized previous experience.

Newcomers to the Force receive full salary during their training. From this they pay a minimum amount for board and lodging. Uniforms and other equipment necessary for training purposes are supplied free of charge. During training courses, members of the Force are entitled to their full salaries. Where applicable, lodging and meals are supplied by the Department and travelling and subsistence allowances are paid.

PRISON OFFICER

DEPARTMENT OF PRISONS

Training College, John Vorster, Kroonstad, OFS

Requirements: A candidate must be a citizen of the Republic of South Africa and be not less than 16 years of age; males must be not less than 1,68 metres in height, measured without shoes; be free from any mental and/or physical defect and of strong constitution; furnish proof of good character; and have passed at least Standard 8 or an equivalent examination.

Training: Candidates receive basic training at the training college at Kroonstad. The course extends over a period of approximately five months during which lectures are given on the Prisons Act and Regulations, foot and rifle drill, marksmanship, civil defence and other aspects related to the duties of the Department such as military etiquette, personnel administration, prison administration, stores administration, accounts, internal relations, public relations, spiritual preparedness, court procedure, practical language, self-development and drug addiction. After completion of the training period warders and wardresses participate in a spectacular passing-out parade and are then transferred to the various prisons.

Personnel development

- (i) Functional training: It is essential that all personnel members should be continually subjected to training programmes after their basic training and that they should have the opportunity for self-development. Consequently they are, after a process of selection, given the opportunity to attend conferences and symposiums and the following courses offered by the Department or other institutions:

Prosecutors	Training Officers (combined
Presiding Officers	with supervision)
Additional Fire-arm training	Boiler Attendants
Dog Handlers	Nursing Staff
Instructors	Stores Administration
Candidate Officers	Work Study

Apart from the above-mentioned Departmental courses, members are continually encouraged to improve their qualifications.

- (ii) Training of women: Women who are interested in the Prison Service as a career must comply with the same requirements for appointment as men, but must be at least 18 years old and have a minimum height of at least 1,6 metres without shoes. However, they are trained in smaller groups and only periodically, according to requirements. The course is not so comprehensive, is of shorter duration and is offered at Kroonstad. Women, just like men, share in all available privileges.
- (iii) In-service training: All members are subjected to organized, practical training in the work situation. This training is given at all prisons and includes a continuous training programme of man-to-man instruction.

Technical training: Selected members can also qualify as artisans in the Department. During his period of training the apprentice receives the same salary as that applicable to a warder with the same qualifications.

Vocational service: Besides the safe custody of prisoners, it is also the task of the Department to apply such treatment to convicted prisoners as may lead to their reformation and rehabilitation. In addition to control and administrative work, sections exist in the Prisons Department such as Technical, Building, Agricultural, Refreshment and Hospital Divisions as well as specialized treatment services such as Psychological Services, Educational Services and Social Work and a section for Spiritual Care.

Opportunities for advancement: The Department provides ample opportunities for promotion to any man or woman with the necessary potential, perseverance and diligence to reach the highest position in any section of the Prisons Department.

PROVINCIAL INSPECTOR/TRAFFIC OFFICER

Requirements: At least a Std 8 Certificate, but candidates who hold a Std 10 Certificate receive preference. The minimum age is 18 years. Candidates are tested beforehand on a scientific basis.

Training: Provincial inspectors and traffic officers are trained by each province. Training occurs in co-operation with the large local authorities.

There is consequently no uniform training at national level, although steps are being taken in this direction.

As an example the new uniform diploma course of the Transvaal Provincial Administration is discussed briefly below:

At present only those persons who hold the Provincial Diploma may be appointed as traffic officers. This holds good for appointments by the province and all local authorities.

The course for the Diploma is of three months' duration at one of the training centres for traffic officers in Pretoria (2), Johannesburg and Potchefstroom.

Prospective traffic officers receive theoretical and practical training in sections such as self-defence, pistol shooting, techniques of arrest, court procedure, administration, application of the law, etc.

The examining body is the Institute of Traffic Officers of Southern Africa, which acts in co-operation with the Provincial Administration.

Further training: If any traffic officer wishes to be considered for promotion, he has to be in possession of a Standard 10 Certificate. After two years' experience, a traffic officer can write the Preliminary Examination, after a further year the Intermediate Examination and, after yet another year the Final Examination for the Diploma of the Institute. However, training at one of the recognized training schools (also at Cape Town and Durban) results in exemption from the Preliminary Examination and a candidate can enrol directly for the Intermediate Examination after three years' training.

Further particulars of these three examinations can be obtained from the Secretary, Institute of Traffic Officers of Southern Africa, P.O. Box 113, Potchefstroom 2520.

Vocational service: Although their training and duties are generally the same, a distinction is made between traffic officers in the service of municipalities and those in the service of a province. The first group of officers perform a variety of duties within the

boundaries of a municipality. The duties of officers in the service of a province are somewhat different and also differ from province to province. In the Provincial Administrations of the Transvaal and the Orange Free State, the duties of a provincial inspector and traffic officer are combined. It is their duty to apply various ordinances aimed at safeguarding the travelling public, to protect the public from malpractices, particularly in commerce, and to combat various other evils. Generally speaking, they are involved in road traffic and inspection services.

In the Provincial Administrations of the Cape and Natal a distinction is made between the duties of a traffic officer and those of a provincial inspector. The traffic officers mainly perform duties in connection with road traffic, while the inspectors are more or less involved in inspection services.

Opportunities for advancement: Officers in the service of one of the provincial administrations share the usual privileges of public servants and promotion occurs according to merit. The normal line of promotion for provincial inspectors is Senior, First and Chief Provincial Inspector and that for traffic officers Senior, First, Chief and Control Traffic Officer. These posts are within reach of any young man with ambition and perseverance.

ROADS CLERK

Requirements: Std 8 Certificate.

Training: In-service training supplemented by manuals and codes of practice. If the Roads Clerk displays an interest in the technical field, training is given in field-work such as road construction and maintenance works, including the technical aspects involved.

Vocational service: The planning, construction and maintenance of national roads and bridges is a very important function of the Provincial Roads Departments. The administrative and clerical duties in the offices of roads superintendents in the various regions and districts are performed by the Roads Clerk, whose posts are classified under the four provincial administrations and the Administration of South-West Africa.

The work is varied and includes, inter alia, the following: All clerical work connected with the employment of White and Non-White workers; the housing of personnel at construction units; correspondence concerning enquiries, complaints and Road Board matters; responsibility for the purchase, receipt and issue of all materials and equipment required for the smooth working of a road construction unit, and the keeping of records of all stocks and equipment.

The offices of superintendents are located at places ranging from large urban centres, such as Pretoria, Cape Town, Bloemfontein, Durban and Windhoek, to the smaller outlying towns.

The Roads Clerk accompanies the Roads Superintendent on trips to pay wages and take stock, and therefore regularly comes into contact with the field-work.

Opportunities for advancement: Roads Clerks interested in the administrative side of the work may be promoted to posts of Senior, Chief and Control Roads Clerks. Persons more interested in the technical aspects may become roads superintendents and progress further in that direction.

ROADS SUPERINTENDENT

Requirements: At least a Std 8 Certificate or equivalent qualification and nine years' appropriate experience. Because he must have extensive experience in all aspects of road construction, he is usually recruited from among officers and road construction officers already employed by the department.

Training: Prospective Roads Superintendents are given instruction in all aspects of their duties by experienced members of the department. Short courses are also offered from time to time.

Vocational service: There are posts for Roads Superintendents in the four provincial administrations and in the Administration of South-West Africa.

The Roads Superintendent's duties range from office work to supervision of the construction of new roads. He carries out regular inspections in the district to co-ordinate operations. Many of his duties are of a technical nature and he generally performs these duties in co-operation with and under the control of an engineer.

Opportunities for advancement: Roads Superintendents may progress to Senior Roads Superintendent, Chief Roads Superintendent and Control Roads Superintendent.

STOCK INSPECTOR

Requirements: Std 8 Certificate. Experience of cattle farming and training in an agricultural field will be a recommendation. A candidate must be at least 19 years old. A knowledge of Bantu languages is desirable. For posts in the Bantu areas candidates should, however, have a sound knowledge of the language spoken in the particular area.

Training: Interested candidates apply for appointment as stock inspectors. They are then instructed and trained by stock inspectors. Formal in-service training is also offered to groups of officers, and practical demonstrations are given.

Vocational service: Personnel of the Division Veterinary Services of the Department of Agricultural Technical Services are stationed at strategic places throughout the Republic and South-West Africa. The personnel consists of veterinarians, technicians and stock inspectors. The task of the team is to exercise control over and take preventive action in the case of notifiable animal diseases such as anthrax, tuberculosis and foot-and-mouth disease, malta fever, scabby sheep and buck mange. The stock inspector serves as a link between the farmer and the state veterinarian.

The Republic of South Africa and South-West Africa are divided into various regions. Each of these are in turn subdivided into areas under the control of state veterinarians.

Each stock inspector is in charge of a smaller area under the authority of the veterinarian. The first and most important task of the stock inspector is to ensure that the provisions of the Animal Diseases and Parasites Act and the regulations framed under it, are duly applied and carried out. The stock inspector visits the farms in his area in accordance with an approved programme. He advises the farmer on the application of preventive measures against stock disease, the use of vaccines, serum and remedies. Where applicable, the stock inspector also issues permits for the transportation of livestock.

Opportunities for advancement: A stock inspector may be promoted to the rank of Senior Stock Inspector and Chief Stock Inspector.

SUBINSPECTOR : COMMERCIAL INSPECTIONS

Requirements: A Std 8 Certificate with Mathematics and General Science as subjects; and a completed apprenticeship as a scale mechanic, a liquid measuring pump mechanic or a liquid meter mechanic.

Training: Those interested must in the first place apply to the Department of Commerce, Pretoria, for appointment as Subinspector: Commercial Inspections. After appointment candidates undergo a five-month period of full-time theoretical and practical training at the Training School of the Division of Commercial Inspections in Pretoria. Before commencing the training course candidates are required to enter into an agreement to serve the State for a minimum period of one year after the completion of their training.

In accordance with their basic qualifications candidates are required to attend one of the following courses:

Subinspector's course : Weighing instruments

Weights and Measures Act
Regulations
Weighing Practice (Theoretical)
Weighing Practice (Practical)

Subinspector's course : Measuring instruments

Weights and Measures Act
Regulations
Mensuration: Area and volume calculation
Measuring Practice (Theoretical)
Measuring Practice (Practical)

After having passed the examinations the candidate will receive an Assizer's Certificate authorising him to examine and test either weighing instruments only or measuring instruments only, according to his training.

Since the candidate is in full-time employment from the date of his appointment he receives his full salary during the training period. The training courses are given free of charge.

Vocational service: The Division of Commercial Inspections of the Department of Commerce applies the Weights and Measures Act (No. 13 of 1958). The Division is therefore responsible for the prevention and elimination of malpractices in the determination of the weights or measures of merchandise of every imaginable kind. This responsibility demands a check on the accuracy of, inter alia, anything from fine balances and weights to railway weighbridges of a capacity of 1000 kilograms; ordinary measures and apothecaries' measures to modern petrol pumps and meters at oil refineries which can measure liquids at a rate of several thousands of litres per minute and anything from measuring rods and tape measures with which the retail dealer measures his merchandise, to automatic length and area measuring instruments used for measuring rolls of textiles and other materials in factories. The Subinspector : Commercial Inspections also checks the weights or measures of goods which are pre-packed.

The activities of the Division extend over the length and breadth of the country and there are offices in 14 cities.

Opportunities for advancement: Candidates may through further study qualify for the course for Inspector : Commercial Inspections. See Tertiary training outside universities and career opportunities 1977, p.160.

SUBINSPECTOR OF MINES

Requirements: Because of the responsible nature of his work he has to be at least 30 years old. He must also have a Std 8 Certificate or equivalent and be an experienced miner; and be in possession of a valid certificate of fitness from the Medical Bureau for Occupational Diseases and a valid driver's licence.

Training: Receives in-service training with regard to applying safety measures. He is encouraged to improve his qualifications.

Vocational service: Posts of Subinspector of Mines have been created in the Department of Mines to ensure that safety regulations are strictly complied with to save human lives. The Mines and Works Act of 1956 prescribes the measures that have to be taken to safeguard the safety and health of all miners. The Subinspector carries out regular inspections in open-face workings and tunnelled mines to make sure that the prescribed techniques are being adhered to and he reports to the Mine Management or the Inspector of Mines. He is the watchdog guarding the interests of the miners.

Opportunities for advancement: After obtaining the Std 10 Certificate and after he has passed the Mine Supervisor's examination, he may be promoted Assistant Inspector of Mines. If he subsequently obtains the Mine Manager's Certificate he can be appointed Inspector of Mines.

SUPERINTENDENT OF WORKS

Requirements

- Department of Coloured, Rehoboth and Nama Relations and the Department of Bantu Administration and Development:

A recognized apprenticeship or trade certificate and three years' appropriate experience as an artisan

or

a trade diploma and seven years' appropriate experience

or

ten years' appropriate experience as an artisan.

- Department of Agricultural Credit and Land Tenure: Ten years' appropriate experience.

Training: In-service training is already offered at the lower level of Handyman. Manufacturers' manuals and instructions, for example in the case of engines and pumps, also serve as a guide.

Vocational service: Construction and maintenance work are done by teams under the supervision of a Superintendent of Works. The Superintendent of Works organizes the working parties and arranges their transport, and is responsible for the in-service training of the team leaders and foremen. He also provides the material for the work that has to be done. In addition he supervises plastering and bricklaying, and does development work such as canal construction and the erection of sheds and houses on settlements.

The duties of the Superintendent of Works in the Department of Coloured, Rehoboth and Nama Relations, the Department of Bantu Administration and Development and the Department of Agricultural Credit and Land Tenure relate chiefly to agricultural engineering, for instance, the erection and maintenance of water supply equipment, such as windmills, dams, boundary fences, etc.

Posts of Superintendent of Works in the Department of Coloured, Rehoboth and Nama Relations exist in Namaland only. In the Department of Agricultural Credit and Land Tenure these posts usually occur in rural areas where new settlements are being developed. The working conditions of persons employed by the Department of Bantu Administration and Development vary according to the field or trade in which they are qualified.

Opportunities for advancement: In the Department of Bantu Administration and Development persons in these posts can be promoted to the ranks of Senior Superintendent of Works and after that to the rank of Chief Superintendent of Works.

There is a system of merit assessment in the Public Service to ensure that officers are rewarded for meritorious work.

TECHNICAL ASSISTANT

Requirements: At least a Std 8 Certificate. Preference is given to candidates with higher qualifications. In some departments a knowledge of Mathematics is a recommendation.

Training: Takes place during official working hours and is given by means of personal instruction by senior members of staff. Persons in possession of the required qualifications for admission to technical training may enrol for the training courses offered in the fields concerned.

Vocational service: The various Government departments employ a large number of professional officers and technicians who are assisted in the execution of their daily duties by other personnel behind the scenes, for instance the Technical Assistant. There are posts for Technical Assistants in the following departments:

- Department of Planning and the Environment

The functions of this Department include the compilation of plans and diagrams, enlarging and reducing them by means of a photographic or pantographic process, and the transferring of certain information to them in colour. As a result of continual changes, it is the duty of the Technical Assistant to make the necessary additions to the diagrams and plans.

- Department of Health

The Technical Assistant has to combat infectious and communicable diseases by means of immunisation services, and to combat and control malaria and bilharzia by means of information and guidance to individuals and the community. The Technical Assistant is also responsible for the combating of diseases such as tuberculosis and typhoid. In this connection he must liaise regularly with all hospitals, clinics, medical practitioners and the leaders of every community.

- Department of Agricultural Credit and Land Tenure

The Technical Assistant in this Department performs a wide variety of duties in the following divisions of the Surveyor-General's Office:

- Examination Division
The Technical Assistant assists the qualified Technician in examining general plans and diagrams submitted by land surveyors for approval by the Surveyor-General.
- Maintenance Division and Noting Section
Newly approved diagrams and general plans are noted by the Technical Assistant.
- Plan Mounting Section
The work in this Section consists of the mounting of plans, diagrams, etc.
- Information Division
In this Division, the work of the Technical Assistant includes the copying of diagrams; attending to requisitions for prints by land surveyors, Government departments and the general public; the operating of the Photostat camera and the Xerox machine; general work in connection with the description of boundaries and the numbering of farm subdivisions.
- Compiling Division
The duties of a Technical Assistant in this Division comprise assistance to the Technician in compiling cadastral plans.
- Department of Information
Technical Assistants in this Department mostly work in the Sections Photography and Art Tending. Their duties include the developing and drying of exposed film, as well as making and mounting photographic copies in different sizes. The Technical Assistant's general knowledge is increased by the handling of thousands of copies and the filing of negatives.
- Department of Agricultural Technical Services
To meet the diverse requirements of agriculture, the Department has been divided into a large number of technical divisions and sections, which employ the services of Technical Assistants. The nature of their duties varies according to the activities of each particular division or subdivision. These duties comprise the following:
 - Plant Protection Research Institute, Pretoria
The work consists chiefly of the classification and mounting of insects and the care and breeding of insects required for experimental purposes.
 - Botanical Research Institute
Here the duties include the handling and mounting of all plant and flower specimens which are sent to the National Herbarium for classification and identification.
 - Sheep and Wool Research Section, Middelburg, C.P.
The duties consist chiefly in the determination of the physical characteristics of wool by means of microscopic examination, and general assistance in connection with related research projects.

- Seed Control Division, Pretoria

In this division the duties mostly comprise the sorting, grading and inspection of all agricultural seed and the application of germination tests.

- Veterinary Research Institute, Onderstepoort

This division consists chiefly of the following specialized sections:

Bacteriology Section where it is determined which bacteria are present in samples sent in for analysis.

Chemistry Section where chemical analyses are made of blood, tissue, foodstuffs, dipping-fluids, etc.

Entomology Section where the collection, mounting and identification of all external parasites that attack animals, e.g. ticks, blowflies, tsetse fly, scabmites, etc. are undertaken.

Pathology Section where organs and tissues are examined to determine the nature of the disease and its effect on animals.

Vaccine Production Section where all the antidotes to animal diseases are produced.

The services of Technical Assistants in this Department are also used at the following centres:

Citrus and Subtropical Fruit Research Institute, Nelspruit

Fruit and Food Technology Research Institute, Stellenbosch

Oenological and Viticulture Research Institute, Stellenbosch

Tobacco Research Institute, Rustenburg.

- Department of Mines

The duties comprise the handling, treatment and analysis of dust samples. The dust samples are analysed by means of various kinds of apparatus, namely, microscopes, spectrometers, X-ray diffraction apparatus, and photo-electric apparatus.

The treatment of the samples comprises laboratory work, such as heating in furnaces, acid treatment and weighing on a very sensitive scale.

- Department of Industries

The Technical Assistants in Sea Fisheries Division of the Department exercise control over the exploitation of the natural resources of the sea along the coasts of the Republic and South-West Africa.

To exercise controlled exploitation scientifically, the State investigates all the factors that affect the balance of the plant and animal populations. The sea-water must also be studied to determine to which water mass it belongs, the flow of currents, its salinity and temperature and the quantity of nutrient salts it contains. Scientists, technicians and technical assistants work together as study groups to study all these aspects.

- The Treasury

The work of the Technical Assistant in the South African Mint includes the analysis of steel, copper, nickel, gold, silver and their various alloys and the analysis of ores to determine their gold, silver, platinum and basic metal content. The analysis and

examination of counterfeit coinage are also carried out by the Technical Assistant. The work is aimed chiefly at collecting technical data, and is carried out mainly in the laboratory.

- Department of Water Affairs

The work is varied and covers a wide field. The work done in the different sections is described below:

. Agricultural Permits Section

The Technical Assistants assist the Senior Survey Officers in connection with surveys and surveying.

Surveys

This function chiefly comprises the obtaining and checking of information in connection with irrigated and irrigable land or government water control areas, as well as crops and water consumption; methods of abstraction (canals, pumping, sand pits, etc.); and any specific local conditions affecting water consumption for purposes of irrigation, for instance by making use of aerial photographs.

Surveying

This is more specialized in nature and includes the measuring of the storage capacity of dams, the size of lands, etc.

. Materials Laboratory

The work comprises mainly soil testing under the supervision of a technician; materials testing for density, relationship, grading, specific gravity, and permeability; determining the silt percentage in river water; concrete testing - weighing out of cement, sand, etc. for concrete mixtures; the setting out of test-holes on grid in proposed borrow areas at earth dam sites; and the taking of undisturbed samples from open test-holes.

. Civil Engineering Section

The Technical Assistant does tracing and photographic work in the field of civil engineering.

. Photogrammetric Section

Photogrammetry includes the preparation of map sheets and sheet layouts for the compilation of maps; the mapping of survey plans by making use of field survey data; the preparation of photogrammetrically mapped plans, and survey calculations. The Technical Assistant also operates photogrammetrical apparatus.

. Reconnaissance Drawing Office

The work covers the mapping of dam sites, canal line servitudes, pipe line servitudes, canal line and pipe line surveys, dam beacons and site surveys.

. Hydrology Section

The Technical Assistant assists in the tabulation, preparation and collation of data collected in the field, and in the preparation of maps from field data, and the annotation of the map with the data required. Field duties include the collection of data on various projects, such as borehole surveys, the inspection and maintenance of hydrological gauging stations, and the calculation of stream measurements in canals and rivers.

- Provincial Administrations of the Cape Province, Natal, the Orange Free State and the Transvaal, and the Administration of South-West Africa

In the above-mentioned Administrations, the work mainly covers the carrying out of routine laboratory tests (physical as well as chemical) on road-building materials such as soil, stone, concrete and bituminous materials.

Tests are carried out for the grading of stone, the bearing capacity of soil, the compressive capacity of concrete, the density and moisture content of various materials, and so on.

Opportunities for advancement: Technical Assistants who have acquired the necessary experience may be considered for promotion to technical posts in their particular fields. Candidates who qualify to become technicians may compete for the higher posts of Senior Technician, Chief Technician and Control Technician.

TRACER

Requirements: At least a Std 8 Certificate. Some departments require the prospective tracer first to prove his/her suitability for the post by having him/her trace a small, simple map as a test.

Training: All training is given by draughtsmen during office hours. Training begins by giving the tracer instruction in the use and care of drawing instruments. He is then taught how to print, and when this training is completed, he begins more complicated work like the tracing of plans and maps.

Vocational service: The tracer works side by side with the draughtsman and helps to lineate projects on plans and maps. All drawing work is normally done in two phases. The drawing is first done in pencil, usually by a draughtsman, and then it is traced in ink. The tracer is particularly concerned with the second phase.

The colouring of plans or maps and lettering, both freehand and with stencil and ink are part of a tracer's duties.

The duties of tracers in the various Government departments are as follows:

- Department of Bantu Administration and Development
 - . Tracing of drawings and designs relating to agricultural and engineering services
 - . Tracing of building plans
 - . Colouring of maps showing Bantu Homelands
 - . Drawing of maces and national coats of arms for the various Regional Authorities
 - . Rendering of citations in decorative lettering.
- Department of Forestry
 - . Tracing of silviculture and other drawings in ink on tracing cloth
 - . Drawing of plans and printing of explanations in accordance with sketches submitted.
- Department of Community Development
 - . Tracing of architectural and other engineering plans in ink
 - . Colouring of drawn maps
 - . Drafting of less complicated plans from pencil sketches.

- Department of Agricultural Credit and Land Tenure
 - . Tracing of maps in ink
 - . Tracing of maps according to the Kras Method
 - . Colouring of maps and alterations to existing maps.
- Department of Public Works
 - . Tracing of architectural drawings in ink
 - . Tracing of mechanical engineering drawings, e.g. for air conditioning, etc.
 - . Using "Varityper" typewriters for adding notes and measurements on drawings
 - . Filing of plans and related documents
 - . Compilation of detailed and simple plans of engineers' and architects' sketches and surveying books
 - . Applying of services on drawings according to pencil sketches
 - . Tracing of drawings for switchboards, distribution systems, light, watch, power point and socket installations, generator rooms, etc.
- Department of Transport
 - . Tracing of airport plans
 - . Enlarging or reducing of plans
 - . Colouring of plans
 - . Using pantograph for the drawing of contour and survey plans
 - . Filing of plans
 - . Stencilling of titles on plans.
- Department of Water Affairs
 - . Reproduction of plans of irrigation schemes, dams and canals
 - . Preparation of plans of dam basins
 - . Tracing and duplicating of plans.
- Department of Statistics
 - . Drawing of graphs for reports and news items
 - . Drawing of diagrams
 - . Drawing of lines on photolithic draft tables
 - . Stencilling
 - . Amendments to maps
 - . Designing of covers of reports.
- The Provincial Administrations and the Administration of South-West Africa
 - . Tracing of plans of roads, bridges and other road building projects
 - . Tracing of plans of mechanical and electrical plants
 - . Tracing of layout town and regional planning maps
 - . Filing of plans
 - . Inserting of symbols on maps, e.g. land-use maps
 - . Drafting of simple maps from sketches
 - . Stencilling

- . Drafting of small parts on scale, from co-ordinates
- . Drafting of contour plans under supervision of and in collaboration with the Chief Draughtsman
- . Tracing of cadastral and topographical plans
- . Amending of plans
- . Colouring of alternative proposals on plans
- . Noting, on plans, of declarations, diversions and closing of roads.

Tracers are also employed by the Post Office and private organizations, e.g. the CSIR, engineers and municipalities.

Opportunities for advancement: All deserving work in the Public Service is rewarded, so that tracers whose work is good, may also receive advancement for special merit over and above normal advancement. Moreover they can equip themselves through further study for posts of Technician and so qualify for advancement also in the technical field.

WATER BAILIFF

Requirements: At least a Std 6 or Std 8 Certificate. He must be able to deal with people.

Training: The Department of Water Affairs offers introductory and advanced courses to Water Bailiffs and supervisory courses to persons in the more advanced ranks at the training centres in Pretoria, Vaalhartz and Upington. Each course extends over a week.

Vocational service: The Water Bailiff conserves, controls and distributes water either from a canal, pipe-line system, dam or public stream. He protects and improves government property with which he works; checks the use of boats on dams; exercises control over the members of the public who visit the dam; makes calculations in connection with the daily water capacity; and draws up statements and reports on the water yield, rainfall, etc.

The Department of Water Affairs at present employs 240 Water Bailiffs. When the half-completed and new construction projects have been completed, new posts will be created. Local irrigation boards also appoint persons to supervise water utilisation and conservation.

Opportunities for advancement: The Water Bailiff who carries out his duties conscientiously and diligently, has the opportunity to progress to the ranks of Senior, Chief and Control Water Bailiff.

B. OTHER CAREERS IN GOVERNMENT DEPARTMENTS

The careers mentioned below are careers for which Standard 10 is not a requirement. It is recommended that persons interested should directly contact the Government departments/Administrations concerned for further information.

Letters used to indicate information in respect of each career:

- a. Career
- b. Government department/Administration
- c. Requirements

1. a. AGRICULTURAL OFFICER, PUPIL
 - b. Bantu Administration and Development; Coloured, Rehoboth and Nama Relations
 - c. Std 8 Certificate; preference will be given to matriculants.
2. a. AGRICULTURAL OFFICER
 - b. Bantu Administration and Development; Coloured, Rehoboth and Nama Relations
 - c. A Std 8 Certificate and a one-year Diploma in Agriculture plus 4 years' experience; or
 - a Std 8 Certificate and a two-year Diploma in Agriculture plus 3 years' experience; or
 - a Std 10 Certificate and a one-year Diploma in Agriculture plus 2 years' experience; or
 - a Std 10 Certificate and a two-year Diploma in Agriculture plus 1 year's experience.

Note: Any appropriate experience (i.e. before or after the attainment of the Diploma in Agriculture) is valid for purposes of appointment.
3. a. AGRICULTURAL OVERSEER
 - b. Bantu Administration and Development
 - c. At least 24 years old.
4. a. ARMAMENTS OFFICER
 - b. Defence
 - c. Preference is given to candidates who hold a Std 8 Certificate.
5. a. ASSISTANT MARINE ENGINEMAN A, C and D
 - b. Industries
 - c. Certificate of Competency as Assistant Marine Engineman.
6. a. ASSISTANT SUPERINTENDENT (M. or F.)
 - b. Social Welfare and Pensions; Coloured, Rehoboth and Nama Relations; Bantu Administration and Development
 - c. Std 8 Certificate; at least 25 years old; must be of strong character with the necessary ability to manage, organize and supervise. Knowledge of social work will be a recommendation.
7. a. BEACON BUILDER
 - b. Agricultural Credit and Land Tenure
 - c. At least 21 years old; at least one year's appropriate experience. Preference will be given to candidates who hold a Std 8 Certificate.
8. a. BUILDING CLERK
 - b. Public Works
 - c. Std 8 Certificate.
9. a. COURT INTERPRETER
 - b. Justice
 - c. Std 8 Certificate; at least 18 years old; must be able to interpret in at least one Bantu language.

10. a. DOG MASTER
 - b. Provincial Administrations of the Cape and Transvaal
 - c. Std 8 Certificate; sound knowledge of dog training and jackal hunting.
11. a. DRAUGHTSMAN (CARTOGRAPHIC)
 - b. Commerce, Agricultural Credit and Land Tenure; Administration of SWA
 - c. A Std 8 Certificate plus nine years' appropriate post-qualification experience; or
a Std 10 Certificate plus seven years' appropriate post-qualification experience; or
a National Diploma for Technicians or equivalent qualification.
12. a. DRAUGHTSMAN (CIVIL ENGINEERING)
 - b. Bantu Administration and Development; Public Works; Transport; Water Affairs; Provincial Administrations of the four provinces and the Administration of SWA
 - c. See Draughtsman (Cartographic).
13. a. DRAUGHTSMAN (MECHANICAL ENGINEERING)
 - b. Forestry; Public Works; Water Affairs; Finance (SA Mint); Agricultural Technical Services; Provincial Administrations of Natal and Transvaal
 - c. See Draughtsman (Cartographic).
14. a. DRAUGHTSMAN (MINING)
 - b. Mines
 - c. See Draughtsman (Cartographic).
15. a. DRAUGHTSMAN (STRUCTURAL)
 - b. Forestry; Public Works; Natal Provincial Administration and the Administration of SWA
 - c. See Draughtsman (Cartographic).
16. a. DRAUGHTSMAN (TELECOMMUNICATION)
 - b. Posts and Telecommunications; Transport; Administration of SWA
 - c. A Std 8 Certificate plus five years' appropriate experience or the completion of a departmental training period.
17. a. DRAUGHTSMAN (TOWN PLANNING)
 - b. Bantu Administration and Development; Provincial Administrations of the Cape and Natal
 - c. See Draughtsman (Cartographic).
18. a. DRIVER/OPERATOR
 - b. Commerce; Health
 - c. At least 22 years old; appropriate valid driver's licence.
19. a. DRIVER
 - b. Transport; Bantu Administration and Development; Agricultural Technical Services; Finance
 - c. At least 21 years old; a valid driver's licence.

20. a. ENGINEER : MALAGAS AND PIKKEWYN
 b. Industries
 c. Approximately 21 years old; Std 6 Certificate. Preference is given to candidates who comply with the requirements of the Merchant Shipping Act.
21. a. EXECUTIONER, ASSISTANT
 b. Justice
 c. Preference is given to candidates who hold a Std 8 Certificate; must be between 35 and 60 years of age; must not abuse liquor.
22. a. FILM OFFICER/SENIOR FILM OFFICER
 b. Information
 c. Std 8 Certificate.
23. a. FIRE OFFICER (CHIEF)
 b. Transport
 c. Std 8 Certificate; heavy motor vehicle driver's licence; at least 8 years' experience in a full-time fire service with experience in a responsible position; knowledge of modern fire extinguishing equipment and its use; hold the Diploma of Fire Engineers (Transvaal Branch) or the South African equivalent thereof, i.e. the Diploma of the South African Fire Services Institute. (See also Fireman p.100)
24. a. FOREMAN (MECHANICAL, ELECTRICAL AND STRUCTURAL)
 b. Forestry
 c. - Completed apprenticeship or the possession of the Certificate of Competency prescribed under the Training of Artisans Act, 1951 (Act No. 38 of 1951) plus the NTC III. Candidates for posts of Foreman (Electrical) must, in addition to the above, also be in possession of the Electrical Wireman's Licence.
 - Five years' appropriate experience as an artisan
 - Ten years' appropriate experience in the case of candidates who have not served a recognized apprenticeship.
25. a. GARDENER
 b. Defence; Bantu Administration and Development; Transvaal Provincial Administration
 c. Preference is given to candidates with appropriate experience.
26. a. GROUNDSMAN
 b. Defence
 c. Preference is given to candidates with appropriate practical experience.
27. a. HEALTH ASSISTANT
 b. Health
 c. Std 8 Certificate.
28. a. HOUSEKEEPER
 b. Department of the Prime Minister; National Education; Forestry; Finance; Coloured, Rehoboth and Nama Relations; Health; Agricultural Technical Services

- c. The Department of National Education requires a Std 8 Certificate and experience gained at a hospital or in a kitchen of an educational institution.
- The Department of Agricultural Technical Services requires that candidates must be able to manage all aspects of large households and be able to move in a relatively high social circle. Appropriate experience will be a strong recommendation.
29. a. INFORMATION ASSISTANT
 b. Defence
 c. Std 8 Certificate. A Typewriting Appointment Certificate will be a recommendation.
30. a. INSPECTOR OF AGRICULTURAL PRODUCTS
 b. Agricultural Economics and Marketing
 c. Std 8 Certificate plus nine years' appropriate post-qualification experience; or
 Std 10 Certificate plus seven years' appropriate post-qualification experience; or
 National Diploma for Technicians or equivalent qualification.
31. a. INSPECTOR OF WORKS
 b. Various departments
 c. - Std 8 Certificate with Afrikaans and English as subjects;
 - completed apprenticeship in the trade concerned plus three years' appropriate experience gained after completion of the apprenticeship; or eight years' appropriate experience in the case of candidates who have not served an apprenticeship;
 - Electrical Wireman's Licence for appointment to Inspector of Works (Electrical).
32. a. INSTITUTION ASSISTANT
 b. Social Welfare and Pensions; Coloured, Rehoboth and Nama Relations; Bantu Administration and Development
 c. Department of Social Welfare and Pensions: Preference is given to candidates who hold a Std 8 Certificate.
Department of Coloured, Rehoboth and Nama Relations: Preference is given to candidates who are at least 25 years old.
33. a. INSTITUTION SUPERVISOR
 b. Social Welfare and Pensions
 c. Std 8 Certificate.
34. a. LABOUR LIAISON OFFICER
 b. Bantu Administration and Development
 c. Std 8 Certificate; at least 22 years old; police experience will be a recommendation; hold a valid driver's licence. Preference is given to candidates who hold higher educational qualifications.
35. a. LAUNDRY ASSISTANT
 b. Health
 c. None.
36. a. LAUNDRY MANAGER
 b. Health
 c. Std 8 Certificate.

37. a. LEADING FIREMAN: AFRICANA II
 b. Industries
 c. None.
38. a. MAINTENANCE OFFICER (MACHINERY)
 b. Various departments
 c. - Std 8 Certificate with Afrikaans and English as subjects;
 - completed apprenticeship in the trade concerned plus three years' appropriate experience after completion of the apprenticeship; or eight years' appropriate experience in the case of candidates who have not served an apprenticeship;
 - Electrical Wireman's Licence.
39. a. MARINE DRAUGHTSMAN
 b. Defence
 c. A completed apprenticeship in an appropriate trade; a Std 8 Certificate; NTC III with prescribed subjects.
40. a. MEAT EXAMINER, PUPIL
 b. Agricultural Technical Services
 c. Std 8 Certificate.
41. a. MECHANIC
 b. Administration of SWA
 c. None.
42. a. MECHANIC, PUPIL
 b. Agricultural Technical Services
 c. Preference is given to candidates who hold a National Junior Technical Certificate.
- Note: Suitability for appointment is normally determined by the Department of Labour as well as by compliance with the Apprenticeship Act (Act No. 37 of 1944), as amended.
43. a. MESSENGER OF THE COURT, DEPUTY
 b. Justice
 c. Std 8 Certificate; at least 25 years old; a valid driver's licence.
44. a. PHARMACY ASSISTANT
 b. Health
 c. Std 8 Certificate.
45. a. PRINCIPAL OF BANTU YOUTH CAMPS
 b. Bantu Administration and Development
 c. Std 8 Certificate; at least 25 years old.
46. a. PROCESS PHOTOGRAPHER
 b. National Education; Water Affairs; Agricultural Credit and Land Tenure; Bantu Administration and Development; Transvaal Provincial Administration.
 c. A Std 8 Certificate plus an appropriate apprenticeship; or a Std 10 Certificate and at least 4 years' appropriate experience; or a Std 8 Certificate and at least 6 years' appropriate experience.

47. a. QUARANTINE OFFICER
 b. Agricultural Technical Services
 c. Std 8 Certificate; 25 years old; knowledge of the care of and love for animals.
48. a. SPECIFICATION WRITER
 b. Public Works
 c. Std 8 Certificate; a completed apprenticeship in an appropriate trade and at least 5 years' post-apprenticeship experience as a qualified artisan and a further 5 years' experience as an Inspector of Works, General Building Foreman or Building Inspector or equivalent appropriate experience.
49. a. STORES OFFICER
 b. All departments
 c. Std 8 Certificate.
50. a. SURVEYING OFFICER (ENGINEERING AS WELL AS TOPOGRAPHY)
 b. Transport; Bantu Administration and Development; Water Affairs; Agricultural Technical Services; Provincial Administrations of the four provinces and the Administration of SWA
 c. A Std 8 Certificate plus 9 years' appropriate experience; or a Std 10 Certificate plus 7 years' appropriate experience; or the National Diploma for Technicians or an equivalent qualification.
51. a. TECHNICAL ASSISTANT (LIQUOR INSPECTION)
 b. Agricultural Technical Services
 c. Std 8 Certificate.
52. a. TECHNICIAN (CADASTRAL)
 b. Agricultural Credit and Land Tenure; Bantu Administration and Development; Administration of SWA
 c. A Std 8 Certificate plus nine years' appropriate post-qualification experience; or
 a Std 10 Certificate plus seven years' appropriate post-qualification experience; or
 a National Diploma for Technicians or equivalent qualification.
53. a. TECHNICIAN (CIVIL ENGINEERING)
 b. Administration of SWA
 c. See Technician (Cadastral).
54. a. TECHNICIAN (DAIRYING)
 b. Agricultural Economics and Marketing
 c. See Technician (Cadastral).
55. a. TECHNICIAN (FIELD ASSISTANT)
 b. Agricultural Technical Services; Administration of SWA
 c. See Technician (Cadastral).
56. a. TECHNICIAN (FIRE PROTECTION)
 b. Public Works
 c. See Technician (Cadastral).

57. a. TECHNICIAN (GEOLOGY)
 b. Mines
 c. See Technician (Cadastral).
58. a. TECHNICIAN (HYDROLOGY)
 b. Water Affairs
 c. See Technician (Cadastral).
59. a. TECHNICIAN (LABORATORY)
 b. Agricultural Technical Services; Transport; Water Affairs; Provincial Administrations of the four provinces and the Administration of SWA
 c. See Technician (Cadastral).
60. a. TECHNICIAN (MATERIAL TESTING)
 b. Transport; Water Affairs; Provincial Administrations of the four provinces and the Administration of SWA
 c. See Technician (Cadastral).
61. a. TECHNICIAN (MEAT GRADING)
 b. Agricultural Economics and Marketing
 c. See Technician (Cadastral).
62. a. TECHNICIAN (METEOROLOGY)
 b. Transport
 c. See Technician (Cadastral).
63. a. TECHNICIAN (PLANNING)
 b. Natal Provincial Administration
 c. See Technician (Cadastral).
64. a. TECHNICIAN (PLANT INSPECTION)
 b. Agricultural Technical Services
 c. See Technician (Cadastral).
65. a. TECHNICIAN (REFRIGERATION/FREEZE DRYING)
 b. Agricultural Technical Services
 c. Std 8 Certificate; successful completion of an appropriate apprenticeship.
66. a. TECHNICIAN (SEED CONTROL)
 b. Agricultural Technical Services
 c. See Technician (Cadastral).
67. a. TECHNICIAN (WATER AND SEWAGE)
 b. Public Works
 c. Std 8 Certificate with Afrikaans and English; completed apprenticeship in a building trade and at least 5 years' post-apprenticeship experience or at least 10 years' appropriate experience without an apprenticeship; NTC III or equivalent qualification in the prescribed trade theory.

68. a. TELEPHONIST
 b. Water Affairs; Health; Defence; Prisons; Police; Natal Provincial Administration
 c. Std 7 Certificate.
69. a. USHER (MESSENGER)
 b. Justice; Bantu Administration and Development
 c. Std 6 Certificate; 21 years and older.
70. a. WATERWORKS ATTENDANT
 b. Water Affairs; Defence
 c. None.
71. a. WATERWORKS SUPERVISOR
 b. Defence
 c. At least 25 years old.
72. a. WORK RECORDER
 b. Defence
 c. Preference is given to candidates with appropriate experience.

C. THE SOUTH AFRICAN RAILWAYS, HARBOURS AND AIRWAYS

RAILWAY COLLEGE, ESSELEN PARK

Owing to the specialized nature of the work on the Railways, it is necessary that its staff in certain spheres of employment should first be trained before they can function independently. The training is given at a well equipped college, known as the Railway College, Esse-len Park at Kaalfontein between Germiston and Pretoria. The College also has branches in Bloemfontein, Cape Town, Durban, Johannesburg, Port Elizabeth and Pretoria.

Students receive full pay while being trained. Advanced and specialized training is also given at the Railway College. Training on the Railways is not confined to internal courses only. Staff are also encouraged to attend certain symposiums and training courses offered by other organizations.

AIR HOSTESS

Requirements: At least a Std 8 Certificate with passes in both official languages. Must be at least 20 years, but not older than 30 years. She has to be between 1,60m and 1,75m tall with a reasonable proportion between height and mass. She must be able to get on with people; be able to comfort, reassure and converse with people of all ages, nationalities and classes. She must be unmarried. Fluency in a foreign language will be an advantage, but is not a requirement.

The prospective air hostess must pass a prescribed medical examination. Successful candidates must enter into a two-year contract with the Administration. Retention of the services of an air hostess who marries while in the service will be considered on merit by the Department.

Training: Air hostesses receive approximately eight weeks' training at Jan Smuts Airport before they commence flight duty. Training includes first aid and hostessing. The air hostess learns to work with people and receives training in catering, emergency procedures, deport-ment and make-up, traffic duties, a third language, etc. Air hostesses

are placed on internal services until there are vacancies on international services. She will be considered for international services only if she has a working knowledge of a third language.

Vocational service: Passengers on an aircraft expect the best service and maximum comfort. Children and old and sick people have to be taken care of, meals have to be served and passengers must be kept comfortable. These duties are performed by the air hostess assisted by the flight stewards. The air hostesses' duties include the conducting of passengers to their seats, welcoming them and requesting them to fasten their seat belts, reassuring the nervous passengers and talking to the lonely ones, serving refreshments, drinks and meals and if necessary, applying first aid.

The Air Hostess can progress from air hostess to senior air hostess, check air hostess, instructress (air hostesses), senior instructress (air hostesses) and chief air hostess.

Applications should be addressed to the Personnel Director, Room 205, Administration Building, SAA, Jan Smuts Airport, Kempton Park 1620.

APPRENTICES

See p.27 for the list of trades for which apprentices in the Railways may be trained.

Requirements: An applicant must be under the age of 21 years on the date he commences his apprenticeship and must be in possession of at least a Std 7 Certificate or equivalent. He must not be legally bound to attend school. Applicants for appointment in some of the trades must have a Std 8 or higher certificate.

Training: Apprentices are trained at the major centres. The normal period of apprenticeship is four years, but higher school or technical qualifications entitle apprentices to take a qualifying trade test at an earlier stage, and if they are successful they are granted artisan status and paid the salary of a technician.

Apprentices are permitted to study at technical colleges in the Department's time under favourable conditions. Class and examination fees are advanced on their behalf and are not recovered from them in respect of subjects passed.

Apprentices who do well in their studies and possess the necessary educational qualifications, may apply to the Railways for a scholarship for full-time study in engineering at a university.

See Chapter II : From Apprentice to Artisan, p.5.

Vocational service: An artisan normally progresses on merit to assistant foreman, foreman, inspector and higher posts.

CARGO HANDLER OR BAGGAGE HANDLER (AIRWAYS)

Requirements: Success in an aptitude test.

Training: In-service training as well as theoretical training after which a departmental examination must be written.

Vocational service: The Cargo Handler must see to it that outgoing cargo/baggage is addressed correctly, sorted and loaded on the right flight and that incoming cargo/baggage is delivered correctly.

The cargo handler can progress to cargo handler/baggage handler, special class, foreman cargo handler or foreman baggage handler.

CHECKER

Requirements: Success in an aptitude test.

Training: Receives practical and theoretical training in the duties of a checker, and must then pass the departmental examination in checker's duties. The theoretical training consists of a course of 2½ months' duration at the Railway College or one of its branches.

Vocational service: The Checker is in charge of the loading and off-loading of all consignments. He sees to it that consignments handed in for conveyance are properly packed and addressed. He is also responsible for the correct loading of consignments prior to despatch.

The Checker can progress to checker, special class, checker, senior class, foreman checker, goods inspector and senior goods inspector, and, at the harbours, to assistant wharf foreman, wharf foreman and wharf inspector.

CLERK (MALE)

Requirements: At least a Std 8 Certificate.

Vocational service: Clerks perform the book work in the different departments of the Railways and the Airways and Harbours, as well as at stations and depots. Irrespective of the department in which a clerk is placed, clerical work can be divided into two broad categories, viz figure and linguistic work. Clerks are placed in one of these two categories with due regard to their aptitude.

A Clerk progresses on a competitive basis from grade 2 to grade 1, senior clerk, principal clerk, chief clerk and higher senior posts. He can also be appointed as a station master provided he obtains certain departmental qualifications.

CONDUCTOR

Requirements: Success in an aptitude test and at least 19 years old.

Training: To qualify in conductor's duties candidates attend a course of 2½ months' duration at the Railway College or at one of its branches.

Vocational service: The Conductor is responsible for the collection of tickets. He must also determine whether the tickets are valid; he must sometimes issue tickets himself; he must see that passengers alight at their right destination. He must allocate seats according to reservation lists to passengers who have reserved their seats and provide accommodation on long distance trains for passengers who have not reserved their seats.

He can progress to conductor, special class, conductor, senior class, ticket inspector and senior ticket inspector.

COOK/ASSISTANT FLIGHT CATERER

Requirements: Success in an aptitude test.

Training: Receives practical training in the kitchens.

Vocational service: The Cook is responsible for the preparation of food on trains, at station restaurants and for aircraft.

He can progress to chef, chief chef or flight caterer, catering inspector, chief flight caterer and chief catering inspector.

DRIVER (STEAM, ELECTRIC OR DIESEL)

Requirements: Success in an aptitude test and at least three and a half years' experience as a fireman or driver's assistant and must have passed the driver's examination.

Training: To assist him in passing the driver's examination, the candidate is given the opportunity of attending a course of two and a half months' duration in driver's duties at the Railway College after completion of the three and a half years' service.

Vocational service: A Driver drives steam, electric or diesel locomotives and is responsible for the safe running of his train. He must watch the numerous instruments in the locomotive as well as the signals along the line, and must continually keep his train under control.

A driver is assisted by a fireman on steam locomotives and by a driver's assistant on electric and diesel locomotives.

A fireman or driver's assistant progresses to senior fireman/senior driver's assistant, driver, running foreman, senior running foreman, locomotive inspector and other inspectorate grades.

EXAMINER AND REPAIRER (CARRIAGE AND WAGON)

Requirements: Success in an aptitude test.

Training: Receives practical and theoretical training and must then pass the departmental examination in the duties of an examiner and repairer (carriage and wagon).

Vocational service: Undertakes the examination, servicing and repair of the underframes and brake systems of passenger coaches and trucks.

He can progress to leading examiner and repairer (carriage and wagon), assistant carriage and wagon foreman, carriage and wagon foreman, senior carriage and wagon foreman, and carriage and wagon inspector.

FLIGHT STEWARD

Requirements: At least a Std 8 Certificate and fluency in both official languages; at least 19 years of age; not shorter than 1,63m and not taller than 1,83m, with a reasonable proportion between height and mass.

Training: Flight stewards receive intensive training of approximately 8 weeks at Jan Smuts Airport prior to commencing flight duty.

Vocational service: The Flight Steward acts as host on the flight and, together with the air hostess, is responsible for the comfort of the passengers and especially for the serving of meals and refreshments.

He can progress to senior flight steward and after that to chief flight steward or port steward, flight service officer, training officer (catering)(airways) or catering inspector (cuisine), senior training officer (catering) (airways), cabin services controller and senior cabin services controller.

GROUND HOSTESS

Requirements: At least a Std 8 Certificate and 17 years old. Mass must be in proportion to height. Must be fluent in both official languages. Knowledge of other languages will be a recommendation. Ground hostesses are selected on a strict basis.

Training: Training courses at Jan Smuts Airport in the various aspects of their work. Courses extend over one, two, three or five weeks depending on the circumstances. Training is theoretical as well as practical and includes, inter alia, the following: Intensive instruction in the handling and reservations of passengers, travel documents, seating tickets, flight routes etc.

Vocational service: Ground hostesses work in various sections of the airport and the reservation offices. At the airport they work behind the counters where they are mainly responsible for the checking in of passengers. This comprises, inter alia, the perusal of travel documents, mass measuring of luggage, issuing of luggage vouchers. Sometimes they have to assist passengers in completing immigration, emigration or customs forms. In some cases ground hostesses act as announcers at the airport.

A large number of ground hostesses are required in the SA Airways' reservation and city offices throughout the country. The reservation offices as well as the city offices in all the large centres are directly connected by means of a terminus unit with the computer in Johannesburg which is known world-wide as SAAFARI (South African Airways Fully Automated Reservations Installation). Ground hostesses are allowed to work on the SAAFARI after successful completion of a five-week course.

A ground hostess can progress to senior ground hostess, assistant chief ground hostess and chief ground hostess.

GUARD

Requirements: Success in an aptitude test and at least 19 years old.

Training: He must qualify in guard's duties before he can assume independent duty. For this purpose he has to attend a course of two and a half months' duration at the Railway College or one of its branches.

Vocational service: The Guard, together with the driver, is responsible for the safety of the train, and he keeps a record of the running times of the train. He is also responsible for the parcels, luggage and post-bags in the guard's van and he must see to the loading and off-loading thereof. He is sometimes required to do shunter's duties at small stations and sidings and also functions as ticket examiner on mixed trains.

The Guard can progress to guard, special class, or change over to conductor and progress to conductor, special class, conductor, senior class, ticket inspector and senior ticket inspector.

LADY CLERK

Requirements: At least a Std 8 Certificate.

Training: In-service training.

Vocational service: Lady clerks, like male clerks, perform the book work in the different departments of the Railways and the Airways and Harbours, as well as at stations and depots. Irrespective of the department in which a lady clerk is placed, clerical work can be divided into two broad categories, viz figure and linguistic work. Lady clerks are placed in one of these two categories with due regard to their aptitude. They compete on an equal footing with male clerks for promotion to higher graded clerical posts.

OFFICE ASSISTANT (FEMALE)

Requirements: Success in an aptitude test.

Training: In-service training.

Vocational service: The Office Assistant is employed in record rooms and is responsible for the handling, care and safe-keeping of records.

She can progress to record custodian and supervisor.

PHOTOGRAPHER

Requirements: At least a Std 8 Certificate.

Training: A pupil photographer is trained in service in all the techniques of photography. Training extends over a period of three years.

Vocational service: The Photographer takes all kinds of photographs for publicity and other purposes. A photographer also does copying and reproduction work from diagrams, maps, plans and architectural sketches. He is also responsible for the production of filmlets.

A photographer can progress from pupil photographer to photographer, assistant chief photographer and chief photographer.
(See also Photographer, p.104.)

PLATELAYER

Requirements: Success in an aptitude test.

Training: Entrants are engaged as trainee platelayers and can be appointed as assistant platelayers after 12 months. Assistant platelayers must pass the departmental examination in platelayer's duties after they have received two years' theoretical and practical training in the duties of a platelayer. The course of two and a half months' duration is given at the Railway College.

Vocational service: A Platelayer, together with a gang of workers, is responsible for the construction and systematic maintenance of the railway track. Modern power tools such as tamping machines and rail saws are used. Platelayers are stationed mainly at the larger centres and are conveyed to and from their place of work daily by departmental transport.

A Platelayer can progress to platelayer special class, permanent way inspector, district supervisor (permanent way) or senior permanent way inspector, senior district supervisor (permanent way) and inspector (track mechanisation).

POLICEMAN (SOUTH AFRICAN RAILWAYS)

Requirements: At least a Std 7 Certificate and must be at least 1,75m tall and have a chest measurement of not less than 90cm.

Training: Must attend a training course of 5 months at the Railway College. He may write the examination for promotion to the rank of sergeant after completion of 2 years' satisfactory service as a constable.

Vocational service: A Policeman maintains law and order on railway property, which includes harbours and airports, railway stations and road transport vehicles, and investigates crime of any kind.

A constable can progress to the rank of sergeant, warrant officer, lieutenant, captain, major, lieutenant-colonel, colonel, brigadier, and major-general (Commissioner of South African Railways Police).

SHUNTER

Requirements: Success in an aptitude test.

Training: Must pass a departmental examination after practical and theoretical training.

Vocational service: The Shunter controls shunting movements of passenger coaches and trucks by means of radio communication (walkie talkies) and hand signals.

He can progress to leading shunter, foreman shunter or assistant supervisor (train marshallers), supervisor (train marshallers) and yard master.

STATION FOREMAN

Requirements: Success in an aptitude test.

Training: The candidate must qualify in station foreman's duties before he can work independently. He receives practical as well as theoretical training of two and a half months' duration at the Railway College.

Vocational service: The Station Foreman controls the running of trains over specific sections of the line by means of train control systems. He keeps a register of the arrival and departure times of trains. He sells tickets and accepts and delivers parcels and goods at smaller stations when a clerk is not on duty.

The station foreman can progress to station foreman, special class, and station inspector. If he passes the prescribed departmental examination in station accounts he can also progress through the grade of station master.

STATION MASTER

Requirements: At least a Std 8 Certificate. He must pass in certain departmental examinations, e.g. the different methods of train control and the accounts systems applicable.

Training: Courses of $2\frac{1}{2}$ months' duration each are given at the Railway College.

Vocational service: The station master is in charge of a station. He must ensure that all commercial and operating duties are carried out effectively. He is the Department's representative on the spot and performs an important function. He must therefore be experienced and possess certain attributes.

A station master can progress to higher levels in the station master's and inspectorate grades. He has ample opportunities for advancement according to merit.

STEWARD

Requirements: Success in an aptitude test.

Training: In-service training.

Vocational service: The Steward is responsible for the serving of meals and refreshments on main line trains and in station restaurants, and the collection of money for such service.

He can progress from steward to senior steward, chief steward, assistant refreshment room manager, refreshment room manager, catering inspector and chief catering inspector.

STOREMAN

Requirements: Success in an aptitude test.

Training: Must pass a departmental examination after completion of practical and theoretical training.

Vocational service: The Storeman is responsible for the receipt, storage and issue of supplies at workshops and depots.

He can progress to storeman special class, sectional storeman, stores sectional supervisor, stores yard supervisor and stores inspector.

TRADE HAND

Requirements: Success in an aptitude test.

Training: In-service training.

Vocational service: This grade falls within the scope of the term "artisan staff", but trade hands are not artisans who have served an apprenticeship. They therefore undertake work for which artisan status is not prescribed. The most important types of trade hands are -

Brushhand, Castings dresser, Crane driver (workshops), Driller and Holder-up, Machineman, Carriage and wagon repairer, Oiler (electric), Operator (plant), Trade hand (servicing), Trade hand (unclassified).

Trade hands progress from the entrants' level to various higher levels in their own grade and to other grades as well.

TYPIST

Requirements: At least a Std 8 Certificate. Must pass a departmental typing test in one of the official languages.

Vocational service: Typists are required to undertake a wide variety of typing work on ordinary typewriters as well as on the most modern electric and magnetic tape typewriters and to operate telex machines.

Typists who hold a typing diploma (45 w.p.m. in both official languages) can progress on a competitive basis to typist (supervisor) (teleprinter), senior typist and head typist.

D. THE POST OFFICE

CLERK (MALE AND FEMALE)

Requirements: At least a Std 8 Certificate or equivalent with both official languages as subjects. Higher educational qualifications are preferred. At least 15 and not older than 55 years.

Training: Theoretical as well as practical in-service training is provided over a period of 4 to 10 months. In some cases training takes place on a man-to-man basis.

Vocational service: The work comprises one or more of the following:

- Counter: The sale of postage and revenue stamps, postcards, air letters and registered envelopes, the handling of savings-bank, money-order, postal-order and other financial transactions as well as the acceptance and delivery of all kinds of parcels and the acceptance of telegrams and cables.
- Telegraph office: The operation of teleprinters, comprising the transmission and reception of telegrams, cables and photographs by land-line apparatus.
- Sorting office: The sorting and handling of incoming and outgoing mail matter such as letters, newspapers, registered articles and parcels; and the coding of mail matter for processing through automatic mail sorting machines.
- Clerical sections: The duties of clerks comprise correspondence work on telephone, postal and staff matters, accounting and auditing, work study, systems analysis, programming and stores control.

Private study is encouraged and persons who improve their qualifications receive salary recognition. Promotion is based on merit.

DATA CODER

Requirements: At least a Std 8 Certificate or equivalent with both official languages as subjects. Persons with higher educational qualifications receive preference. At least 15 and not older than 55 years. Manual dexterity, good eye/hand co-ordination and concentrating ability is essential.

Training: Data coders receive intensive training for 3 months. After successful completion of the course they receive salary recognition.

Vocational service: The capture of information on magnetic tape to be processed in the computer. Career opportunities exist in the larger centres only.

POSTMAN

Requirements: At least a Std 6 Certificate with both official languages as subjects. At least 16 and not older than 55 years. A valid driver's licence will be a recommendation.

Training: Under actual working conditions.

Vocational service: Apart from the primary task of delivering mail, many other tasks such as the collection of mail matter posted at various points and the date-stamping of postal articles are undertaken by the postman. Some postmen also perform driving duties when mail is conveyed to and from railway stations, airports and harbours.

Postmen who do their work satisfactorily can be promoted to the rank of Senior Postman or even to the post of Inspector of Uniformed Staff and later to Senior, Chief and Control Inspector of Uniformed Staff.

TECHNICAL ASSISTANT (FEMALE)

Requirements: At least a Std 8 Certificate or equivalent with both official languages as subjects. Persons with higher qualifications receive preference. At least 15 and not more than 55 years. They must also be interested in work of a technical nature and must possess the necessary manual dexterity.

Training: Technical assistants receive in-service training.

Vocational service: Technical assistants are employed on various types of work. Their duties, are, however, of a less involved nature than those of a telephone electrician and include the following:

- Installation and maintenance of automatic exchanges;
- maintenance of large manual exchanges;
- drawing-office work;
- efficiency-control functions;
- maintenance of telegraph equipment;
- maintenance of carrier equipment.

TELEPHONE ELECTRICIAN

Requirements: Std 7 Certificate or equivalent with both official languages as subjects. Persons with higher qualifications receive preference. Candidates must be at least 15 years of age (or produce proof of exemption from compulsory school attendance) and not older than 55 years.

Training: All newcomers receive theoretical as well as practical training by modern training methods at well-equipped departmental training centres in Johannesburg, Cape Town, Pretoria, Port Elizabeth, Bloemfontein, Durban and Pietermaritzburg. The training period extends over at least two years.

Vocational service: The duties of the Telephone Electrician are as follows:

- Automatic exchanges: Installation and maintenance of automatic switching equipment.
- Cable jointing: Jointing and faulting on all types of lead and plastic cables in the telephone network.
- Carriers: Installation and maintenance of single and multi-channel carrier equipment.
- Lines: Construction and maintenance of overhead and underground telecommunication connections.
- Outstations: Installation and maintenance of equipment at smaller centres and surrounding areas.
- Radio: Routine duties - assisting in the maintenance of equipment and carrying out construction work when necessary.
- Subscriber's plant: Maintenance of subscriber's lines, telephones and switchboards and the installation of switchboards, telephones, private branch exchanges, etc. at subscribers' premises.
- Telegraphs: Installation and maintenance of automatic telegraph exchanges and telegraph equipment at customers' premises.

Promotion is based on merit.

TELEPHONE MECHANIC

Requirements: Std 7 Certificate or equivalent with both official languages as subjects. Candidates with higher qualifications receive preference. Candidates must be at least 15 years of age (or produce proof of exemption from compulsory school attendance) and not older than 55 years.

Training: All learners receive formal training at colleges for advanced technical education and at departmental training centres. Practical training is given in well-appointed workshops in most of the large centres. A trade test must be passed before completion of training. The normal training period is four years.

Vocational service: Telephone mechanics perform duties associated with the provision of telecommunication services in the following work phases:

- Mechanical aids: Maintenance and overhaul of diesel and petrol-driven mechanical aids, and especially pneumatic and hydraulic equipment in stand-by power-plants and vehicles.
- Power generation and reticulation: Installation, maintenance and overhaul of power systems, especially generation and rectifier equipment, mainly for telecommunication installations.
- Air-conditioning plant: Installation and maintenance of air-conditioning installations associated with telecommunication equipment, especially with regard to humidity, filtration and dust control.
- Overhaul and erection: The construction of telecommunication hardware in departmental workshops, with emphasis on the special types of material used in a variety of processes such as injection moulding, die-casting, sheetmetal fabrication, and press-tool working and fabrication.
- Overlaying and finishing: Finishing of equipment built or repaired in departmental workshops, with special reference to coatings used on telecommunication equipment.

TELEPHONIST

Requirements: At least 16 and not older than 55 years. Men must be in possession of at least a Std 7 and women at least a Std 8 Certificate, with both official languages as subjects.

Training: The telephonist receives 4 to 8 weeks' theoretical and practical training. In some cases training takes place on a man-to-man basis.

Vocational service: The duties of the telephonist comprise the following:

- Telephone switching duties in trunk and international telephone exchanges;
- manning special operating positions in telephone exchanges such as enquiries, failures, complaints, etc.

Private study is encouraged and telephonists who improve their educational qualifications are considered for transfer to other divisions of the Post Office. Promotion is based on merit.

PRIVATE STUDY

The Post Office encourages private study and grants salary recognition to officers who improve their educational qualifications.

E. THE SOUTH AFRICAN DEFENCE FORCE

The SADF (Army, Air Force and Navy) offers excellent work opportunities in the Technical and Non-Technical spheres of the Permanent Force.

TECHNICAL

The SADF uses sophisticated modern technical armament and equipment which requires a high standard of technical skills for control, maintenance and repair purposes. For this reason it employs highly qualified and technically trained personnel.

The SADF recruits skilled persons and also trains its own personnel in the required technical directions.

Because of the comprehensive nature of the proficiency required, technical personnel are grouped in accordance with the requirements of the different Arms of Service, viz:

Apprentices
Artisans
Artificers
Technical Officers

Entrance requirements for Apprentices:

Candidates must be

- male citizens of the RSA;
- medically fit in accordance with the requirements of the Permanent Force;
- in possession of at least a Standard 8 or equivalent qualification, which includes Mathematics as a subject;
- between 16 and 25 years of age; and
- unmarried.

Training: After attestation in the Permanent Force, all recruits undergo basic training in aspects such as Drill and Ceremonial, Physical Education, First Aid, Military Law and Musketry. This lasts about 3 months after which trade training commences.

Academic and practical training in the SADF takes place in conjunction with colleges for advanced technical education and the Department of National Education.

All training is done full-time and at State expense. An apprentice can reclassify to artisan status after a minimum period of 3* years if he has

- passed NTC III (N3) with appropriate subjects;
- successfully completed the practical training phases;
- passed a final trade test.

*A minimum period of 4 years is required if only NTC II (N2) is obtained.

Qualified personnel are allowed to proceed with further studies at State expense after completion of an apprenticeship.

Apprentices can be promoted to the rank of Corporal with the appropriate salary benefits during their apprenticeship period.

The qualified artisan's future reclassifications and promotion in rank is closely related to his initiative, competency and diligence shown in his trade.

Technical musterings in the SADF

Aircraft Fitter	Electronician (Radio)(Subma-
Ammunition/Missile Fitter	rines)
Armament Fitter	Electronician (Weapons)(Ships)
Armament/Missile Fitter (Artificer)	Electronician (Weapons)(Sub-
Armourer (SA Army)	marines)
Bricklayer/Plasterer (Construction)	Electroplater
Building Construction Worker (QMG)	Engine Room Mechanic
Carpenter	Farrier
Carpenter and Joiner (Construction)	Field Engineer
Chemical Artificer	Fitter and Turner (Turner
Construction Plant Operator	Machinist)
Cutter and Binder	Fitter (Mechanical)
Dental Technologist	Instrument Fitter
Draughtsman (Aeronautical)	Instrument Fitter (Aircraft)
Draughtsman (Architectural)	(Artificer)
Draughtsman (Cartographical)(Artificer)	Instrument Fitter (SA Navy)
Draughtsman (Civil)	(Artificer)
Draughtsman (Electrical)	Laboratory Analyst (Chemical)
Draughtsman (Electrotechnical)	Laboratory Analyst (Metal-
Draughtsman (Lithographic)	lurgical)
Draughtsman (Mechanical)	Laboratory Technician
Draughtsman (Mechanical)(SA Navy)	Leather and Textile Worker
(Artificer)	Mechanician (Machinery)(Ships)
Draughtsman (Naval Architectural)	Mechanician (Machinery)(Sub-
Draughtsman (Structural)	marines)
Draughtsman (Topographical)	Mechanician (SA Army)(Arti-
Electrician	ficer)
Electrician (Aircraft)	Mechanician (Weapons)(Ships)
Electrician (Construction)	Mechanician (Weapons)(Subma-
Electrician (Signals)	rines)
Electronician (Machinery)(Ships)	Metalsmith
Electronician (Machinery)(Submarines)	Moulder
Electronician (Radar)	Orthopaedic and Surgical
Electronician (Radio)	Technician

Painter and Signwriter	Rubber and Plastic Worker
Painter (Aircraft)(Artificer)	Sheetmetal Worker (Aircraft)
Photogrammetrist (Topographical)	Shipwright
Photographer (Aircraft)	Surveyor (Topographical)
Photographer (SA Navy)	Survival Equipment Fitter
Photolithographer	Tailor
Physiotherapist	Textile Worker and Tailor (Arti-
Plumber and Drainlayer (Construction)	ficer)
Printers' Mechanic	Toolmaker
Radiographer	Vehicle Fitter
Refrigeration Fitter	Weapons Artificer
Rigger	Welder (Aircraft)
Road and Airfield Constructor	Wood Machinist

NON-TECHNICAL

Non-Technical personnel in the SA Defence Force are incorporated in the following distinct fields of employment:

Learner Operatives
Operatives
Other Personnel (Non-Artisans)

Entry requirements for Non-Technical personnel

Candidates must be

- male/female citizens of the RSA;
- medically fit in accordance with the requirements of the Permanent Force;
- in possession of at least a Standard 8 or equivalent qualification;
- between 18 and 49 years of age.

Training: The same basic training as for technical personnel. Afterwards personnel are posted to units where in-service training commences, supplemented by specialist training courses. At the moment there are no facilities for academic training at secondary school level.

The Operative: Operatives must possess a high operative dexterity with only the basic technical knowledge of the mechanical and other aids they employ in the execution of their duties. The minimum training period for learner operatives is 4 years. Promotion to the rank of Corporal is obtainable during the training period.

Non-Technical operative musterings in the SA Defence Force

Armourer's Assistant (Surface)	Mechanical Operator (S/M
Armourer's Assistant (Underwater)	Machinery)
Chef/Caterer	Mechanical Operator (S/M
Clearance Diver	Weapons)
Electrical Operator (S/M Machinery)	Musician
Electrical Operator (S/M Radio)	Power Plant Operator
Electrical Operator (S/M Weapons)	Radar Operator
Explosives Worker	Telecommunication Operator
Fireman	
Master Butcher	

Other personnel (Non-Artisans)

Besides the basic orientation course the SA Defence Force has a thorough in-service training programme for preparing Non-Technical personnel in a large variety of specialist jobs.

Career and promotion possibilities, with the appropriate salary and fringe benefits, allow the Permanent Force member to proceed to the highest level, depending on competency, work performance and diligence.

Non-Technical musterings in the SA Defence Force

Admin/Personnel	Clerk/Writer	Nursing Assistant
Air Defence	Artillery Operator	Operations/Intelligence Clerk
Anti Aircraft	Artillerist	Ordinance Clerk/Storeman
Codifier		Physical Training Assistant (SAN)
Computer Operator		Regimental Instructor
Dog Instructor		Seaman
Field Artillerist		Security Personnel
Field Engineer Man		Special Operations Personnel
Finance Clerk		Steward
Infantryman		Tactical Data Operator
Medical Personnel		Technical Clerk
Military Policeman		Trooper
Naval Police		
Nurse		

CHAPTER IV
O T H E R C A R E E R F I E L D S

*Courses for careers marked with an asterisk, are courses of the Department of National Education.

A. CLERICAL CAREERS

Practically all undertakings in the private and public sectors employ clerks. Their work is varied and may involve filing, correspondence, working with figures or office machines, messenger duties and general reception work.

BANK OFFICIAL

Requirements: A Std 10 Certificate, but applicants with a Std 8 Certificate are employed in some banks.

Training: Banking is a specialized career and to supplement in-service training in branches, some banks maintain fully equipped training facilities in various large centres throughout the country.

The courses offered to female staff are generally job-orientated, with the women learning specific tasks, such as machine accounting, ledger supervising, switchboard operation, enquiries counter and teller's duties.

Vocational service: The bank's policy is to fill all senior positions from within the organization itself. Prospects are therefore excellent and scope for advancement virtually unlimited.

CASHIER

Requirements: At least a Std 8 Certificate. Should be able to work fast and efficiently with money. Should be bilingual.

Training: In-service training by a more experienced or senior cashier.

Vocational service: Cashiers receive money from clients, issue receipts and/or change, and ensure that the correct amount is deposited in the firm's bank account. They are employed by the private sector and work for cinemas, theatres, parkades, restaurants and shops. They earn good salaries and hold responsible positions.

CODE CONTROL CLERK

Requirements: At least a Std 8 or Std 9 Certificate, but preferably a Std 10 Certificate. Juniors receive in-service training and previous experience is not required.

Vocational service: Goes through bookkeeping documents in order to confirm whether the coding of the information given is in accordance with the firm's coding system. Makes corrections where necessary. The Chief Code Control Clerk performs basically the same duties as the Control Clerk, but also controls the flow of work and generally supervises her team of clerks.

CREDITORS' CLERK

Requirements: At least a Std 8 Certificate, but preferably a Std 10 Certificate. Two or three years' experience in the general accounting field is required, except in the case of juniors who are trained in the firm. A legible handwriting is a requirement as well as the ability to tackle and solve problems.

Vocational service: Reconciliates records of the firm with creditors' monthly statements. Compiles advice payments for the payment of local suppliers. Sees to it that local creditors (suppliers) are paid in good time and that, where applicable, discount for cash is taken into account. The chief clerk is responsible for supervising his team of workers and he undertakes and co-ordinates the training of his junior staff. He copes with the correspondence with the suppliers.

DEBTORS' CLERK

Requirements: At least a Std 8 Certificate. Must be able to operate a bookkeeping machine where it is in use. Proficiency in work with figures. Previous experience is desirable, but not necessary.

Training: Juniors receive in-service training. Bookkeeping machine companies usually provide training in the operating of a bookkeeping machine.

Vocational service: The Debtors' Clerk keeps a record of each client's account either by writing it down or by using the bookkeeping machine. She also sends out accounts to clients.

DESPATCH CLERK

Requirements: A Std 8, Std 9 or Std 10 Certificate with administration ability. Many enterprises employ pensioners in these posts.

Vocational service: Responsible for the despatch of goods sold. Checks that all goods have been completely cleared. Controls and organizes delivery staff; sees to it that signatures are obtained for all deliveries. Supervises delivery vehicles.

GENERAL ACCOUNTS CLERK

Requirements: At least a Std 8 Certificate, but preferably a Std 10 Certificate. No specific experience is required as training is provided.

Vocational service: Undertakes daily entering of transactions in the primary books, or provides the data processing section with the information for processing by the accounting section of a retail business.

INVESTIGATOR (MALE)

Requirements: A Std 8 Certificate. Perseverance; bilingualism; willingness to be away from home sometimes and to work irregular hours.

Training: The Investigator is employed by private firms and receives in-service training.

Vocational service: Traces clients who have disappeared without paying their accounts and arranges for the settlement of the accounts. In extreme cases of non-payment or dishonesty goods are taken back on behalf of the firm.

INVOICE CLERK

Requirements: At least a Std 8 Certificate. Previous experience not necessary.

Vocational service: Mainly makes out invoices and other bookkeeping documents in which particulars of all the stock which leaves the shop are entered. (This post is found only in certain kinds of shops.) In most of the shops invoicing is undertaken by the sales assistants.

METER READER

Requirements: Std 6 Certificate. For appointment as meter inspector, a Std 8 Certificate is required.

Training: Receives training in the reading of meters at the different engineering departments where the meters are made. On his rounds, he works with a Senior Meter Inspector until he is well acquainted with the work.

Vocational service: Meter Readers, employed by municipalities, make monthly rounds of all houses, flats, business premises, etc. which have been allocated to them, to read the electricity and water meters.

OFFICE JUNIOR (MESSENGER)

Requirements: At least a Std 6 Certificate.

Training: In-service training.

Vocational service: The duties of the Office Junior or messenger include essential duties such as carrying files from one official or office to another, fetching and delivering of local letters, fetching and distributing post and office stationery and many other routine tasks.

OFFICE MACHINE OPERATOR

Requirements: At least a Std 8 Certificate. Preference is given to a Std 10 Certificate for the computer.

Training: Mostly in-service training. A bookkeeping machine course is offered by some suppliers of the machines.

Vocational service: Office machines include, inter alia, the following:

- Bookkeeping Machine: The operator keys in data of invoices received on the creditors' cards with the aid of a bookkeeping machine. She balances the creditors' cards once a month with the chief control statement released by the computer.

The bookkeeping machine operator must be able to work quickly and accurately on the machine, especially under pressure.

- Duplicator: The work of the duplicator operator includes the duplicating of original documents, plans or sketches. There are various types of machines.
- Punch Card Machine and Check Punch Card Machine: The Punch Card Machine Operator punches data which have been coded on forms onto punch cards. The Check Punch Card Machine Operator must check the punched cards by means of a machine nearly similar to the punching machine. The completed cards are fed into the computer by the computer operator.
Employment opportunities are favourable as electronic computers are already in general use.
- Computer: Colleges for advanced technical education offer a part-time three-year course to prospective computer operators who hold a Std 10 Certificate.
- Calculating Machine: The Calculating Machine Operator assists with the adding of figures where volume demands it. She also assists with the further processing of large volumes of accounting data. She must have an ability for figures.

STORES ASSISTANT

Requirements: At least a Std 8 Certificate. No specific experience is required, but two to four years' clerical experience will be appropriate.

Vocational service: Copes with the physical delivery and storage of incoming stock. Issues supplies as advised by the invoice clerk. Supervises the packers.

SUPERVISOR : DELIVERIES

Requirements: At least a Std 8 Certificate. Approximately five to seven years' clerical experience. Must have knowledge of the products being handled. Must be able to organize.

Vocational service: Controls the delivery staff, truck drivers and their assistants. Co-ordinates the routes covered by the various trucks to ensure that only one truck at a time serves a certain area. Supervises the loading of goods. Makes provision for security - only goods indicated on the invoices must be loaded for delivery.

Note: At smaller depots one person undertakes the duties of both the stores assistant and the supervisor: deliveries.

TELEPHONIST/SWITCHBOARD OPERATOR

Requirements: Men should hold a Std 7 Certificate and women a Std 8 Certificate. Applicants should be between 16 and 55 years old. Bilingual. Effective ability to concentrate, good memory, self-control, insight and tact. A high degree of manual dexterity.

Training: In-service training.

Vocational service: Telephonists are responsible for the switchboard. They cope with incoming and outgoing calls, answer call signals and record particulars in respect of trunk calls.

TYPIST

Requirements: At least a Std 8 Certificate.

Training: Classes in subjects such as typewriting, shorthand, etc. are offered by colleges for advanced technical education, technical colleges and technical institutes, after hours.

Vocational service: Typists usually work in a central typing office under the supervision of a Head Typist or a Senior Typist. A general typist types from any written, typed or printed document. The type of work being typed depends on the nature of the business for which she is working. A typist may be employed by a lawyer, municipality, commercial bank, building society, insurance company, a shop or any other business enterprise. All Government departments employ typists.

B. MINING CAREERS

APPRENTICES

All the mines take on apprentices, but mainly in the following trades: Fitter, fitter and turner, electrician, boilermaker, carpenter, rigger.

See p. 26 for the list of trades for which apprentices on the mines may be trained.

Requirements: At least a Std 8 Certificate, but a Std 10 Certificate is preferred for apprentice fitter and electrician.

Training: In addition to practical training on the mines the apprentices attend training courses at the various apprentice training centres of the mines.

To simplify the grouping for educational qualifications for trade test purposes and also with a recommendation from the National Apprentice Board, it was decided that apprentices who have passed their trade theory at the N2 level will be allowed to write a qualifying trade test after the following periods:

In 5-year trades: Voluntary test after 3 years, compulsory test after 4 years

In 3-year trades: Voluntary test after 2 years, compulsory test after two and a half years.

Where an apprentice has attained a minimum N3 or equivalent level, he will be allowed to write a qualifying trade test voluntarily after completion of two and a half years in the 5-year trades and one and a half years in the 3-year trades.

For further particulars regarding apprentices see Chapter II : From Apprentice to Artisan.

Applications for apprenticeships may be made to the Personnel Officer of any of the mines or to one or more of the mining companies, the addresses of which are given on p.141.

MINE SURVEYOR

Requirements: At least a Std 8 Certificate, but a Std 10 Certificate with Mathematics is preferred.

Training: Learner Mine Surveyors are trained on the job, but there are challenging opportunities for advancement by means of studies for the elementary and advanced mine surveyors' certificates of competency.

Vocational service: Mine surveyors work underground in the morning and return to the survey offices for the rest of the working day.

MINEWORKER

Requirements: Applicants should not be older than about 35 years and a medical certificate of fitness, which may be obtained from the Miners' Medical Bureau in Johannesburg or any of its branches in Welkom, Klerksdorp or Witbank, is also required.

Training: The Chamber of Mines and the Government are partners in training young men at the Government Miners' Training Colleges to become qualified mineworkers. There are approximately twelve colleges situated in the major towns and cities in the mining areas. These training colleges offer practical training with good pay whilst trainees are learning. Pleasant and inexpensive accommodation is provided for single and married men.

The training course extends over approximately 18 months.

Vocational service: The ideal of most of the qualified miners is to be "given a contract" - that is to be responsible for production in a section of a mine. Contract rockbreakers are some of the top earners on mines.

Full information regarding salaries, training centres, training courses, brochures and application forms may be obtained from: The Personnel Officer, Government Miners' Training Colleges, P.O. Box 14, Robinson 1761.

C. PROCESSING AND/OR MANUFACTURING

CLOTHING INDUSTRY

The clothing industry in the Republic will have to produce twice as many garments as are being produced at present if it is to meet local requirements by the year 1990. The expansion of the clothing industry is being hampered by a shortage of suitable top and middle management personnel. Opportunities for training in various aspects of garment manufacturing are offered, on either a full-time or part-time basis, to young South Africans at a reasonable cost.

Training: The Clothing industry affords training facilities where the trainee "earns while he learns".

The Training College for the Clothing Industry (Tvl.) in Johannesburg, was established by the Garment Workers' Union of South Africa and the Transvaal Clothing Manufacturers' Association and is administered by the Industrial Council for the Clothing Industry. It provides training for personnel at all levels and in all branches of the industry. It also caters for research.

Courses at the College are naturally many and varied in subject matter. Some are full-time, others part-time. An instructor's course in which students are shown how to train machinists for the factories is also provided.

In order to combine theory with practice, many students taking courses ranging from one to three years, work in factories during the morning and attend the college in the afternoon. Other students attend after working hours. Basic technical subjects are offered by the Witwatersrand College for Advanced Technical Education.

Vocational service: The following occupations are found in most of the larger clothing factories:

- Production Manager: Responsible for production, planning and control. Often leads to a directorship. The Higher Technologist Diploma, for which a full-time course is provided by the training college, forms the basic educational requirement.
- Designer: Creator of garments produced in the factory. He/she correlates the needs of the market to the right material and the right style in terms of the factory capacity. The Technicians' Diploma (emphasis on designing) will provide the basis for this position. The Technicians' Diploma is a three-year full-time post-Std 10 course offered by the aforementioned College.
- Sewing-machine Technician: Employed either by a sewing machine dealer or by a clothing factory. A three-year part-time course is available for candidates who hold a Std 8 Certificate and are over 17 years of age.
- Patternmaker: He or she must translate the ideas of the designer into a practical and economical pattern to suit the resources of the factory. This position is usually the introduction to becoming a designer. A part-time Ladies' Patternmaking and Grading Course and a Men's Patternmaking and Grading Course are offered by the College.
- Material and Trimmings Buyer: The Buyer needs to have a good background in textiles to judge the quality of materials required. He must be successful in negotiating prices and be familiar with local as well as overseas market trends. A part-time course in Textiles is provided.
- Supervisor: The Supervisor is being recognized to an increasing extent for his important role in the production process, as well as in labour relations, because he or she forms the link between management and workers. A part-time course extending over one year for candidates with a Std 8 Certificate is provided. Students work in factories during the morning and attend classes at the College in the afternoon.
- Grader: Grading, like patternmaking, is a job which requires the utmost precision. The Grader receives the pattern from the patternmaker in a specific size and then produces the various patterns in different sizes which are based on characteristics of the population. Prospective graders follow the Ladies' Patternmaking and Grading Course or the Men's Patternmaking and Grading Course offered by the College on a part-time basis.
- Sewing-machine Mechanic: Responsible for the upkeep of the machines. This includes not only plain sewing machinery, but semi- and fully automated machines. A Sewing Machine Mechanics' Course extending over one year is offered in the evenings. Candidates must have either a Std 6 Certificate or at least one year's experience as an assistant sewing machine mechanic.

FACTORY GIRL

Requirements: No specific level of scholastic training is required. Factory girls have usually passed Standards 4, 5 or 6. They must have a high degree of hand and finger dexterity as well as eye-hand co-ordination. Women between the ages of 16 and 60 are employed.

Training: In-service training.

Vocational service: There is a great demand for women as factory workers. Manufacturers of confectionery, biscuits and textiles as well as pharmaceutical and cosmetic products employ semi-skilled girls.

Since modern factories are automatized to a great extent, the work that has to be done is simple and uncomplicated. The work is actually limited to handling the machines. The duties of a factory girl vary according to the nature of the product being manufactured and handled.

A supervisor, one of the workers who has proved herself through faithful service, ensures that the girls do their work smoothly and accurately.

FASHION DESIGNER

Requirements: At least a Std 8 Certificate. Some training schools require a Std 10 Certificate.

Training: The training course differs in the various schools of fashion. Training for men and women is the same. The training course of a fashion school in Pretoria is taken as an example. The diploma course extends over one year on a full-time basis and practical as well as written examinations are held in November. On a part-time basis the course extends over two years. A mannequin course is also included.

A National Diploma in Art and Design is issued by the Department of National Education in the specialized field of Dress Design. The three-year course for candidates who hold a Std 10 Certificate is offered by the colleges for advanced technical education in Durban, Port Elizabeth and Pretoria. (See Tertiary training outside universities and career opportunities 1977, p.114.)

Vocational service: The fashion designer must know what her client expects from her. She must make a sketch of the dress and then adjust the basic pattern to fit the design. The fashion designer who works in a factory designs the dress, makes the block patterns and cuts out the material. Samples of her dresses are approved by the factory and manufactured on a large scale. In some clothing factories single creations are also made. This demands originality from the designer. The stitching of the work is undertaken by trained seamstresses.

Clothing factories and fashion houses employ qualified fashion designers. Only a few persons reach the top of the ladder. It requires perseverance and hard work.

FURRIER

Requirements: Persons must be at least 16 years old before they may enrol for learnership in a furrier workshop.

Training: No apprenticeship or formal training schedule exists. Prospective furriers and cutters are trained on the job. Learner cutters undergo training over a period of five years, learner machinists, liners and finishers over a period of four years and learner nailers over a period of three years. Training of the furrier is spread over a period of seven years, during which he learns the details of all aspects of the work.

Vocational service: The furrier may buy the fur himself at the biennial market in London or let agents do it. When a furrier has to make an article, he first discusses it fully with his client, and then he or his designer will draft the pattern. Suitable fur must then be selected and treated in various ways until it is ready to be cut according to the pattern and stitched together. Furriers are employed by large fur firms in Johannesburg, Cape Town, Pretoria and Durban. The furrier with originality and skill may start his own business.

GENERAL BUILDING FOREMAN*

NATIONAL CERTIFICATE FOR GENERAL FOREMEN IN THE BUILDING INDUSTRY

Requirements: Although the course is designed for candidates who have already obtained a qualification in the Building Industry, for example the NTC II (N2) and an appropriate trade theory subject, the sponsors of the course are anxious to place these facilities at the disposal of any candidate with the necessary abilities and experience to follow the course with success. For this reason selection committees have been appointed in the various centres to decide whether candidates are suitable for training as general foremen.

Training: The course extends over a period of one year (three trimesters) on a part-time basis with lectures two evenings per week and is offered by the colleges for advanced technical education in Cape Town, Durban, Port Elizabeth and Johannesburg.

Subjects

Site Organization and Control
Site Administration
Personnel Supervision and Welfare

Note: All three of these subjects comprise various parts. Enquiries should be directed to either the Colleges or the Master Builders Associations in Cape Town, Durban, Port Elizabeth or Johannesburg, or to the National Federation of Building Trade Employers in South Africa, P.O. Box 11359, Johannesburg 2000.

GLASS-FIBRE WORKER

Requirements: No prescribed qualifications, although people with experience in an allied trade or any mechanical experience enjoy preference.

Training: No formal training. Employers are responsible for training their own workers.

Vocational service: Glassfibre-reinforced plastics products are made by reinforcing a synthetic resin with glass-fibre. One of the methods of manufacture is the hand lay-up method which consists of laminating successive layers of polyester-resin and glass-fibre in an open mould. The fibre-glass layers are laid out by hand. The polyester-resin is then applied either with a brush or it can be sprayed on with a chopper-gun unit. The mould itself is usually made of glass-fibre-reinforced plastic. Work is carried out indoors, ideally in an air-conditioned workshop, as the curing of the polyester resin is affected by variations in temperature. Protective clothing is essential as skin irritation is caused by fibre-glass materials. Even respirators are worn to prevent fine particles of glass-fibre from entering the lungs. The glassfibre-reinforced plastics industry is still in its infancy. Apart from job opportunities in existing factories the person with drive who can start his own concern stands a reasonable chance of making a success of it.

INDUSTRIAL ADMINISTRATION*

NATIONAL DIPLOMA IN INDUSTRIAL ADMINISTRATION

Requirements: The minimum qualification is a pass in the following subjects at the Standard 10 level: English, Afrikaans, Mathematics or Physical Science or Applied Mechanics or Chemistry or Physics or Economics.

The National Diploma in Industrial Administration is awarded to a candidate who has satisfied the examination requirements and can produce evidence that he has been employed for a period of at least two years prior to the completion of the course in a work study, production planning or similar office, OR

he has attained a National Technical Diploma (formerly known as the National Engineering Diploma) or a National Diploma in advanced technical training.

Training: The course is offered on a full-time, sandwich, part-time or correspondence basis. The full-time course extends over one year and the part-time course over two years.

Subjects

Part A

Production Planning and Control T1
Work Study T1
Human Factor in Management T
Costing and Estimating T
Languages T

Part B

Production Planning and Control T2
Work Study T2
Applied Statistics T
Industrial Legislation T

Training centres: Colleges for advanced technical education; some technical colleges; some correspondence colleges.

Vocational service: There is a continual increase in the demand for trained production and factory managers in South Africa. In order to satisfy this need and to combat the shortage of production officials in general, this course was established after consultation with, inter alia, various professional institutes, government departments and large organizations in commerce and industry. Candidates receive valuable training in the latest production methods and the procedure which must be followed for the promotion of productivity. For the person who is interested in his work and who desires to attain maximum productivity, this diploma is definitely a key to senior positions which offer interesting work and for which the remuneration is above average.

LOCKSMITH

Requirements: Std 8 Certificate. Excellent eyesight; have the ability to work with people; concentration and accuracy are essential.

Training: Beginners receive their training under supervision of a qualified locksmith. After a probation period of 3 months a beginner can be registered as a learner and after five years' training he is recognized as a qualified locksmith by the Industrial Council for the Iron and Steel Industry. There is no examination or prescribed training course, but colleges for advanced technical education offer courses in woodwork, sheetmetal work and welding that can be of great benefit to a locksmith.

Vocational service: It is only in exceptional cases that the locksmith has to make a lock himself. Most locks and keys are manufactured in factories and afterwards fitted to doors. In most cases the locksmith is concerned with the opening of locks, repair work and the making of keys and duplicate keys.

When he has to make a key, the locksmith uses the existing key as an example. He has a variety of blank keys to facilitate the manufacture of keys. Keys are mostly cut by machines, but the finishing touches are performed by the locksmith.

OPERATORS

CAULKER

Requirements: At least 16 years of age and in sound physical condition.

Training: Caulking is one of the few operator's jobs where a fixed period of training is laid down. The operator has to serve a period of six months as probationer, after which he is appointed in a permanent capacity.

Vocational service: Caulking as a job almost always goes hand in hand with another better known occupation, viz boilermaking. All materials which go into the construction of the boiler must first be prepared before the boilermaker starts with his work. After the marking off of the plates has been completed, the boilermaker cuts the metal. Once the cutting has been finished the rough edges have to be smoothed and trimmed. The next step is the drilling of holes for rivets. Leaky rivets are treated by the caulker. He closes the seams between two overlapping steel plates.

CHAIN-MAKING MACHINE OPERATOR

Requirements: At least a Std 8 Certificate. Must have some degree of mechanical aptitude.

Training: Period varies from person to person according to his ability for this type of work. Most operators are regarded as qualified after a few months.

Vocational service: Most of the work is done automatically or semi-automatically. The machines must run smoothly, faults must be reported and the machines must be adjusted if necessary.

DRILL GRINDING-MACHINE OPERATOR

Requirements: Accuracy. Std 6 Certificate and at least 16 years old.

Training: No fixed period. Duration depends on the person's working ability and comprehension.

Vocational service: When an operator wants to grind a drill, he must first adjust the grinding-machine. He must determine at what angle the bit must be grinded. This can be read from a table. The grindstone's number of revolutions per minute and the speed at which the drill must be held to the grindstone must also be fixed. This is also read from a table. After the drill has been correctly fastened and the machine adjusted it can then be switched on. The operator is also to a certain degree responsible for the maintenance of the grinding machine. Simple repairwork and the oiling of the machine can be dealt with by the operator.

GALVANIZER

Requirements: At least 16 years old. They must have an understanding of Chemistry as it plays an important rôle in the process of galvanization.

Training: Period varies according to the operator's aptitude for the work.

Vocational service: Before articles can be galvanized they must first be cleaned. One of the most important stages in the galvanization process is reached when the metal articles are dipped in the melted zinc. The experienced galvanizer can easily determine the length of time it takes for the proper forming of the zinc coating.

OPERATOR - ROAD CONSTRUCTION MACHINERY

Requirements: At least 18 years old and he must be in possession of a heavy vehicle driver's licence.

Training: The prospective operator is appointed as a trainee and receives free in-service training under supervision of an operator instructor. After completion of four years' service the operator may complete certain tests and become either a senior operator or an operator instructor.

Vocational service: The operator of heavy road construction machinery must know how to handle all the road construction machinery. The nature of his work depends on whether he assists in the construction of new roads or whether he is busy with the maintenance of old roads. The operator working on the construction of new roads is, inter alia, responsible for the following:

- After blasters have carried out blasting work, front end loaders, trucks and bulldozers must remove the rubble;
- foundation material must be carted and spread;
- the foundation and base course must be compacted and rolled with different rollers;
- the crown layer must be trimmed so that the top surface of the road is neat and tidy;
- the gravel layer must be laid and finally the road must be tarred with the tar-spraying vehicle.

The operator who is responsible for the maintenance of old roads has the following tasks:

- To keep bridges and outlets clear;
- to seal cracks and holes in the tarred roads;
- to scrape the gravel roads;
- to repair and regravell roads which have been damaged by floods and washaways.

PROFILE CUTTING OPERATOR

Requirements: No minimum entrance requirements. Most profile cutters have at least a Std 6 Certificate.

Training: Period varies according to the operator's aptitude for the work. Most operators are regarded as qualified after a few months.

Vocational service: The profile cutter is responsible for cutting parts out of sheetmetal which the boilermaker will use. The ignition of an acetylene and oxygen mixture under pressure is used in the process.

RIVETER

Requirements: At least 19 years old and physically fit.

Training: Period varies according to the person's ability and capacity for work.

Vocational service: In the engineering and construction industries many parts often have to be joined together to form a larger whole. This is done by means of welding or riveting. Metal surfaces have to be joined with red-hot rivets which are placed in the holes in the surface and riveted by means of a pneumatic hammer.

WATER PURIFICATION OPERATOR

Requirements: Std 8 Certificate.

Training: Persons who are in full-time employment at a water purification installation or related industry, may attend an intensive training course of four weeks at the Pretoria College for Advanced Technical Education. Prospective operators must enrol for the course at the college six months before commencement of the course and they must devote at least six months' private study to lectures and textbooks under the guidance of a competent senior person.

Vocational service: Since water purification and water reclamation are put into practice more and more, there are already various organizations interested in persons with suitable qualifications. The following may be approached in this connection: The National Institute for Water Research of the CSIR, the S A Bureau of Standards, municipalities, the Rand Water Board, the S A Railways, and industries adjusted to the reclamation of water, such as Iscor.

Further particulars concerning the Operators' Course in Water Purification are obtainable from the Pretoria College for Advanced Technical Education.

OPERATORS' COURSES*

The following courses at N1, N2 and N3 level are intended for operators in the Iron, Steel and Ferro Alloy producing industries.

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Iron, Steel and Ferro Alloy
Process Theory N1

Group 2: TWO from:
Applied Science N1
Industrial Orientation N1
Mathematics N1
Technical Drawing N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: ONE of the following subjects:

Coke and By-product Process Theory N2
Ferro Metal Rolling and Shaping Processes N2
Iron Production and Casting N2
Metallurgical Process Theory (Ferro Alloy Section) N2
Steel Production and Casting N2

Group 2: TWO from:

Applied Science N2
Industrial Orientation N2
Mathematics N2
Technical Drawing N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

The same as for National Technical Certificate Part II, but the subjects selected are at the N3 level.

Training centres

Technical colleges: Vanderbijlpark, Vereeniging

Technical institutes: Newcastle, Pretoria West.

OPTICAL TECHNICIAN

Requirements: No specific educational qualifications although a Std 10 Certificate is preferred.

Training: Trainees are taken in for a pupilage of three years during which they work in a laboratory or workshop, take notes and instructions and learn the trade step by step from qualified optical technicians. Men as well as women are allowed to enter for this pupilage. After completion of the pupilage, trainees are allowed to specialize in a particular field of optical technics.

Vocational service: The Optical Technician receives a prescription with a precise statement of the particular needs of the patient from the optometrist, oculist or optician. The prescription contains details of lens power, size, shape, location of optical centre, position of bifocal segments, type of frame or mounting etc. He then starts with the manufacturing process. The optical technician has to find in the stock room the appropriate lens to use. A basic range of lenses with their surfaces finished is carried as stock, requiring only to undergo suitable processes to be complete. This includes, inter alia, surfacing, blocking and fitting of the finished lenses into the frame. The work of the technician also includes the repairing of damaged frames and spectacles.

Prospects for employment are favourable as there will always be a demand for optical technicians.

ORTHOPAEDIC ORTHOTIST AND PROSTHETIST*

(i) NATIONAL CERTIFICATE IN ORTHOPAEDIC ORTHOTICS AND PROSTHETICS and

(ii) NATIONAL DIPLOMA IN ORTHOPAEDIC ORTHOTICS AND PROSTHETICS

(i) Requirements: Std 8 Certificate. Good eyesight, good hearing and speech faculties are essential. Have a genuine interest in the physically handicapped and a desire to help them.

Training: The course extends over three years. Having satisfactorily completed the examination, the trainee spends a further twelve months (1500 hours) in an orthopaedic workshop, undergoing practical training. On completion of these four years he is eligible for registration with the SA Medical and Dental Council as a qualified Orthopaedic Orthotist and Prosthetist.

Subjects

First year

Orthopaedic Science C1
Orthopaedic Workshop
Theory C1
Orthopaedic Workshop
Practice C1

Second year

Orthopaedic Science C2
Orthopaedic Workshop Theory C2
Orthopaedic Workshop Practice C2

plus a recognized First-aid Certificate

Third year

Orthotic and Prosthetic Science T1
Orthotic and Prosthetic Techniques and
Management T1
Orthotic and Prosthetic Practice T1
Orthotic and Prosthetic Human Relations T1

Once he has obtained the above-mentioned Certificate, the trainee may be admitted to the National Diploma course in Orthopaedic Orthotics and Prosthetics.

(ii) NATIONAL DIPLOMA IN ORTHOPAEDIC ORTHOTICS AND PROSTHETICS

Requirements: The National Certificate in Orthopaedic Orthotics and Prosthetics. Candidates who do not hold a Standard 10 Certificate will be required to pass the official languages (at least one on the Higher Grade) at the Std 10 level prior to the award of the Diploma.

Training: The course extends over two years.

Subjects

First year

Orthotic and Prosthetic Science T2
Orthotic and Prosthetic Techniques and Management T2
Orthotic and Prosthetic Practice T2
Orthotic and Prosthetic Human Relations T2

Second year

Orthotic and Prosthetic Science T3
Orthotic and Prosthetic Techniques and Management T3
Orthotic and Prosthetic Practice T3
Orthotic and Prosthetic Human Relations T3

Vocational service: The Orthopaedic Orthotist-Prosthetist works in close liaison with the orthopaedic surgeon and other members of the team of paramedical personnel concerned with the treatment and rehabilitation of the physically disabled. The surgeon diagnoses the physical handicap and gives instructions. The Orthopaedic Orthotist-Prosthetist is then responsible for designing and manufacturing the appliance which may be required.

The Orthopaedic Orthotist-Prosthetist's work consists mainly of the manufacturing of prostheses (artificial legs and arms), orthoses (orthopaedic appliances) such as calipers for the legs, spinal braces, surgical footwear and any other appliances required by the patient. He does not, however, spend all his time in the workshop. He attends clinics where he advises the surgeons on technical matters and visits patients in hospital to measure and fit appliances.

The Orthopaedic Orthotist-Prosthetist must have a sound knowledge of various metals, leather, wood, plaster of paris, plastics and their application. He also has to operate various types of machinery and must have a thorough knowledge of the nature and the cause of a physical handicap and of the anatomy and physiology of the human body.

PRE-TECHNICIAN IN PLASTICS

PRE-TECHNICIANS COURSE IN PLASTICS

Requirements: Two years' experience in the plastics industry and a Std 8 Certificate or equivalent.

Training: The course, which is offered by the Pretoria College for Advanced Technical Education, extends over a period of three months. The syllabus includes altogether 115 hours' theoretical and 185 hours' practical training in the basic principles of plastics technology.

A certificate is issued by the College to the successful student after completion of the course.

The course can be of great value to tradesmen who need to know more about plastics processing and to foremen and operators already working in the plastics industry.

PRODUCTION WORKERS

Production workers are concerned with the production of iron and steel as well as by-products and the supplying of production facilities such as steam, electrical power, oxygen, etc.

IsCOR is a fully integrated steel industry with several mines which are responsible for supplying raw materials, and three plants where a wide range of steel products and by-products are manufactured. The production processes vary to such a degree that the duties of the production workers in the various divisions are also very dissimilar.

Requirements: At least 16 years old; success in an aptitude test; have a personal interview and a medical examination.

Training: An induction course is followed by further training and explanations by the various supervisors. Production workers may also acquire higher qualifications through technical colleges or correspondence colleges.

Women are beginning to play an increasingly important role and are already being accepted as production workers.

Vocational service: It can be stated in very broad outline that the production worker

- works partly with his hands;
- is appointed to a post for which, at first, he needs no specialized knowledge, but in which he receives training to perform his task, and
- is normally directly concerned with the production.

The nature of the work varies from partly clerical work in offices to manual labour in the open air.

The following are a few examples of typical production work:

- Billet Provider: The Billet Provider is only one of several posts in the rolling industry. His task is to provide billets for the roller. The equipment he uses consists of a calculator, pencil and paper and billets. (A billet is a steel bar which is turned into a product.)
- Crane Driver: At the beginning of his shift, the crane driver must test the crane with which he is going to work and report all defects. He then receives oral instructions from the foreman and loads, packs, moves and sorts the materials with the assistance of the signaller.
- Diesel Loco Driver: His main task is to drive a locomotive for the transportation of ore, materials, spare parts, etc., through the plant. He receives his instructions orally or by radio. His material and equipment consist of a diesel locomotive, rolling material and a radio.
- Sher Man: His main task is to supervise the cutting of steel in the required lengths, as well as inspecting it. His tools consist of the usual safety equipment as well as gloves, a hook and a tape measure. He checks the lengths required and then sets the stop-block in accordance with the measuring board.

SEMI-SKILLED GIRLS IN THE PRINTING INDUSTRY

Requirements: No specific level of scholastic training is required. Employees are selected by the works manager.

Training: In-service training. The girls work under supervision of skilled journeymen and experienced workers.

Vocational service: The female workers in the printing industry are responsible for a wide range of duties, which are as follows:

- Proof-reading which requires an ability to read fluently in both Afrikaans and English.
- Before paper money is printed, sheets of paper are cut into large rectangles and fed into a machine. A girl arranges these rectangles and feeds them into the machine. This duty requires fast and accurate work. When both sides of the sheets have to be printed, they are turned over, piled up and fed into the printing machine again.
- The folding of large sheets of paper to page size is performed by a machine. One or more girls receive the folded sheets, check for wrongly folded sheets and pile them up. After certain parts of a book or a magazine have been folded, the girls arrange the parts with folio numbers in the correct sequence. The different sections of a book are opened and each section is stapled or thread-sewn along the middle.
- A group of girls cut off the loose string or cord along the spine of the book and then glue the spine. Gauze strips are placed on the glued spine. The inside of the hard cover is glued and the book is placed into it.
- Female operators control the machine which punches holes in the paper as well as the saddle stitch machine.
- Great accuracy is required where forms are printed in duplicate.

- Before despatching anything, exact numbers are counted off. The female workers undertake the packing in brown paper and the addressing of parcels. The addressing is performed by means of stencils or address plates that are fed into a machine. An operator controls the addressing machine.

In performing the duties in the printing industry accuracy and speed are essential.

WORKERS IN A CIGARETTE AND TOBACCO FACTORY

Requirements: At least 15 years old. Married females are also employed. Reliability, accuracy and speed of perception are necessary.

Training: Factories prefer to train their own workers.

Vocational service: Manufacturing cigarettes and pipe tobacco is a process which requires the services of different kinds of workers. Employment opportunities in this industry are generally favourable.

WORKERS IN A COFFEE FACTORY

Requirements

Despatch Clerk: A Std 8, 9 or 10 Certificate and must have administrative ability.

Packer: At least 16 years old and must be able to work fast. A good eye-hand co-ordination is required.

Roaster: A Std 8 Certificate. A reliable memory and a good eye for colour for distinguishing the different types of beans is important. Because of the predominant mechanical nature of the process, a degree of mechanical perception is desirable.

Storeman: At least a Std 8 Certificate since he has to keep an accurate account of the supplies. A good memory is also an indispensable quality.

Stores Assistant: A Std 8 Certificate. He supervises the packers.

Other workers: A Std 8 Certificate.

Training: In-service training.

Vocational service: Coffee is regarded as South Africa's national drink. Coffee beans are graded according to taste, weight and size and transported in bags to the factories to be roasted, grounded and mixed.

The storemen, roasters and mixers do a lot of standing and walking while the packers sit or stand in performing their duties.

The despatch clerk is responsible for despatching the products. He checks all goods which have to be cleared, organizes the delivery staff, obtains signatures for deliveries and supervises the delivery vans.

D. SALES AND RELATED CAREERS

AUCTIONEER

Requirements: Must have a sense of responsibility; have a desire to extend his general knowledge in all fields through the work that he will do; be completely bilingual; have a strong personality and a well modulated speaking voice and be good at figures.

Training: A person starts as an auction clerk at an auctioneering firm where he undergoes a pupilage to extend his general knowledge. He also has to learn public relations and will finally receive training in the field of salesmanship.

Vocational service: The practice of auctioneering is a time-honoured occupation by men and women vastly experienced in the field of buying and selling. These functions may involve the sale of fixed property, household furniture, motor vehicles, antiques, rare books and documents, paintings, etc. It is important for the auctioneer to be a good valuator in order to get a fair price for his client. The Auctioneer is also responsible for advertising the auction and describing the goods for sale.

The auctioneer is assisted by a auction clerk who records details of the sale on the vendu roll and also receives the cash payments, and an accountant clerk who compiles the accounts for buyers who pay at the conclusion of the sale.

As a result of the auctioneer's specialized and detailed knowledge he is often consulted by appraisers and liquidators of estates for his expert opinion. An auctioneer may eventually become a director of an auctioneering firm.

BEAUTY CONSULTANT

Requirements: Std 8 Certificate, though a Std 10 Certificate is sometimes preferred.

Training: Training is offered by practising beauty consultants or various beauty firms. Persons who hold a Standard 10 Certificate may take the one-year full-time course for the National Certificate in Beauty Culture. The course is offered by the colleges for advanced technical education. (See Tertiary training outside universities and career opportunities 1977, p.121.)

Vocational service: The beauty consultant is mainly concerned with skin care and advising women on the application of cosmetics and skin care in general.

COMMERCIAL TRAVELLER

Requirements: Academic qualifications, especially in the field in which the firm specializes, are a strong recommendation.

Training: In-service training.

Vocational service: The commercial traveller has to bring new products to the notice of possible buyers as quickly as possible. A commercial traveller usually serves a defined territory. He must know his products well and have all the samples, price lists, illustrations and so forth at hand to show the prospective buyers. He must be a good judge of people and be able to handle each possible client so that he may win their co-operation and goodwill. Income depends on the type and the size of the firm which employs him.

FLORIST

Requirements: Must love flowers and plants. Quite as important are qualities such as patience, artistic talent and originality.

Training: In-service training. Short private courses in flower arrangement are offered in some cities.

Vocational service: A Florist mainly works with flowers which he receives from the nurserymen and he thus forms a link between the nurseryman and the buyer.

The various types of flowers must be treated by various methods. The florist must be conversant with the needs and desires of the public. Apart from the design of shoulder-sprays, bouquets and flower arrangements in holders, the florist is also responsible for his own window-dressing. One of the more specialized aspects is the design and making of bridal bouquets. The construction of wreaths also requires a special technique. The duties of a florist are in many respects similar to that of a shopkeeper.

MANNEQUIN AND/OR PHOTOGRAPHIC MODEL

Requirements: No specific academic training. Mannequins who are between 1,61m and 1,67m tall have no difficulty in finding work. The photographic model must be very photogenic.

Training: Mannequins are trained in the larger centres on a full-time or part-time basis for a period of two to three months. The course includes, inter alia, the following aspects: Self-development, self-confidence, poise and elegance, deportment and figure improvement, personal care, make-up and skin care, wardrobe planning, business etiquette, gracious living as well as modelling. When a model has completed her training, her agent (usually the place where she received her training) sends her to the various photographers to have test photographs taken.

There are training schools in Durban, Johannesburg, Cape Town and Pretoria. After a woman has been trained as a mannequin and photographic model she can be registered as a professional mannequin.

Vocational service: The mannequin's most important task is to display the latest fashions and to bring them to the notice of prospective buyers. In the Republic most mannequins do part-time modelling which usually lasts from two to four months at a time. Mannequins mainly work in the showrooms of shops and clothing factories. Fashion parades are often held to collect funds for charity. The scope of this career is extending systematically and prospects for mannequins are consequently also improving.

MOTOR PARTS DEALER*

NATIONAL CERTIFICATE IN MOTOR PARTS MERCHANDISING

Requirements: At least a Std 8 Certificate, NTC I (N1) or equivalent qualification.

Training: The course is offered either on a part-time or release basis by technical colleges or technical institutes. The course usually extends over two years, but may be completed in one year.

Subjects

First year

Stock Control I
Salesmanship I
Stock Administration
Product knowledge

Second year

Stock Control II
Salesmanship II
Motor Trade Law
Motor Parts Liaison

Vocational service: Trained persons are employed by wholesale dealers, retail dealers and garages.

SHOP-ASSISTANT

Requirements: Vary from shop to shop; most of them require a Std 8 Certificate. Book-shops prefer a Std 10 Certificate or a higher qualification.

Training: Practical experience. Some large shops offer a training programme.

Vocational service: Must have a thorough knowledge of the articles they sell; assist clients in their choice; confirm whether the client is going to pay cash or whether he has an account; make out slips and pack the articles. The shop-assistant may progress to a departmental manager and even a branch manager.

TRAVEL AGENT

Requirements: No specific educational standard, although a matriculant would be better equipped for the job than a person who has only a Std 8 Certificate. A wide general knowledge of geography and fluency in different languages are assets. Bilingualism is essential.

Training: In-service training. During the first 12 to 18 months of training beginners work mostly with files in order to acquaint themselves with the work. At some travel agencies an examination is written at the end of the first year. After the learner travel salesman has obtained sufficient basic knowledge, he may serve the public.

International airlines often organize special tours to different countries for the training of travel agents and they invite travel agencies to send representatives on the tours, which are free of charge.

Vocational service: Travel agencies arrange tours for individuals as well as for groups of people. The agencies do not charge the tourist for their service as their income is provided by the commission paid by the railways, airlines and hotels.

The travel agent helps a client to plan his tour, arranges for accommodation and undertakes the necessary bookings.

Most colleges for advanced technical education offer courses in Tourism. See Tertiary training outside universities and career opportunities 1977, pp.91-92.

E. SERVICE CAREERS

AMBULANCEMAN

Requirements: A Std 6 Certificate, a heavy vehicle driver's licence, physical fitness; must be at least 18 years of age; must be able to lift a weight of at least 68 kilograms. He must have extensive knowledge of first aid, be a sympathetic and a responsible level-headed person.

Ambulancemen must be members of a recognized first-aid organization.

Training: He is thoroughly trained in first aid and he must pass an examination annually. The new ambulanceman is usually sent to the scene of an accident with a veteran.

Vocational service: The first and most important duty of the ambulanceman is to save the life of the seriously injured person by applying first aid where necessary and then to transport him to the hospital immediately. At the scene of the accident the injured may first have to be treated, for example, by stopping any bleeding, applying artificial respiration and putting broken limbs in splints.

ANIMAL KEEPER(ZOO)

Requirements: At least a Std 8 Certificate or equivalent. An agricultural school background is a recommendation.

Training: In-service training by the professional staff.

Vocational service: The actual zoo-keeping staff consists of professional and non-professional workers. The professional officers are assisted by a group of officers known as animal keepers. They are responsible for the supervising and feeding of animals, and the cleaning of cages and enclosures. The role these workers play is important since they are in continual and direct contact with the animals in their sections. They are expected to take a keen interest in their charges and to record interesting behaviour sequences displayed by the animals. They must thus have acute observational powers and be able to achieve rapport with the animals.

BUS WORKER

Requirements: At least a Std 6 Certificate and 21 years of age.

Training: Undergoes training lasting about 8 weeks in the handling of his vehicle and also with regard to road signs, handling of money and tickets, places of interest, routes, etc.

Vocational service: Since most transport services no longer distinguish between bus driver and bus conductor, the bus worker does both the driving and the receiving of the bus fares.

His work entails the following:

- He transports passengers by bus in town or to the suburbs and receives bus fares at the various boarding points. Thus he has to know the routes, tariffs, the number of passengers allowed on the bus, etc.
- He helps the blind, the mothers, and the aged in and out of the bus.

- He collects property left behind on the bus and hands it in for safe keeping.
- He checks busses before departure for defects in the brakes, lights, windscreen wipers, etc.
- He fills in a detailed passenger statistics card.

Employment possibilities are ample for the responsible and careful worker.

Bus workers are promoted on merit to the position of inspector in the various divisions of the transport service, such as bus worker inspectors, training inspectors and information inspectors at enquiry offices.

CHILD CARE AT INSTITUTIONS*

NATIONAL CERTIFICATE IN CHILD CARE AT INSTITUTIONS

Requirements: This is an open course.

Training: It is a two-year course on a pre-Standard 10 level, which may be taken through correspondence at the Witwatersrand College for Advanced Technical Education. Candidates receive credit for each subject passed.

Subjects

First year

Social Care
Child Study
Recreation and Utilization of
Leisure

Second year

Health Education
Hostel Management OR Supervision Duty
Institution Management
Civics
Religious and Cultural Education

Note: Both the subjects Hostel Management and Supervision Duty must be studied by all the candidates, but Hostel Management is an examination subject exclusively for women and Supervision Duty for men.

Vocational service: Trained persons are employed for the education and care of children in children's institutions and homes.

CIVIL DETECTIVE

DIPLOMA IN CIVILIS S.A. (D.C. (S.A.))

Requirements: Only students who have a Std 8 Certificate or equivalent and are at least 18 years old.

Training: Takes place by means of a correspondence course offered by the Veritas College for Occupational Training. The course may be completed over an average period of 46 weeks of study.

Subjects

Legal Civilology
Law of Evidence and Civil Law
Principles of Civil and Criminal Identification
Commercial Intelligence
Civilological Intelligence
Civil and Criminal Investigations

A candidate for the examination does not have to pass all six subjects at the same time. The subjects may be written three at a time and credit is given for each subject passed, until all the subjects have been completed. The Diploma course is offered in Afrikaans and English.

Vocational service: The field of work of the professionally qualified detective includes the whole private sector. There is a great demand for civil detectives, factory detectives, shop and hotel detectives, company and insurance detectives as well as security personnel. The only difference between the Civil Detective and the Crime Detective is that the former investigates matters falling under the Civil Laws while the Police detective undertakes investigations falling under the Criminal Law.

Further particulars are obtainable from the Registrar, Veritas College, P.O. Box 1066, Bloemfontein 9300.

COOK

Requirements: At least a Std 7 Certificate, though a Std 8 Certificate is usually preferred.

Training: Three years in-service training in the kitchen.

Vocational service: Comprises the preparation of food for large hotels, restaurants and organizations such as the South African Railways. See also p.63.

CRECHE ASSISTANT

Requirements: Need not have any particular academic qualification, but should be patient with small children. The most important requirement is that she should be interested in them and also love them.

Training: In-service training.

Vocational service: Women who run crèches are usually qualified nursing sisters. Assistants care for and train small children, usually between the ages of one and six. The work is often tiring and she must thus be strong and healthy.

DOMESTIC STAFF (ASSISTANT, COOK AND MATRON)

Requirements: At least a Std 6 Certificate and 18 years old. Girls who have attended a domestic science high school are usually preferred, although other candidates are not excluded.

Training: Experience and knowledge are gained in-service and under the guidance of the matron. Short courses in the preparation of food and first aid can be of value.

Vocational service: The domestic staff consists of those women who carry out the domestic duties in hostels and children's homes. They are responsible for the serving of meals and upkeep of the household linen.

The assistants help with the preparation of food, e.g. making the sandwiches, salads, puddings etc. and supervising the unskilled labourers who do the washing up and prepare the vegetables. The assistants have to look after the linen e.g. collect the soiled linen, hand out clean linen, do the mending and control the stock.

It is the cook's duty to keep records of all the requirements, purchases and consumption in the kitchen. She compiles the menus, organizes the kitchen staff and submits regular reports.

MATRON

An assistant with the necessary ability may progress to the post of matron.

Training: No formal training.

Vocational service: The matron bears all the responsibility for the hostel's domestic affairs. She is, inter alia, responsible for the meals, the cleanliness of the building, taking stock, laundry and so forth. She is also the nurse of the hostel. Her work is of a supervisory nature while she is in charge of assistants, cook and servants who execute her orders.

DOORMAN AT THE CINEMA

Requirements: At least a Std 7 Certificate. Should be physically fit.

Vocational service: Doormen take tickets at the entrance to the cinema and are responsible for various duties during and after the shows.

FIREMAN

Requirements: At least a Std 6 Certificate and 17 years of age. Candidates with higher qualifications are, however, preferred.

Training: Beginners have to take different courses that last about three months. To be more competent, a fireman could write five examinations of the South African Fire Services Institute.

Candidates who hold the Fireman's Examination of the SA Fire Services Institute may be admitted to the course for the National Diploma in Fire Technology offered by the Pretoria College for Advanced Technical Education. (See Tertiary training outside universities and career opportunities 1977, p.62).

Vocational service: The most important task of a fireman is to protect life and property. To be able to do this, he has to know how to use his equipment and he has to attend regular fire brigade exercises and lectures.

When the fire brigade arrives at the scene of a fire, the officer decides on the best techniques to extinguish it. He decides whether they should use hoses/pipes or whether they should use chemicals only. A few members of the crew connect the fire-hose to a hydrant, others prepare the chemicals while the rest have to attend to people in danger. After the fire has been extinguished and the firemen are back at the fire station, they have to prepare the fire engine for the next call.

(See also Fire Officer (Chief) p.56.)

FUNERAL DIRECTOR

Requirements: Need not have any particular school qualifications. Personality and qualities of character are the important attributes required. Must be bilingual.

Training: In-service training. Generally it takes 3 years before a person is thoroughly qualified in all the different aspects.

Vocational service: The Funeral Director undertakes all the arrangements in connection with the funeral. He and/or his assistant drives the car of mourning and the hearse. Corpses must be fetched at the hospitals, houses etc. and taken to the mortuary of the funeral director's business.

The funeral director must know the ceremony and the procedures to be followed at each funeral. The funeral director, in consultation with the minister and members of the family, is responsible for drawing up and handing out the funeral programme. The funeral director must also be acquainted with the practices of the various church denominations. After the funeral he must supervise the clearing up of the stand, the closing and the tending of the grave.

HEAVY VEHICLE DRIVER

Requirements: At least 18 years old with good eyesight, reaction time and sound power of judgment. Hold a heavy vehicle driver's licence.

Vocational service: The nature of the work depends on the firm or undertaking. The road transport service of the SA Railways delivers packages, produce and a wide variety of articles to remote country areas as well as urban centres. Heavy vehicle drivers employed by furniture cartage contractors are responsible for the loading and unloading as well as packing the furniture.

Various Government departments also employ heavy vehicle drivers. There are also a number of smaller transport contractors as well as persons who own their own trucks and thus work for themselves.

HOSPITAL PORTER

Requirements: Std 6 Certificate. Be fairly bilingual, physically fit and have common sense. He must not be afraid of the sight of blood as he often comes into contact with patients who have been seriously hurt in accidents. He must also handle corpses.

Training: In-service training.

Vocational service: Porters are mainly responsible for transporting patients from the wards to the various divisions of a hospital. Senior porters who receive orders from the various wards and divisions, inform the porters when, from where and to where they have to take their patients.

The nature of the porter's work differs according to the division in which he is working.

In the Casualty Division he is responsible for transferring the patients from the ambulance stretchers to the trolleys. Patients who are in a very critical condition, however, have to be taken to the operating theatre on the stretchers.

Porters in the Out-patients Division often have to hold patients who are difficult to control while the doctors or nursing staff are treating them.

Porters who work in the theatres must transfer the patient from the theatre bed on to the operation table. Other porters fetch the pa-

tients from the wards, bring them to the theatres, and take them back after the operation.

In the Orthopaedic Division the porter has to cut away the plaster of Paris from the limbs.

In the wards it is the porter's task to shave the male patients who have to be prepared for operations. The porter also has to take the corpses to the mortuary.

Opportunities for advancement: A porter can progress to senior porter and head porter.

HOTEL EMPLOYEES

Requirements: Std 6 Certificate and must be bilingual; should like people and be friendly and co-operative.

Training: In-service training.

Vocational service: Hotels offer a variety of opportunities to young men who may be employed as barmen, cooks, wine stewards, waiters, pages, general maintenance men, drivers, etc.

See Tertiary training outside universities and career opportunities 1977, (pp. 78-79) for post-Standard 10 training in Hotel Management, Hotel and Industrial Catering and Hotel Reception.

INSTITUTIONAL CARE FOR THE AGED*

NATIONAL CERTIFICATE (INSTITUTIONAL CARE FOR THE AGED)

Requirements: This is an open course.

Training: It is a two-year course offered through correspondence by the Witwatersrand College for Advanced Technical Education.

Subjects

First year

Care of the aged
Administration and Control
Physical and Health Care
Utilization of Leisure

Second year

Psychological Care
Spiritual Care
Personnel Administration
Internal Institutional Management

Practical work: An unbroken period of one month's work is performed in the first year of study and a further month in the second year of study. The Department of Social Welfare and Pensions determines the centres where practical work can be done and the College will supply this information. The Department of Social Welfare and Pensions will also issue a certificate to indicate that practical work has been satisfactorily performed.

Vocational service: At present there are a considerable number of homes for the aged and psychiatric hospitals throughout the country which urgently require the services of trained persons. More than 35 of these institutions are prepared to accept students for their practical work during their term of study.

The opportunity for training is available for young ladies but those not so young should also consider a career in this field. The duties which have to be performed border on those of an ordinary nurse and persons with the interest and aptitude for caring for their fellow men should derive enjoyment and satisfaction in this career.

JOCKEY

Requirements: Std 6 Certificate. Prospective jockeys must be 14 to 16 years old and weigh approximately 34 kg. Although persons who are short in stature receive preference, candidates must be strong and physically fit. Eyesight must also be perfect. It is not necessary for applicants to be good horsemen. They acquire it during their training.

Training: The only existing training centre in South Africa is Hamilton Lodge "Jockeys Academy" at Mariannhill in Durban. The school is under the joint control of the Department of National Education and the Jockey Club of South Africa. Applicants must apply to the Jockey Club. All pupil-jockeys sign a contract which is binding for the five years of their training. During his training the pupil-jockey receives theoretical as well as practical tuition. It is compulsory for pupil-jockeys to progress to the academic level of Std 10. After class attendance they receive practical training in the grooming of the horses, etc. After completion of 6 to 12 months' training the pupil-jockey is assigned to an approved trainer although he is still under the care of the school.

Vocational service: A jockey spends the greater part of the day on the horse's back. His work consists mainly in that he hires out his professional services as horseman to horse owners so that their horses may participate in the public races. He must assist with the training of the horses, the breaking in of young horses and must get to know the horses. The jockey is not only paid well, but receives a great deal of praise for his work.

MASSEUR

Requirements: Std 8 Certificate.

Training: Most health and beauty salons offer training courses which may be quite extensive for masseurs are expected to have a concise knowledge of the structure of the body.

Vocational service: Masseurs work in health and beauty salons, performing massages for health and beauty purposes.

NURSING

(i) ENROLLED NURSE

Requirements: Std 8 Certificate.

Training: Extends over a period of two years. On successful completion of the final examination, they can be registered with the South African Nursing Council as enrolled nurses.

The training of nurses in the RSA and South-West Africa is controlled by the SA Nursing Council, the statutory body which lays down the requirements for the training and examinations. Training and examining are conducted in the official language of the candidate's choice. Lectures, demonstrations, etc. are given at fixed times in modern well-equipped nursing colleges, while practical clinical training is received in the wards and sections of training hospitals.

Vocational service: The Enrolled Nurse does useful work as a member of the health team by assisting the general nurse with less specialized tasks. She always works under the supervision of a nurse or a doctor.

Enrolled nurses make beds, feed patients who are unable to feed themselves, answer bed-bells, prepare baby food, feed the babies, etc. If the enrolled nurse passes her examinations she may commence the three-year training course of a General Nurse.

Further details are obtainable from: The Secretary, SA Nursing Association, P.O. Box 1280, Pretoria 0001.

(ii) NURSING ASSISTANT

Requirements: Std 6 Certificate and good health.

Training: The course extends over six months. Training is centred round the patient and is offered mainly in the hospital. After the candidate has passed the examination she receives a certificate which acknowledges her as a Nursing Assistant with the South African Nursing Council.

Vocational service: The Nursing Assistant attends to the basic nursing procedures and essential care of the patient.

PHOTOGRAPHER

Requirements: At least a Std 8 Certificate.

Training: A large percentage of photographers in South Africa have had no formal training. The following courses are being offered at present:

- National Certificate in Photography and the National Diploma in Photography. See Tertiary training outside universities and career opportunities 1977, p.82.
- National Technical Certificate, Parts I, II and III. See p. 114.
- Formal training in all aspects and branches of photography is offered by the Central Phototechnical Institute of the SA Air Force. Although the training extends over four years, the first year is devoted to basic military training. The minimum admission qualification is a Std 8 Certificate with a pass in Mathematics and appointment is further subject to certain psychological tests.

Vocational service: The work of a photographer can primarily be divided into two parts, namely taking the photographs and their treatment and development until they are up to standard.

The photographer may specialize in various fields:

- The studio photographer who undertakes general photographic work such as photographing people;
- the press photographer who photographs newsworthy incidents and persons;
- the aerial photographer who is connected with the air force and whose task it is to do aerial surveys of the country;
- the camera-man who is responsible for taking motion pictures;
- the advertisement photographer who photographs models while they advertise clothes, hair styles, beauty preparations, perfume, etc.;
- the photographer in the Public Service (see p.37) and in the South African Railways (see p.66).

PIANO TUNER*

Requirements: Only blind or partially sighted persons. Candidates are selected on a strict basis. A Std 8 Certificate, but preferably a Std 10 Certificate. Must be bilingual and able to type.

Training: The only comprehensive and formal training in South Africa is the diploma course which the Department of National Education offers at the School for the Blind in Worcester.

The course extends over three years and the candidate who has completed the course successfully will be able to do all the repair work on a piano, but not the polishing of the box.

Subjects

Part 1

The theory of piano tuning - the following aspects are covered:

Acoustics
Description and calculations
History of the piano
Study of the general construction of the piano
Study of the mechanisms of the piano
Action in the finest details
Advice on the business aspects of the career
Elementary bookkeeping

Part 2

Practical piano tuning and adjusting

Part 3

Repair work

Vocational service: Piano tuners repair pianos and tune pianos which have been repaired or have become false. Piano tuners may have their own business or may be employed by piano dealers, piano builders or a provincial administration. They usually have a contract with the latter to tune the pianos at the schools in a certain area at regular intervals.

Note: Non-blind piano tuners are trained only overseas.

PROJECTIONIST

Requirements: Std 8 Certificate. Must be physically fit. Success depends greatly on his sense of responsibility and punctuality.

Training: After three years of practical training by his employer, the projectionist obtains a Cinematograph licence which is issued by the municipality of the area concerned. He must have an elementary knowledge of first aid in case of emergency. He must acquire knowledge of the electrical and wiring regulations as regards cinemas and theatres, as well as the techniques concerning the electrical apparatus. General knowledge of the fire regulations is also required.

Vocational service: The projectionist works in the projection room of a cinema. He must see to it that the projectors are clean before the rolls of film are placed in them in the correct order. He must select the musical records which he must play before the show. He also controls the illumination and the drawing of the curtains. The air-conditioning is also one of his tasks. He must be acquainted with the mechanism of the projectors so that he can handle repair work. After the show he has to check the rolls of film for any possible damage.

SHAMPOO LADY

Requirements: Minor girls. No high academic qualifications necessary.

Training: In-service training.

Vocational service: An excellent employment opportunity for girls who cannot compete with the better qualified school-leavers and who do not qualify for entering apprenticeship in hairdressing. They can progress in such a way that later on they may be reconsidered and thus be able to obtain exemption from the minimum prescribed educational qualifications and undergo apprenticeship and become fully fledged hairdressers.

SWIMMING BATH SUPERINTENDENT

Requirements: At least a Std 8 Certificate. An applicant must be in possession of an approved life-saving certificate and a first-aid certificate. He must be friendly yet firm and absolutely physically fit and maintain a high moral standard.

A life-saving certificate may be obtained by passing one of the group tests of the South African Life Saving Society. To obtain a first-aid certificate persons attend classes of the Suid-Afrikaanse Noodhulpiga and pass the examinations.

Training: In the larger centres in-service training is provided with regard to the testing of the water and the checking of the money that had been collected.

Vocational service: The Swimming Bath Superintendent is responsible for the swimming bath and the buildings on the premises. With the aid of chemical tests he must test the water regularly and see to it that the filtration unit is in good working order. He must act as supervisor, life-saver and first-aid officer and he must see that the money balances each day.

During the winter months he must supervise the painting of the buildings, see that the swimming bath stays in a good condition and that the general maintenance services are carried out. He is also responsible for arranging and organizing championships such as water polo where, for example, he must see to the measuring off of the playing field.

Employment opportunities are exceptionally good for nearly every town has its own swimming bath and each city maintains a whole number of swimming baths.

USHERETTE/USHER

Requirements: A Std 7 Certificate is preferred. Has to be neat, friendly and helpful; courteous to patrons at all times and be able to deal diplomatically and tactfully with people. She must be reliable, physically fit and be able to work with money.

Vocational service: Ushers and usherettes show cinema patrons to their seats and sell refreshments during intervals. After the show has commenced, the Usherette remains on duty inside the theatre to render assistance to anyone who becomes ill during the show, or anyone who has to leave the theatre during the show. If at any time, fire should break out in the theatre the usherette will notify the manager by means of a code word, and immediately open the emergency

exits to the theatre and direct the patrons out of the theatre without causing panic. After the show the usherette opens the doors of the theatre and assists elderly people in leaving the theatre.

Opportunities for advancement: An usherette may become a cafeteria attendant or cashier and later a cafeteria supervisor, or even a ticket office cashier if she proves herself able to handle money.

F. OTHER CAREERS

DIVER

According to the type of breathing apparatus used, divers are classified as follows:

- Skin diver: Uses no breathing apparatus. He depends on his own ability to remain under water. His equipment mainly consists of flippers, a mask and a snorkel.
- Conventional helmet diver: Relies on his air supply by means of a rubber hose which carries air (gas) from the surface. He is dressed in a waterproof rubber suit, heavy boots and a helmet.
- Scuba diver or self-sufficient diver: He uses a self-contained underwater breathing apparatus (scuba) which enables him to function independently under the water. More generally known as an aqualung diver or a free diver. He uses flippers, a rubber suit and the aqualung.
- Surface-dependent diver: A combination of helmet diving and scuba diving. Gas is supplied to the diver from the surface through a compressor. The diver wears a light diving suit and flippers so that he is more mobile.

Diving comprises the following:

- Scientific diving: For the purpose of archaeological, oceanographical, mineralogical and biological surveys under water; also includes specialized tasks such as the testing of apparatus and equipment. Diving is undertaken by the scientists themselves, for example, to collect samples and to take films underwater.
- Commercial diving: Exploitation of raw materials and food resources on the sea-bed or for developing methods to prevent water pollution.
- Industrial diving: Construction, repair and maintenance of pipelines, ships, harbours, dams and other underwater equipment.
- Military diving: South African Navy.
- Private or amateur diving: Hobby.

Commercial and Industrial Diving

The commercial and industrial divers are professional divers who come within the jurisdiction of the Factories, Machinery and Building Work Act, 1941 (Act No. 22 of 1941).

Requirements: At least 20 years old; good character and behaviour; hold a valid certificate of fitness. If he is a minor he must have the written consent of his parent/guardian to register as a learner diver.

Training: Learner divers may be trained as divers at one of the three recognized diving schools to be able to be registered:

- South African Diving Services (Pty) Ltd, Durban
- Undersea Associates (S.A.) (Pty) Ltd, Durban
- Christiani and Nielsen, Cape Town.

The examinations for registration certificates consist of two parts, viz Part A: Practical, and Part B: Theory. All industrial and commercial divers must sit for this examination before they can enter this career.

Diving clubs such as the South African Underwater Union offer courses for private or amateur purposes.

This training is, however, not recognized under the Factories, Machinery and Building Work Act.

Vocational service: At present there are excellent employment opportunities for commercial and industrial divers at factories and industries which undertake building and other work underwater. The S A Railways and Harbours also appoint divers along the coastal areas.

Professional divers may sit for examinations to improve their qualifications and thus become diving instructors and then diving supervisors.

The South African Navy

Requirements: Divers are selected on a strict basis. Candidates must undergo a rigorous swimming test, a medical examination, an intensive psychological test and other tests. An academic qualification of at least a Std 8 Certificate is required. Although the age limit is 30 years, younger men are preferred in order to satisfy the high demands more easily.

Training: The basic course offered by the Navy's diving school at Simonstown extends over ten weeks. After completion of the course the men are classified as Divers Third Class. A diver must work for at least 12 months at sea as a member of a Ship's Diving Team before he can be considered as a candidate for Diver Second Class.

Vocational service: There are employment opportunities for military divers in the South African Navy and the South African Police. The latter appoint only reservist divers. Prospects in the Navy are good because a diver may improve his qualifications and become a Diver Second Class, then Diver First Class and eventually Diving Instructor.

Women: This career is open to men as well as women. There are quite a number of women among the scientific divers.

FISHERMAN

Requirements: Any male person over 18 years.

Training: In-service training.

Vocational service: If there are any vacancies on the trawler, the applicant goes on a trial trip during which the skipper watches him carefully. If he satisfies the skipper, he is employed as a deck-workers' help. After about ten trips he is promoted deck-worker. Further promotion depends on the size of the ship and the number of crew members required to operate it.

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Training: In-service training.

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After prescribed periods of service the deck-worker may be promoted boatswain. For further promotion an examination of the Department of Transport must be written and the helmsman's or skipper's certificate may be obtained.

Trawler fishing offers opportunities for the person who would like a healthy life at sea and who is prepared to work hard.

MEAT EXAMINER*

NATIONAL CERTIFICATE FOR MEAT EXAMINERS

Requirements: A Standard 8 Certificate with passes in English and Afrikaans.

Training: The course extends over 80 continuous working days and is offered by the abattoirs of large municipalities under supervision of veterinarians and meat inspectors. Irrespective of the practical training students must also attend 30 hours of theory lectures and ten practical demonstrations of 1 hour each during the training period.

The examinations which are conducted by the Department of National Education in June and November each year, comprises written, practical and oral tests.

Vocational service: A meat examiner is not a meat inspector or a health inspector. To become a meat inspector a person must first become a health inspector for which the academic qualifications and training are considerably higher than that of the meat examiner. The work of meat examiners is limited to the large abattoirs where they, besides their other duties, have to undertake that part of the work which is normally done by health inspectors. Thus they are usually employed only by those municipalities which control large abattoirs.

NAUTICAL SCIENCE

CERTIFICATE IN NAUTICAL SCIENCE

Requirements: A Std 9 Certificate or NTC III or an equivalent qualification or candidates who have been approved by the Department of Transport.

Training: This is a one-year course offered by the South African Merchant Navy Academy "General Botha" at Granger Bay. Candidates may take either the S3 course or the S4 course.

S3 course

Subjects

General Physics	Practical Navigation and Principles of Navigation
General Ship Knowledge	Signals
Chartwork	Mathematics
Meteorology	Oral Examination

S4 course

Subjects

Electricity and Magnetism	Nautical Studies
Chartwork	Nautical Science
Meteorology	Signals
Practical Navigation and Principles of Navigation	Mathematics
	Oral Examination

The examinations are written in November. Oral examinations are conducted by the Department of Transport.

Before a Certificate in Nautical Science may be awarded, candidates must be in possession of the following:

- A Lifeboatmen's Certificate
- First-aid Certificate
- Restricted Radio Telephony Certificate (Marine).

PEST CONTROLLER*

NATIONAL CERTIFICATE IN PEST CONTROL

Requirements: A Standard 8 Certificate or equivalent with English and Afrikaans as subjects. Candidates who do not have these qualifications may also be considered for the course if they can submit proof of at least five years' successful experience in the industry as approved by the South African Association for Pest Control.

Training: The course, which is a correspondence course offered by the Witwatersrand College for Advanced Technical Education, extends over one year. Candidates must be registered students of the College for a period of at least six months.

Subjects

Basic Concept of Insect Pests	Afrikaans A (Junior) OR
Common Pests	English A (Junior)
Environmental control of Pests	Afrikaans A or B (Junior) OR
Pest Control and Health	English A or B (Junior) (provided it is not the language selected above)

Vocational service: Trained persons are employed as pest control operators by various firms which specialize in combating pests.

TAXIDERMIST

Requirements: A love of nature and animal life. Sharp power of observation as well as definite artistic talent and creative ability. A thorough knowledge of animal life and nature is important.

Training: No stipulated training in the Republic. Training may be obtained through being employed as an assistant to an experienced taxidermist with his own private business or being employed as a museum assistant under the guidance of an experienced person.

Vocational service: It is a very fine art to be able to make a stuffed animal look exactly like the living model and only through extensive knowledge and experience can the taxidermist master this art. Stuffed animals are used as trophies or decorations or for study purposes in museums.

A taxidermist in a museum must be able to stuff and mount all kinds of animals, assemble and build up fossils and do other technical work as well. He must also carry out field-work in order to collect different types of birds, rodents, etc.

Game are gradually decreasing in numbers and it is for that reason that the taxidermist's work is so important. He "protects" as it were animals for purposes of research and study in the museums.

WATCHMAKER

Requirements: Finger dexterity is of the greatest importance. Eyesight should be very good.

Training: Watchmaking is not a designated trade in terms of the Apprenticeship Act. There is therefore no examination or prescribed training course. Watchmakers are apprenticed for a period of two to five years and sometimes for an even longer period, depending on the ability of the trainee.

Vocational service: The watchmaker's work consists mainly of repair work. Repair-work could be, for example, the replacement of the faceglass of a watch or a broken hand. These parts are ordered from an agency or the overseas manufacturer. The adjustment of a watch which runs too fast or too slow is one of their tasks, and also the cleaning of watches.

WOOL-CLASSER

Requirements: Must be physically fit; interested in farming; be able to bear responsibility and to organize.

Training: Wool-classers may obtain training of one or two years at one of the agricultural colleges or take the One-month Course in Sheep and Wool at the Glen College of Agriculture. Wool schools which extend over 4 to 5 days are offered by the Department of Agricultural Technical Services on farms. Persons who have passed one of the above-mentioned courses may apply for registration as a Springbok Head Classer. A Diploma is issued to him as well as a registration number and a Springbok Head Brand which may be branded on the wool bales.

Vocational service: The wool-classer's job begins just after the sheep have been shorn and is only completed after the wool has been packed into bales and the bales have been clearly marked.

Classification is done according to the standards laid down by the National Wool Growers' Association of SA. Wool-classers spend periods which vary from a few days to a few weeks on one farm. Wool-classers are employed on a part-time basis by the Boere Koöperatief Beperk (BKB) to accompany the sheep-shearers and to classify the wool.

G. COURSES ON APPRENTICESHIP PATTERN

The following theoretical courses of the Department of National Education may be followed by candidates on the apprenticeship pattern. These apprentices, however, do not fall under the Apprenticeship Act and usually private contracts are entered into with the employers concerned in co-operation with the Department of Labour.

Candidates are advised to contact the Employment Bureau of the Department of Labour in Pretoria, or the nearest Vocational Counsellor of the said Department (see p. 131 for list of addresses).

BAKER

BAKERS' COURSE

The certificates are awarded on a minimum of THREE subjects selected as follows:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Bakers' Theory N1

Group 2:

TWO from:
Accountancy (Std 8)
Applied Science N1
Commercial Arithmetic
(Std 8)
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Bakers' Theory N2

Group 2:

TWO from:
Accountancy (Std 9)
Applied Science N2
Commercial Arithmetic
(Std 9)
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Bakers' Theory N3

Group 2:

TWO from:
Accountancy (Std 10)
Applied Science N3
Commercial Arithmetic
(Std 10)
Mathematics N3

BOOTMAKER AND SHOEMAKER

BOOT AND SHOE MANUFACTURING COURSE

The certificates are awarded on a minimum of THREE subjects selected as follows:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Footwear Theory N1

Group 2:

TWO from:
Accountancy (Std 8)
Applied Science N1
Commercial Arithmetic
(Std 8)
Leather Manufacture N1
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Footwear Theory N2

Group 2:

TWO from:
Accountancy (Std 9)
Applied Science N2
Commercial Arithmetic
(Std 9)
Leather Manufacture N2
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Footwear Theory N3

Group 2: TWO from:
Accountancy (Std 10)
Applied Science N3
Commercial Arithmetic
(Std 10)
Leather Manufacture N3
Mathematics N3

BUTCHER

BUTCHERS' COURSE

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Butchers' Theory N1

Group 2: TWO from:
Accountancy (Std 8)
Business Practice
(Butchers) N1
Commercial Arithmetic
(Std 8)
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Butchers' Theory N2

Group 2: TWO from:
Accountancy (Std 9)
Business Practice
(Butchers) N2
Commercial Arithmetic
(Std 9)
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Butchers' Theory N3

Group 2: TWO from:
Accountancy (Std 10)
Business Practice
(Butchers) N3
Commercial Arithmetic
(Std 10)
Mathematics N3

HORTICULTURIST AND LANDSCAPE GARDENER

HORTICULTURE AND LANDSCAPE GARDENING COURSE

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Horticulture Theory N1

Group 2: TWO from:
Botany (Horticulture)
N1
Horticultural Science
N1
Landscape Planning N1
Mathematics N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Horticulture Theory N2 Group 2: TWO from:
Botany (Horticulture)
N2
Horticultural Science
N2
Landscape Planning N2
Mathematics N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Horticulture Theory N3 Group 2: TWO from:
Botany (Horticulture)
N3
Horticultural Science
N3
Horticultural (Practical) N3
Landscape Planning N3
Mathematics N3

Field-work throughout the course

Note : The NTC III gives admission to the National Diploma in Horticulture. (See Tertiary training outside universities and career opportunities 1977, p.64.)

PHOTOGRAPHER

COURSES IN PHOTOGRAPHY SUBJECTS

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: ONE from:
Lithography Theory N1
Photography Trade
Theory N1
Photo Mechanics'
Theory N1

Group 2: TWO from:
Applied Science N1 OR
Printers' Science N1
Mathematics N1
Technical Drawing N1
Any ONE subject not
taken in Group 1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: ONE from:
Lithography Theory N2
Photography Trade Theory
N2
Photo Mechanics' Theory
N2

Group 2: TWO from:
Applied Science N2 OR
Printers' Science N2
Mathematics N2
Technical Drawing N2
Any ONE subject not
taken in Group 1

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: ONE from:
Lithography Theory N3
Photography Trade Theory
N3
Photo Mechanics' Theory
N3

Group 2: TWO from:
Applied Science N3 OR
Printers' Science N3
Mathematics N3
Technical Drawing N3
Any ONE subject not
taken in Group 1

TAILOR

TAILORING COURSES

The certificates are awarded on a minimum of THREE subjects selected as indicated:

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Tailors' Theory N1 Group 2: TWO from:
Afrikaans A or English A
(Junior)
Accountancy (Std 8)
Commercial Arithmetic
(Std 8)
Commerce (Std 8)

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Tailors' Theory N2 Group 2: TWO from:
Afrikaans A or English A
(Std 9)
Accountancy (Std 9)
Commercial Arithmetic
(Std 9)
Commerce (Std 9)

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Tailors' Theory N3 Group 2: TWO from:
Afrikaans A or English A
(Senior)
Accountancy (Std 10)
Commercial Arithmetic
(Std 10)
Commerce (Std 10)

H. TRAINING BY THE DEPARTMENT OF LABOUR

VOCATIONAL TRAINING CENTRE FOR ADULTS, WESTLAKE, CP

Admission qualifications: A candidate must be at least 21 years old. For the trades of electrician and electrical wireman candidates must have a Standard 7 Certificate and for all the other trades a Standard 6 Certificate is required. A medical report must be submitted.

Trades: Training is given in the following trades:

Electrician/Electrical Wireman (combined); Motor Mechanic; Fitting and Turning; Plumbing; Bricklaying and Plastering; Panelbeating, including Spraypainting; Plating/Boilermaking (combined); Carpentry and Joinery.

Training period: Eight months intensive training at the centre and 34 months in service with an approved employer.

- (a) Candidates who have passed on the NTC II (N2) level in the theory of the trade in which they received training may take the qualifying trade test after 12 months' in-service training.
- (b) Candidates who do not hold the qualifications mentioned in (a) may take the qualifying test after 18 months' in-service training.

Other information

- (a) In order to enable candidates to obtain the qualification mentioned in (a) above or the complete NTC II (N2) and thus qualify sooner for a trade test, technical classes are offered by the Centre after hours. The theoretical studies are not compulsory, but candidates are advised to attend the classes in their own interest.
- (b) Provision is made by the State for travelling expenses (railway tickets) to and from the Centre, to and from the test centre at Olifantsfontein, as well as for overalls, tools and an allowance during the apprenticeship at the Centre. Candidates are remunerated by their employers according to prescribed minimum wages during their in-service training.
- (c) Application forms and further information are obtainable from the nearest office of the Department of Labour. See p.130 for the list of addresses.

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 Switchboard Operator: 79
 Tactical Data Operator: 75
 Tailor: 74, 115
 Taxidermist: 110
 Technical Assistant: 47
 Technical Assistant (Female): 70
 Technical Assistant (Liquor Inspection): 59
 Technical Clerk: 75
 Technician (Cadastral): 59
 Technician (Civil Engineering): 59
 Technician (Dairying): 59
 Technician (Field Assistant): 59
 Technician (Fire Protection): 59
 Technician (Geology): 60
 Technician (Hydrology): 60
 Technician (Laboratory): 60
 Technician (Material Testing): 60
 Technician (Meat Grading): 60
 Technician (Meteorology): 60
 Technician (Planning): 60
 Technician (Plant Inspection): 60
 Technician (Refrigeration/Freeze Drying): 60
 Technician (Seed Control): 60
 Technician (Water and Sewerage): 60
 Telecommunication Electrician: 26
 Telecommunication Mechanician: 26
 Telecommunication Operator: 74
 Telephone Electrician: 70
 Telephone Mechanic: 71
 Telephonist: 61, 72
 Telephonist/Switchboard Operator: 79
 Textile Worker and Tailor (Artificer): 74
 Tool and Diemaker: 26
 Tool and Jigmaker: 23, 24, 25, 26
 Toolmaker: 27, 74
 Tool, Jig and Diemaker: 26
 Tracer: 51
 Tractor Mechanic: 26
 Trade Hand: 68
 Trade Hand (servicing): 68
 Trade Hand (unclassified): 68
 Traffic Officer: 42
 Travel Agent: 96
 Trimmer: 27
 Trimmer (including Spray Painting): 27
 Trooper: 75
 Turner and Machinist: 27
 Turner: 26
 Turner (including Machining): 23, 24, 25, 27
 Typist, 69, 80
 Underframe Maker: 27
 Upholsterer: 25
 Usherette/Usher: 106
 Usher/Messenger: 61
 Vehicle Body Builder: 27
 Vehicle Body Builder (Composite): 26
 Vehicle Body Builder (Metal): 26
 Vehicle Builder: 27
 Vehicle Fitter: 74
 Veneer Worker: 25
 Wall and Floor Tiler: 24
 Watchmaker: 111
 Water Bailiff: 53
 Water Purification Officer: 88
 Waterworks Attendant: 61
 Waterworks Supervisor: 61
 Weapons Artificer: 74
 Welder: 24, 25, 26, 27
 Welder (Aircraft): 74
 Woodcarver: 25
 Woodcarver (Hand): 25
 Wood Machinist: 24, 27, 74
 Woodworker (Carpentry and Joinery): 24
 Wool-classer: 111

Worker in a Cigarette and Tobacco Factory: 93

Workers in a Coffee Factory: 93

Despatch Clerk: 93

Packer: 93

Roaster: 93

Storeman: 93

Stores Assistant: 93

Work Recorder: 61

APPENDICES A AND B

A. USEFUL ADDRESSES

1. COLLEGES FOR ADVANCED TECHNICAL EDUCATION

The Registrar
Cape College for Advanced Technical
Education
P.O. Box 652
CAPE TOWN
8000

The Rector
College for Advanced Techni-
cal Education
Private Bag X6011
PORT ELIZABETH
6000

The Registrar
Natal College for Advanced Technical
Education
P.O. Box 953
DURBAN
4000

The Registrar
Pretoria College for Advanced
Technical Education
420 Church Street East
PRETORIA
0002

The Registrar
Witwatersrand College for Advanced
Technical Education
P.O. Box 3293
JOHANNESBURG
2000

The Registrar
Vaal Triangle College for
Advanced Technical Educa-
tion
Private Bag X021
VANDERBIJLPARK
1900

2. TECHNICAL COLLEGES (alphabetical according to towns/cities)

Enquiries must be addressed to the Principal.

Technical College
Private Bag X004
BENONI
1500

Technical College
Private Bag
CONGELLA
4013

Free State Technical College
Private Bag X20542
BLOEMFONTEIN
9300

East London Technical College
Private Bag X9016
EAST LONDON
5200

Technical College
Private Bag
BOKSBURG
1460

Technical College
Private Bag X1030
GERMISTON
1400

Technical College
Private Bag X10
BRAKPAN
1540

Technical College
Private Bag
HOWARD PLACE
7450

Technical College
Private Bag
CARLETONVILLE
2500

Technical College
Private Bag X23
JOHANNESBURG
2000

Joubert Park Technical College
Private Bag X10
JOHANNESBURG
2000

Technical College
Private Bag X2009
SASOLBURG
9570

Northern Cape Technical College
Private Bag X5031
KIMBERLEY
8300

Springs Technical College
Private Bag X21
SPRINGS
1560

Technical College
Private Bag XA13
KLERKSDORP
2570

Technical College
Private Bag X5012
STELLENBOSCH
7600

Technical College
Private Bag X22
KROONSTAD
9500

Technical College
Private Bag X35
UITENHAGE
6230

Technical College
Private Bag X2004
KRUGERSDORP
1740

Vanderbijlpark Technical College
Private Bag X05
VANDERBIJLPARK
1900

Pietermaritzburg Technical College
Private Bag X9032
PIETERMARITZBURG
3200

Technical College
Private Bag X035
VEREENIGING
1930

Technical College
Private Bag X6040
PORT ELIZABETH
6000

OFS Goldfields Technical College
Private Bag X21
WELKOM
9460

Technical College
Private Bag X17
RANDFONTEIN
1760

Technical College
Private Bag X7215
WITBANK
1035

Technical College
Private Bag X2086
RUSTENBURG
0300

3. TECHNICAL INSTITUTES (alphabetical according to towns/cities)
Enquiries must be addressed to the Principal.

Technical Institute
P.O. Box 156
AMANZIMTOTI
4125

Technical Institute
P.O. Box 138
BARBERTON
1300

Technical Institute
Private Bag X40
BETHLEHEM
9700

Technical Institute
P.O. Box 533
MIDDELBURG TVL
1050

Educational Institute
of the SAP
POLKOL
PRETORIA
0111

Technical Institute
P.O. Box 147
BRITS
0250

South Peninsula
Technical Institute
P.O. Box 34
MUIZENBERG
7945

Technical Institute
Pretoria-West
150 Industrial Road
PRETORIA-WEST
0183

Technical Institute
DURNACOL
3082

Technical Institute
P.O. Box 820
NELSPRUIT
1200

Technical Institute
P.O. Box 71
QUEENSTOWN
5320

Technical Institute
P.O. Box 376
ERMELO
2350

Technical Institute
P.O. Box 665
NEWCASTLE
2940

Tygerberg Technical
Institute
Private Bag
SANLAMHOF
7532

Technical Institute
P.O. Box 170
EVANDER
2280

Technical Institute
P.O. Box 50180
NEW REDRUTH
1452

Technical Institute
P.O. Box 66
STANDERTON
2430

Technical Institute
Private Bag X529
GEORGE
6530

Technical Institute
Private Bag 235
PAARL
7620

Technical Institute
P.O. Box 76
STRAND
7140

Technical Institute
P.O. Box 142
GRAHAMSTOWN
6140

Pietersburg Technical
Institute
P.O. Box 205
PIETERSBURG
0700

Technical Institute
P.O. Box 192
TZANEEN
0850

Kempton Park Technical
Institute
P.O. Box 844
KEMPTON PARK
1620

Technical Institute
P.O. Box 304
PINETOWN
3600

Technical Institute
Private Bag X886
UPINGTON
8800

Technical Institute
P.O. Box 159
KING WILLIAM'S TOWN
5600

Technical Institute
Private Bag X829
PORT SHEPSTONE
4240

Technical Institute
P.O. Box 115
VRYHEID
3100

Ladysmith Technical
Institute
Private Bag X903
LADYSMITH NATAL
3370

Technical Institute
P.O. Box 925
POTCHEFSTROOM
2520

Technical Institute
Private Bag X960
WORCESTER
6850

Technical Institute
P.O. Box 55
LICHTENBURG
2740

Technical Institute
P.O. Box 137
POTGIETERSRUS
0600

4. CORRESPONDENCE COLLEGES

Information concerning correspondence colleges may also be obtained from the Correspondence College Council, P.O. Box 1331, Johannesburg 2000

Actuarial Tuition Service
c/o Actuarial Society of S.A.
P.O. Box 4464
CAPE TOWN
8000

The Good Samaritan School
P.O. Box 37174
BIRNAM PARK
2015

African United Colleges
P.O. Box 2115
PRETORIA
0001

Harvard College
P.O. Box 7487
JOHANNESBURG
2000

Aviation College of South Africa
P.O. Box 6701
JOHANNESBURG
2000

Institute of Building
P.O. Box 10524
JOHANNESBURG
2000

Britzius Correspondence College
P.O. Box 4582
JOHANNESBURG
2000

Institute for Industrial Education
P.O. Box 2103
DURBAN
4000

Canyon Academy of South Africa
P.O. Box 52060
SAXONWOLD
2132

Institute of Personnel Management
P.O. Box 31390
BRAAMFONTEIN
2017

Cleaver-Hume College (Pty) Ltd
P.O. Box 8417
JOHANNESBURG
2000

Insurance Institute of South Africa
P.O. Box 61837
MARSHALLTOWN
2107

College of Accountancy
P.O. Box 31125
BRAAMFONTEIN
2017

International Correspondence Schools
(Overseas) Limited
P.O. Box 19
CAPE TOWN
8000

College of Commerce
Private Bag
MOWBRAY
7705

Jannie Raath Kollege (Edms) Beperk
P.O. Box 1175
PRETORIA
0001

Damelin Institute of Professional
Studies (Pty) Ltd
P.O. Box 4129
JOHANNESBURG
2000

Libertas Correspondence College
P.O. Box 2782
PRETORIA
0001

Dun & Bradstreet (Pty) Ltd
P.O. Box 5166
JOHANNESBURG
2000

Exclusive Interiors International
P.O. Box 11115
CAPE TOWN
8000

Lyceum Correspondence College
(Pty) Ltd
P.O. Box 1103
JOHANNESBURG
2000

Management Education (Pty) Ltd
P.O. Box 5631
JOHANNESBURG
2000

S.A. Faculty of Homoeopathic
Medicines
P.O. Box 6071
JOHANNESBURG
2000

Maranata Teologiese Kollege
P.O. Box 2708
PRETORIA
0001

S.A. Institute for Mind Training
(Dom-lasie)
P.O. Box 207
STRAND
7140

Melody School of Music (Pty) Ltd
P.O. Box 5312
JOHANNESBURG
2000

S.A. National School of Electro=
nics
P.O. Box 9766
JOHANNESBURG
2000

Milwaukee School of Watchmaking
P.O. Box 1622
PRETORIA
0001

S.A. Tegniese Instituut
P.O. Box 134
BELLVILLE
7530

National School of Salesmanship
(Pty) Ltd
P.O. Box 3235
JOHANNESBURG
2000

South African Institute for
Technical and Commercial Studies
P.O. Box 37
THOKOZA
ALBERTON
1450

Radiokom (1969) (Pty) Ltd
P.O. Box 56310
PINEGOWRIE
2123

South African School of Film
Technique (Pty) Ltd
P.O. Box 91
GONUBIE
5256

Rapid Results College
P.O. Box 1809
DURBAN
4000

Sukses Korrespondensie-kollege
P.O. Box 8737
JOHANNESBURG
2000

Rhodes International
47 Hope Street
CAPE TOWN
8000

Transafrika Correspondence
College (Pty) Ltd
P.O. Box 3512
JOHANNESBURG
2000

School of Accountancy
P.O. Box 2918
CAPE TOWN
8000

Turret Correspondence College
(Pty) Ltd
P.O. Box 11350
JOHANNESBURG
2000

Skryfhuis
P.O. Box 538
FLORIDA
1710

Union College (Pty) Ltd
P.O. Box 3541
JOHANNESBURG
2000

S.A. College of Engineering
Designers & Draughtsmen
P.O. Box 53
JOHANNESBURG
2000

Universal Institute
470 Van der Hoff Road
HERCULES
PRETORIA
0082

Veasey's Engineering College
P.O. Box 35
JOHANNESBURG
2000

Willand Trust
P.O. Box 2040
BLOEMFONTEIN
9300

Veritas College for Occupational
Training
P.O. Box 1066
BLOEMFONTEIN
9300

World Correspondence College
(Pty) Ltd
P.O. Box 924
PRETORIA
0001

5. AGRICULTURAL COLLEGES

The Director : Karoo Region
Department of Agricultural Technical
Services
College of Agriculture, Grootfontein
MIDDELBURG CP
5900

The Director : OFS Region
Department of Agricultural Technical Services
Agricultural Research Station and College of Agriculture
GLEN OFS
9360

6. OFFICES OF THE DEPARTMENT OF LABOUR

Private Bag X1007, Benoni 1500
P.O. Box 554, Bethlehem 9700
P.O. Box 522, Bloemfontein 9300
P.O. Box 872, Cape Town 8000
P.O. Box 940, Durban 4000
P.O. Box 312, East London 5200
Private Bag X545, George 6530
Private Bag X1041, Germiston 1400
P.O. Box 342, Graaff-Reinet 6280
P.O. Box 4560, Johannesburg 2000
Private Bag X5012, Kimberley 8300
P.O. Box 260, King William's Town
5600
P.O. Box 461, Klerksdorp 2570
Private Bag X2022, Krugersdorp 1740
Private Bag X9926, Ladysmith 3370
P.O. Box 346, Nelspruit 1200
P.O. Box 24, Main Street, Paarl
7622
Private Bag X9048, Pietermaritzburg
3200
Private Bag X9368, Pietersburg 0700

Private Bag X3908, Port Elizabeth
6000
P.O. Box 1001, Potchefstroom 2520
P.O. Box 393, Pretoria 0001
P.O. Box 323, Queenstown 5320
P.O. Box 262, Rustenburg 0300
P.O. Box 404, Somerset West 7130
3rd Floor, Van der Stel Building,
cor. Second Street and Fifth
Avenue, Springs 1560
Private Bag X2001, Standerton 2430
P.O. Box 476, Upington 8800
Private Bag X04, Vereeniging 1930
P.O. Box 463, Welkom 9460
P.O. Box 1885, Windhoek 9100
P.O. Box 50, Witbank 1035
P.O. Box 227, Worcester 6850

7. VOCATIONAL COUNSELLORS OF THE DEPARTMENT OF LABOUR

<u>Address</u>	<u>Postal Address</u>
38 Voortrekker Street BENONI	Private Bag X1007 BENONI 1500
New Magistrate's Courts Eunice Road BLOEMFONTEIN	P.O. Box 522 BLOEMFONTEIN 9300
Masonic Grove Government Offices DURBAN	P.O. Box 940 DURBAN 4000
54 York Street GEORGE	Private Bag X545 GEORGE 6530
Vicmey Building 125 Meyer Street GERMISTON	Private Bag X1041 GERMISTON 1400
Labour House 180 Bree Street JOHANNESBURG	P.O. Box 4560 JOHANNESBURG 2000
Thomas Boydell House Parade Street CAPE TOWN	P.O. Box 872 CAPE TOWN 8000
Markstead Building cor. Market and Stead Streets KIMBERLEY	Private Bag X5012 KIMBERLEY 8300
P.C. Pelser Building Voortrekker Street KLERKSDORP	P.O. Box 461 KLERKSDORP 2570
58 Hill Street KROONSTAD 9500	(Thursdays 10h00-12h00 only)
New Government Building cor. Commissioner and Bicard Streets KRUGERSDORP	Private Bag X2022 KRUGERSDORP 1740
3 Hill Street EAST LONDON	P.O. Box 312 EAST LONDON 5200
Woolfson House cor. Church and West Streets PIETERMARITZBURG	Private Bag X9048 PIETERMARITZBURG 3200
Eben Dönges Building Hancock Street PORT ELIZABETH	Private Bag X3908 PORT ELIZABETH 6000
23 Greyling Street POTCHEFSTROOM (Mondays 09h00-12h00 only)	P.O. Box 1001 POTCHEFSTROOM 2520
Eloff Building 339 Paul Kruger Street PRETORIA	P.O.Box 393 PRETORIA 0001

Elizabeth House
21 Leslie Street
VEREENIGING

Private Bag X04
VEREENIGING
1930

Homes Trust Building
Mooi Street
WELKOM

P.O. Box 463
WELKOM
9460

8. REGISTERED INDUSTRIAL COUNCILS

Enquiries should be addressed to the Secretary.

In the case of industries for which there are no industrial councils, interested persons should contact the Department of Labour.

Automobile Industry

Industrial Council for the Automobile
Manufacturing Industry, Eastern
Province
P.O. Box 2221
PORT ELIZABETH
6000

Baking and Confectionery Industry

Industrial Council for the Baking
and/or Confectionery Industry, Cape
P.O. Box 1536
CAPE TOWN
8000

Industrial Council for the Baking
and Confectionery Industry, Port
Elizabeth and Uitenhage
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Baking
and/or Confectionery Industry
(Durban and Districts)
P.O. Box 1300
DURBAN
4000

Industrial Council for the Baking
and Confectionery Industry
(Pretoria)
P.O. Box 933
PRETORIA
0001

Bedding Manufacturing Industry

Industrial Council for the Bedding Manufacturing Industry, (Transvaal)
P.O. Box 10467
JOHANNESBURG
2000

Bespoke Tailoring Industry

Industrial Council for the Bespoke
Tailoring Industry, (Pretoria)
P.O. Box 357
PRETORIA
0001

Industrial Council for the Bespoke
Tailoring Industry (Witwatersrand)
P.O. Box 9478
JOHANNESBURG
2000

Biscuit Manufacturing Industry

National Industrial Council for the Biscuit Manufacturing Industry of
South Africa
P.O. Box 1536
CAPE TOWN
8000

Brewing Industry

Industrial Council for the Brewing
Industry, Cape Town
P.O. Box 1536
CAPE TOWN
8000

Industrial Council for the Brewing
Industry, Witwatersrand
P.O. Box 4581
JOHANNESBURG
2000

Building Society Undertaking

Industrial Council for the Building Society Undertaking
P.O. Box 5728
JOHANNESBURG
2000

Building Industry

Industrial Council for the Building Industry (Grahamstown)
P.O. Box 155
GRAHAMSTOWN
6140

Industrial Council for the Building Industry, Kimberley
P.O. Box 356
KIMBERLEY
8300

Industrial Council for the Building Industry (Port Elizabeth)
Private Bag X4089
Korsten
PORT ELIZABETH
6014

Industrial Council for the Building Industry, Kroonstad
P.O. Box 280
KROONSTAD
9500

Industrial Council for the Building Industry, Transvaal
P.O. Box 3201
JOHANNESBURG
2000

Industrial Council for the Building Industry (East London)
P.O. Box 890
EAST LONDON
5200

Canvas Goods Industry

Industrial Council for the Canvas Goods Industry (Witwatersrand and Pretoria)
P.O. Box 4172
JOHANNESBURG
2000

Chemical Industry

Industrial Council for the Chemical Industry, (Cape)
P.O. Box 1536
CAPE TOWN
8000

Industrial Council for the Building Industry, Bloemfontein
P.O. Box 693
BLOEMFONTEIN
9300

Pietermaritzburg and Northern Areas Industrial Council for the Building Industry
P.O. Box 103
PIETERMARITZBURG
3200

Industrial Council for the Building Industry, Western Province
P.O. Box 2212
CAPE TOWN
8000

Industrial Council for the Building Industry, Worcester
P.O. Box 240
WORCESTER
6850

Industrial Council for the Building Industry, Durban
P.O. Box 1125
DURBAN
4000

Industrial Council for the Building Industry (Queenstown)
P.O. Box 184
QUEENSTOWN
5320

Industrial Council for the Canvas and Ropeworking Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Industrial Council for the Transvaal Chemical Manufacturing Industry
P.O. Box 4581
JOHANNESBURG
2000

Cinematograph and Theatre Industry

Industrial Council for the Cinematograph and Theatre Industry (South Africa)
P.O. Box 6649
JOHANNESBURG
2000

Clothing Industry

Industrial Council for the Clothing Industry (Cape)
P.O. Box 142
SALT RIVER
7925

Industrial Council for the Clothing Industry, Eastern Province
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Clothing Industry, Natal
P.O. Box 354
DALBRIDGE
4014

Industrial Council for the Clothing Industry, Transvaal
P.O. Box 5101
JOHANNESBURG
2000

Industrial Council for the Clothing Industry, Orange Free State and Northern Cape
P.O. Box 4866
JOHANNESBURG
2000

Commercial Distributive Trade
Commercial Distributive Trade Industrial Council, Kimberley
P.O. Box 356
KIMBERLEY
8300

Cotton Textile Manufacturing Industry

Industrial Council for the Cotton Textile Manufacturing Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Dairy Industry

National Industrial Council for the Dairy Industry
P.O. Box 265
PRETORIA
0001

Dental Industry

Dental Mechanics Labour Committee
P.O. Box 995
PRETORIA
0001

Diamond Cutting Industry

Industrial Council for the Diamond Cutting Industry of South Africa
P.O. Box 2389
JOHANNESBURG
2000

Dissolving Pulp Manufacturing Industry

Industrial Council for the Dissolving Pulp Manufacturing Industry
P.O. Box 2080
DURBAN
4000

Electrical Contracting Industry

Industrial Council for the Electrical Contracting Industry (Transvaal)
P.O. Box 10604
JOHANNESBURG
2000

Industrial Council for the Electrical Industry (Natal)
P.O. Box 722
DURBAN
4000

Industrial Council for the Electrical Contracting and Servicing Industry (Cape)
807 "Monte Carlo"
Heerengracht
Foreshore
CAPE TOWN
8001

Industrial Council for the Electrical Industry, East London
P.O. Box 890
EAST LONDON
5200

Engineering Industry

National Industrial Council for the
Iron, Steel, Engineering and Metal=
lurgical Industry of South Africa
P.O. Box 9381
JOHANNESBURG
2000

Furniture Industry

Industrial Council for the Furniture
Manufacturing Industry, Transvaal
P.O. Box 10467
JOHANNESBURG
2000

Industrial Council for the Furniture
Industry of the Orange Free State
P.O. Box 869
BLOEMFONTEIN
9300

Industrial Council for the Furniture
Manufacturing Industry, Natal
P.O. Box 1554
DURBAN
4000

Hairdressing Trade

Industrial Council for the Hairdres=
sing Trade, Cape Peninsula
P.O. Box 887
CAPE TOWN
8000

Industrial Council for the Hairdres=
sing Trade, Witwatersrand
P.O. Box 1201
JOHANNESBURG
2000

Industrial Council for the Hairdres=
sing Trade, Pretoria
P.O. Box 1237
PRETORIA
0001

Jewellery and Precious Metal Industry

Industrial Council for the Jewellery
and Precious Metal Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Laundry, Dry Cleaning and Dyeing Industry

Industrial Council for the Laundry,
Cleaning and Dyeing Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Explosives and Allied Industries

Central Industrial Council for the
Explosives and Allied Industries
P.O. Box 9478
JOHANNESBURG
2000

Industrial Council for the Furni=
ture Manufacturing Industry of the
South Western Districts
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Furni=
ture Manufacturing Industry of the
Eastern Cape
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Furni=
ture Industry of the Western Cape
P.O. Box 964
CAPE TOWN
8000

Industrial Council for the Hair=
dressing Trade, Port Elizabeth and
Uitenhage
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Hair=
dressing Trade, Durban
P.O. Box 2182
DURBAN
4000

Knitting Industry

Industrial Council for the
Knitting Industry (Transvaal)
P.O. Box 4866
JOHANNESBURG
2000

Industrial Council for the Laundry,
Cleaning and Dyeing Industry
(Natal)
P.O. Box 1924
DURBAN
4000

Industrial Council for the Laundry,
Dry Cleaning and Dyeing Trade
(Transvaal)
P.O. Box 1609
JOHANNESBURG
2000

Leather Industry

National Industrial Council of the
Leather Industry of South Africa
P.O. Box 2221
PORT ELIZABETH
6000

Liquor and Catering Trade

Industrial Council for the Liquor and
Catering Trade, Pretoria
P.O. Box 2128
PRETORIA
0001

Industrial Council for the Liquor
and Catering Trade, Pietermaritz-
burg
P.O. Box 267
PIETERMARITZBURG
3200

Industrial Council for the Liquor and
Catering Trade (Cape)
P.O. Box 836
CAPE TOWN
8000

Industrial Council for the Liquor
and Catering Trade, Durban
P.O. Box 472
DURBAN
4000

Industrial Council for the Liquor,
Catering, Private Hotel and Boarding
House Trades, South Coast Natal
P.O. Box 26
UMKOMAAS
4170

Industrial Council for the Liquor
and Catering Trade (Witwatersrand
and Vereeniging)
P.O. Box 2068
JOHANNESBURG
2000

Industrial Council for the Liquor and
Catering Trade, East London
P.O. Box 779
EAST LONDON
5200

Local Authority Undertaking

Industrial Council for the Local Authority Undertaking in the Province of
Transvaal
P.O. Box 62
PRETORIA
0001

Meat Trade

Industrial Council for the Meat
Trade of the Magisterial District
of East London
P.O. BOX 610
EAST LONDON
5200

Industrial Council for the Retail
Meat Trade, Pretoria
P.O. Box 4163
PRETORIA
0001

Industrial Council for the Retail
Meat Trade, (Witwatersrand)
P.O. Box 10589
JOHANNESBURG
2000

Millinery Industry

Industrial Council for the Millinery
Industry, Transvaal
P.O. Box 4866
JOHANNESBURG
2000

Industrial Council for the
Millinery Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Municipal Undertakings

Industrial Council for the Bloemfontein Municipal Undertaking
P.O. Box 1765
BLOEMFONTEIN
9300

Industrial Council for the Pretoria Municipal Undertaking
Room 402 W
Muntoria
PRETORIA
0002

Motor Industry

National Industrial Council for the Motor Industry
P.O. Box 1065
JOHANNESBURG
2000

Non-White Trade

Industrial Council for the Non-White Trade (Witwatersrand and Heidelberg)
P.O. Box 5347
JOHANNESBURG
2000

Ophthalmic Optical Manufacturing Industry

Industrial Council for the South African Ophthalmic Optical Manufacturing Industry
P.O. Box 5175
JOHANNESBURG
2000

Printing and Newspaper Industry

The National Industrial Council for the Printing and Newspaper Industry of South Africa
P.O. Box 2775
CAPE TOWN
8000

Pulp and Paper Manufacture

Industrial Council for the Pulp and Paper Manufacture
P.O. Box 11330
Selcourt
SPRINGS
1567

Pyrotechnical Manufacturing Industry

Industrial Council for the Pyrotechnical Manufacturing Industry (Cape)
P.O. Box 4324
CAPE TOWN
8000

Rubber and Tyre Industry

Durban Rubber Industrial Council
P.O. Box 925
DURBAN
4000

Industrial Council for the Tyre and Rubber Manufacturing Industry, Eastern Province
P.O. Box 2221
PORT ELIZABETH
6000

Sugar Manufacturing and Refining Industry

Industrial Council for the Sugar Manufacturing and Refining Industry
408/7 J.B.S. Buildings
Cr. West and Field Streets
DURBAN
4001

Sweetmaking Industry

Industrial Council for the Sweetmaking Industry (Johannesburg)
P.O. Box 4172
JOHANNESBURG
2000

Industrial Council for the Sweetmaking Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

Industrial Council for the Sweet Manufacturing Industry, Port Elizabeth
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Sweet Manufacturing Industry, East London
P.O. Box 27
EAST LONDON
5200

Tea Room, Restaurant and Catering Trade

Industrial Council for the Tea Room,
Restaurant and Catering Trade
(Pretoria)
P.O. Box 1256
PRETORIA
0001

Industrial Council for the Tea
Room, Restaurant and Catering
Trade, Johannesburg
P.O. Box 2221
JOHANNESBURG
2000

Textile Manufacturing Industry

National Industrial Council for the Textile Manufacturing Industry of
the Republic of South Africa
P.O. Box 2629
DURBAN
4000

Tobacco Manufacturing Industry

Industrial Council for the Tobacco
Manufacturing Industry (Rustenburg)
P.O. Box 63
RUSTENBURG
0300

Industrial Council for the Tobacco
Industry (Transvaal)
57 Rissik Street
JOHANNESBURG
2001

Transport Industry

Industrial Council for the Road
Passenger Transport Industry,
Kimberley
P.O. Box 356
KIMBERLEY
8300

Industrial Council for the Road
Passenger Transport Industry
(Cape)
P.O. Box 115
CAPE TOWN
8000

Industrial Council for the Road
Passenger Transport Industry
(Port Elizabeth)
P.O. Box 2221
PORT ELIZABETH
6000

Industrial Council for the Motor
Transport Undertaking (Goods)
(Witwatersrand)
P.O. Box 5274
JOHANNESBURG
2000

Industrial Council for the Non-
European Passenger Transportation
Trade (Durban)
42 K.M.S. Building
173 Grey Street
DURBAN
4001

Worsted Textile Manufacturing Industry

Industrial Council for the Worsted Textile Manufacturing Industry (Cape)
P.O. Box 1536
CAPE TOWN
8000

STATE DEPARTMENTS

Unless otherwise stated enquiries should be addressed to the Secretary.
The postcode for Pretoria boxes is 0001.

Department of Agricultural Credit
and Land Tenure
Private Bag X118
PRETORIA

Department of Agricultural Econo=
mics and Marketing
Private Bag X250
PRETORIA

Department of Agricultural Technical Services Private Bag X116 PRETORIA	The Auditor-General Department of the Auditor-General P.O. Box 446 PRETORIA
Department of Bantu Administration and Development P.O. Box 384 PRETORIA	Department of Bantu Education Private Bag X212 PRETORIA
Department of Coloured, Rehoboth and Nama Relations Private Bag X9058 CAPE TOWN 8000	Department of Commerce Private Bag X84 PRETORIA
Department of Community Development Private Bag X149 PRETORIA	Department of Customs and Excise Private Bag X47 PRETORIA
The Commandant-General of the S.A. Defence Force Department of Defence Private Bag X160 PRETORIA	Department of Finance Union Buildings PRETORIA 0002
Secretary to the Treasury Department of Finance Private Bag X115 PRETORIA	Department of Foreign Affairs Union Buildings PRETORIA 0002
Department of Forestry Private Bag X93 PRETORIA	Department of Health Private Bag X88 PRETORIA
Department of Immigration P.O. Box 2072 PRETORIA	Department of Indian Affairs Private Bag X92 PRETORIA
Department of Industries Private Bag X342 PRETORIA	Department of Information Private Bag X152 PRETORIA
Department of Inland Revenue P.O. Box 402 PRETORIA	Department of the Interior Private Bag X114 PRETORIA
Department of Justice Private Bag X81 PRETORIA	Department of Labour Private Bag X117 PRETORIA
Department of Mines Private Bag X59 PRETORIA	Department of National Education Private Bag X122 PRETORIA
Department of Planning and the Environment Private Bag X213 PRETORIA	The Department of the Prime Minister Union Buildings PRETORIA 0002
Commissioner of Prisons Department of Prisons Private Bag X136 PRETORIA	

Office of the Public Service
Commission
Private Bag X121
PRETORIA

Department of Public Works
Private Bag X65
PRETORIA

Department of Social Welfare and
Pensions
Private Bag
PRETORIA

Commissioner of the South Afri-
can Police
Department of the South Afri-
can Police
Private Bag X94
PRETORIA

Department of Sport and Recreation
Private Bag X269
PRETORIA

Department of Statistics
Private Bag X44
PRETORIA

Department of Tourism
Private Bag X262
PRETORIA

Department of Transport
Private Bag X193
PRETORIA

Department of Water Affairs
Private Bag X313
PRETORIA

10. REGIONAL OFFICES OF THE PUBLIC SERVICE COMMISSION

PRETORIA

315 Northvaal Building
Vermeulen Street
PRETORIA
0002
Tel.:484722

CAPE TOWN

830 Broadway Building
Heerengracht
CAPE TOWN
8001
Tel.:228845

JOHANNESBURG

P.O. Box 6371
1203 Kelhof
112 Pritchard Street
JOHANNESBURG
2000
Tel.:228143

PORT ELIZABETH

P.O. Box 3192
59 Eben Dönges Building
Hancock Street
North End
PORT ELIZABETH
6000
Tel.:49931

BLOEMFONTEIN

P.O. Box 517
849 H.F. Verwoerd Building
St Andrew Street
BLOEMFONTEIN
9300
Tel.:71180

DURBAN

507 Escoval House
437 Smith Street
DURBAN
4001
Tel.:68829

KIMBERLEY

304 Saambou Building
Du Toitspan Road
KIMBERLEY
8301
Tel.:25612

11. PROVINCIAL ADMINISTRATIONS AND THE ADMINISTRATION OF SOUTH-WEST AFRICA

The Provincial Secretary
Provincial Administration of the
Cape of Good Hope
P.O. Box 659
CAPE TOWN
8000

The Provincial Secretary
Provincial Administration of
Natal
Private Bag X9037
PIETERMARITZBURG
3200

The Provincial Secretary
Provincial Administration of the
Orange Free State
P.O. Box 517
BLOEMFONTEIN
9300

The Provincial Secretary
Provincial Administration of the
Transvaal
Private Bag X64
PRETORIA
0001

The Secretary for South-West Africa
The Administration of South-West Africa
Private Bag X13186
WINDHOEK
9100

12. MINING COMPANIES

Applications for apprenticeships may be made to any of the following organizations:

- Anglo American Corporation of South Africa Limited

Western Deep Levels Limited
P.O. Box 1001
CARLETONVILLE
2500

Vaal Reefs Exploration & Mining
Co. Limited
P.O. Box 5010
VAAL REEF
2621

Apprentices Training Centre
President Steyn Gold Mining
Company Limited
P.O. Box 2
WELKOM
9460

- Anglo-Transvaal Consolidated Investment Company Limited

Apprentices Training Centre
c/o Hartbeesfontein Gold Mining Company Limited
Private Bag 800
STILFONTEIN
2550

- General Mining & Finance Corporation, Limited

Group Training Centre
P.O. Box 162
STILFONTEIN
2550

- Gold Fields of South Africa Limited

Apprentices Training Centre
P.O. Box 53
KRUGERSDORP
1740

The Personnel Officer
West Driefontein Gold Mining
Company Limited
Private Bag
CARLETONVILLE
2500

- Johannesburg Consolidated Investment Company Limited

The Personnel Officer
P.O. Box 2
RANDFONTEIN
1760

- Rand Mines Limited

The Personnel Officer
Virginia OFS Gold Mining Company Limited
P.O. Box 1
GLEN HARMONY
9435

- Union Corporation Limited

The Personnel Officer
P.O. Box 222
SPRINGS
1560

The Personnel Officer
P.O. Box 36
EVANDER
2280

The Manager
St. Helena Gold Mines Limited
P.O. Eerstemyn
WELKOM
9466

13. OTHER BODIES AND ORGANIZATIONS

The **P**resident
Human Sciences Research Council
Private Bag X41
PRETORIA
0001

The Personnel Manager
Electricity Supply Commission
P.O. Box 1091
JOHANNESBURG
2000

The Personnel Manager
AECI Limited
P.O. Box 1122
JOHANNESBURG
2000

The Secretary
Federation of Building Industries
(SA)
P.O. Box 11359
JOHANNESBURG
2000

The Personnel Officer
Atomic Energy Board
Private Bag X256
PRETORIA
0001

The Secretary
The Jockey Club of South Africa
P.O. Box 3409
JOHANNESBURG
2000

The Careers Officer
Chamber of Mines of South Africa
P.O. Box 809
JOHANNESBURG
2000

The Deputy Postmaster General
Post Office
Telecommunication Head Office
Private Bag X74
PRETORIA
0001

The Personnel Manager
Rand Water Board
P.O. Box 1127
JOHANNESBURG
2000

The Secretary
South African Nursing Association
P.O. Box 1280
PRETORIA

The Director
South African Bureau of Standards
Private Bag X191
PRETORIA
0001

The General Manager
South African Railways
Private Bag X47
JOHANNESBURG
2000

The Personnel Manager
South African Coal, Oil and Gas Corporation Ltd
P.O. Box 1
SASOLBURG
9570

The Head: Education and Training Division
Steel and Engineering Industries Federation of South Africa
P.O. Box 1338
JOHANNESBURG
2000

The Secretary
South African Council for Scientific and Industrial Research
P.O. Box 395
PRETORIA
0001

The Principal
Training College for the Clothing Industry (Tvl)
First Floor, Endpark House
Cor. End and Rockey Streets
JOHANNESBURG
2001

The Chief of Staff Personnel
The South African Defence Force
Private Bag X159
PRETORIA
0001

The South African Fire Services Institute
P.O. Box 613
KRUGERSDORP
1740

The Corporative Manager (Personnel)
South African Iron and Steel Industrial Corporation Limited
P.O. Box 450
PRETORIA
0001

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