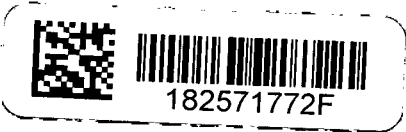


SOUTH AFRICAN HUMAN SCIENCES RESEARCH COUNCIL



HSRC Guidance Series G1-3

TRAINING AND CAREER OPPORTUNITIES FOR SCHOOL-LEAVERS BEFORE STANDARD TEN



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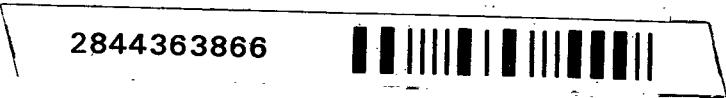
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PREFACE

This book is No. GS-3 in the HSRC Guidance Series and supplements two previous publications, viz University training and career possibilities and Tertiary training outside universities and career opportunities, which provide extensive information on training after Standard 10.

Of a particular school population in Std 6 scarcely 50 per cent eventually reach Std 10. This publication is an attempt to provide information on career and training opportunities for the 50 per cent or more of the pupils of a particular Standard Six population who do not obtain a Std 10 Certificate.

The latest available information has been supplied, but it should be remembered that it would be an impossible task to mention all the possible occupations or even occupational fields. The requirements for appointment also vary as the requirements for particular occupations are extended to keep pace with development. There is, in fact, a tendency towards a gradual raising of the entrance requirements for many occupations.

It is by no means the aim of this publication to encourage pupils to leave school before Std 10. It should be noted that the minimum requirement for appointment to the majority of occupations listed is a Std 8 Certificate, but employers will always prefer candidates with higher qualifications.

The academic requirements for some of the occupational fields in this publication are not high, but in such cases experience and/or post-school training is required.

I should like to thank all bodies who willingly co-operated to provide information. Particular thanks are due to the Department of National Education, the Department of Labour, the Public Service Commission, the South African Railways, the colleges for advanced technical education, technical colleges and technical institutes which made information available.

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

As in the case of its predecessors, University training and career possibilities and Tertiary training outside universities and career opportunities, copies of this publication are also made available free of charge to all high schools in the RSA, in the hope that they will be able to make fruitful use of the book in the interests of our country's children.

  
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## CHAPTER I

### GENERAL

#### 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 Std 10. 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 nineteen different district offices in the most important cities and towns throughout the country. (See p.107 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. The time is long past for the school to regard its main task as that of assisting the student to pass some examination or other and then to send him out into the world with no more than some school certificate and no matter where. 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. An old schoolmaster once said: "In every man there slumbers a giant." Unfortunately, too many people are content to be dwarfs and even if they do sometimes desire to become giants, be it in a very limited sense, they are often not prepared to make the effort necessary to attain this goal. 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, so that it will not be necessary for him, at a later stage, to make a second choice or to receive all sorts of remedial assistance.

As a result of the new policy which education departments are pursuing or are planning to pursue within a system of differentiated education in respect of the various forms of guidance, schools should find it increasingly possible to provide pupils with expert guidance, so that they may achieve their rightful place in occupational life and there make the best use of their talents for the sake of a happy personal future and the welfare of our beautiful country. The future of our country and the happiness of our people depend to a very great extent on whether our people are correctly trained and placed.

#### THE PRACTICAL VOCATIONALLY-DIRECTED COURSE (PVC)

The Practical Vocationally-directed Course (PVC) which is implemented by the provincial education departments under the system of differentiated education will, it is expected, establish itself in the course of time, and it will be possible for the pupils taking these courses to become a useful part of the labour force.

Since the PVC is vocationally directed in the five fields Technical, Commerce, Agriculture, Domestic Science and General, and since it entails fully fledged courses with fully fledged certificates, it is expected that these pupils will have little trouble in finding careers in commercial, administrative and service occupations as, for example, artisans, clerks, typists, production and other routine workers, salesmen and saleswomen, assistant matrons and matrons, assistant nurses and even nurses, assistant hairdressers and hairdressers, ad hoc trained workers in building and other industries and workers in a variety of other fields in industrial undertakings, road transport services, the SAR and H, Agriculture, the Defence Force, Post Office, Mining industry, etc.

A certain percentage of them, viz some of those who take the PVC Technical course, but naturally some of the others as well, will be able to become apprentices. The basic entrance requirement for apprenticeship is generally a Standard Seven or Standard Eight certificate, but there are all kinds of differentiated entrance requirements for various technical fields, as will be indicated in Chapter II of this book, and candidates and their counsellors should acquaint themselves with the entrance and training requirements for each field. Provision is also made to enable candidates who are apparently acceptable for a particular field but who do not satisfy the basic admission requirements, to satisfy those requirements, particularly as regards theoretical training. The Department of Labour, as well as education departments, may, if necessary, be consulted directly on matters of this nature. For those pupils taking the PVC, advanced courses, which they will be able to follow for one or two years after completing Std 8 and on the strength of which they will be able to obtain additional certificates, are also envisaged. Such certificates will equip them even better for their entry into occupational life, including those sections where an apprenticeship is required.

#### 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 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.

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. 105.

### NEW DISPENSATION FOR POST-SCHOOL TRAINING

The Department of National Education, which controls official post-school theoretical training at colleges for advanced technical education, technical colleges, technical institutes and other institutions is at present carrying out a comprehensive revision

of all courses under its control. The new courses and syllabuses will be implemented in a few years' time. In the mean while the dispensation is as set out in this book, as well as in the HSRC publication Tertiary training outside universities and career opportunities.

## CHAPTER II

### FROM APPRENTICE TO ARTISAN

#### 1. 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 nineteen 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. 25). 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.

N.B.: 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. Most employers pay much more than the prescribed amount. 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.108.

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.

## 2. 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.109.

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.

## 3. 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 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 trade tests are conducted by the Department of National Education in conjunction with the Department of Labour at the Central Organisation 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 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 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 trade test not earlier than the time mentioned:

Educational qualifications obtained before or during apprenticeship	<u>Test may be undertaken voluntarily:</u>	
	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 4½ years	After 3⅔ 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 3¼ 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 3½ years	After 3 years
(b) National Junior Certificate (Technical) with Workshop Practice as a subject passed	do	do

(c) National Technical Certificate, Part II	After 3½ years	After 3 years
(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 2½ 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 2½ years	After 2 years
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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.

4. THEORETICAL COURSES FOR APPRENTICES

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.

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.

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

(a) 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.

(b) 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.

(c) 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 =  $180^{\circ}$  etc.

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

(d) 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.

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	Radio Theory
Diesel-electrical Theory	Refrigerator Trade Theory
Electrical Trade Theory	Rigging Theory
Electroplating Theory	Telecom Trade Theory
Fitting and Machining 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	Motor Electrical Theory
Aircraft Instrument Trade Theory	Moulders' Theory
Aircraft Maintenance Theory	Office Equipment Theory
Aircraft Metalwork Theory	Pattermakers' 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	Sheet-metal Workers' Theory
Electrical Trade Theory	Smithing Theory
Elevator Trade Theory	Scale Fitters' Theory
Fitting and Machining Theory	Telecom Trade Theory
Instrument Trade Theory	Toolmakers' Theory
Motor Trade Theory	Vehicle Building Theory
Motor Bodywork Theory	Welders' 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	Motor Electrical Theory
Aircraft Instrument Trade Theory	Moulders' Theory
Aircraft Maintenance Theory	Office Equipment Theory
Aircraft Metalwork Theory	Patternmakers' 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	Sheet-metal Workers' Theory
Electrical Trade Theory	Smithing Theory
Elevator Trade Theory	Scale Fitters' Theory
Fitting and Machining Theory	Telecom Trade Theory
Instrument Trade Theory	Toolmakers' Theory
Motor Trade Theory	Vehicle Building Theory
Motor Bodywork Theory	Welders' 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

The subject "Applied Electronics" may be taken as alternative to "Technical Drawing" by the following:

- (a) Electrical fitters (South African Railways)
- (b) Instrument mechanics
- (c) Office equipment mechanics
- (d) Radiotricians
- (e) Related trades in the Defence Force.

BUILDING COURSE

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	Plumbers' Theory
Bricklaying and Plastering Theory	Upholstery and Trimming Theory
Painting and Decorating Theory	Woodworkers' 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	Plumbers' Theory
Bricklaying and Plastering Theory	Signwriters' Theory
Carpentry and Joinery Theory	Stone-work Theory
Furniture-makers' Theory	Upholstery and Trimming Theory
Furniture Polishing Theory	Woodmachining Theory
Painting and Decorating 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	Plumbers' Theory
Bricklaying and Plastering Theory	Signwriters' Theory
Carpentry and Joinery Theory	Stone-work Theory
Furniture-makers' Theory	Upholstery and Trimming Theory
Furniture Polishing Theory	Woodmachining Theory
Painting and Decorating 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 Foremen p. 72.

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

Diamond Trade Theory N3

Mathematics N3

Applied Science N3

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

HAIRDRESSERS' COURSE

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 Hygiene

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' COURSE

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 Modelling 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 Modelling 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 Modelling N3  
Gemology N3  
Mathematics N3

COURSES IN MAIZE MILLING TECHNOLOGY

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

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Maize Milling Technology N1

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

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Maize Milling Technology N2      Group 2: TWO from:  
Applied Science N2  
Mathematics N2  
Technical Drawing N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Maize Milling Technology N3      Group 2: TWO from:  
Applied Science N3  
Mathematics N3  
Technical Drawing 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 Theory N1      Group 2: TWO from:  
Applied Science N1  
Mathematics N1  
Technical Drawing N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

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

(c) NATIONAL TECHNICAL CERTIFICATE PART III

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

COURSES IN WHEAT MILLING TECHNOLOGY

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

(a) NATIONAL TECHNICAL CERTIFICATE PART I

Group 1: Wheat Milling Technology N1      Group 2: TWO from:  
Applied Science N1  
Mathematics N1  
Technical Drawing N1

(b) NATIONAL TECHNICAL CERTIFICATE PART II

Group 1: Wheat Milling Technology N2      Group 2: TWO from:  
Applied Science N2  
Mathematics N2  
Technical Drawing N2

(c) NATIONAL TECHNICAL CERTIFICATE PART III

Group 1: Wheat Milling Technology N3      Group 2: TWO from:  
Applied Science N3  
Mathematics N3  
Technical Drawing N3

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

COURSES IN PRINTING SUBJECTS

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  
Printers' Science N1  
Technical Drawing N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Carton Making Theory N2      Group 2: TWO from:  
Mathematics 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  
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:  
Hand Composition Theory N1  
Afrikaans A or B (Printers)  
OR English A or B (Printers)  
(The Theory of one language  
is compulsory)

Group 2: ONE from:  
Mathematics N1  
Typewriting (Junior)

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Hand Composition 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  
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

Group 1: Hand Composition Theory N3      Group 2: TWO from:  
Machine Composition Theory  
Mathematics N3  
Phototypesetting and Film  
Make-up Theory

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

Group 1: Letterpress Machine      Group 2: TWO from:  
Minding Theory N1      Applied Science N1  
(Corrugated Board and      Mathematics N1  
Container Machines)      Technical Drawing N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Letterpress Machine      Group 2: TWO from:  
Minding Theory N2      Applied Science N2  
(Corrugated Board and      Mathematics N2  
Container Machines)      Technical Drawing N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Letterpress Machine      Group 2: TWO from:  
Minding Theory N3      Applied Science N3  
(Corrugated Board and      Mathematics N3  
Container Machines)      Technical Drawing N3

Machine Minding (Packaging)

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

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Packaging Theory N1      Group 2: TWO from:  
Afrikaans A (Printers) OR  
English A (Printers)  
Fitting and Machining  
Theory N1  
Mathematics N1  
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Packaging Theory N2      Group 2: TWO from:  
Mathematics N2  
Printers' Science N2  
Warehouse and Bindery Theory N1

(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  
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  
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  
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  
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  
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  
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  
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 (other than Electrical)

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

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Group 1: Fitting and Machining  
Theory N1

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

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Machine Composition  
Theory (Line Setting)

Group 2: TWO from:  
Applied Science N2  
Mathematics N2  
Technical Drawing N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Machine Composition  
Theory (Monotype)

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

Group 1: Electrical Trade Theory N1

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

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Electrical Trade Theory N2

Group 2: TWO from:  
Applied Science N2  
Mathematics N2  
Technical Drawing N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Armature Winding Theory N1

Group 2: TWO from:  
Applied Science N3  
Mathematics N3  
Technical Drawing N3

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

Group 1: Fitting and Machining  
Theory N1

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

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Letterpress Machine-Minding  
Theory N1

Group 2: TWO from:  
Applied Science N2  
Mathematics N2  
Technical Drawing N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Letterpress Machine-Minding  
Theory N2

Group 2: TWO from:  
Applied Science N3  
Mathematics N3  
Technical Drawing N3

Proof-reading

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

(a) NATIONAL PRINTERS' CERTIFICATE PART I

Compulsory subjects:

Afrikaans A or B (Printers)  
English A or B (Printers)  
Hand Composition Theory N1

Note: At least ONE language must be passed on the A level.

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Hand Composition Theory N2

Group 2: TWO from:  
Afrikaans A or B (N.I.S.)  
English A or B (N.I.C.)  
Law for Proof-readers

Note: At least ONE language must be passed on the A level.



(c) NATIONAL PRINTERS' CERTIFICATE PART III

THREE subjects from:

- (1) Afrikaans A or B (Senior)
- (2) English A or B (Senior)
- (3) Hand Composition Theory N3
- (4) Law for Proof-readers (if not already taken)

Note: At least ONE language must be passed on the A level.

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

Group 1: Photo Mechanics' Theory N1      Group 2: TWO from:  
Afrikaans A (Printers) OR  
English A (Printers)  
Mathematics N1  
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Photo Mechanics' 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  
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: Photo Mechanics' Theory N3      Group 2: TWO from:  
Mathematics N3  
Printers' Science N3  
Phototypesetting and Film  
Make-up Theory

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 Stereotyping and  
Rotary Machine Minding  
Theory N1      Group 2: TWO from:  
Afrikaans A (Printers) OR  
English A (Printers)  
Mathematics N1  
Printers' Science N1

(b) NATIONAL PRINTERS' CERTIFICATE PART II

Group 1: Rotary Stereotyping and  
Rotary Machine Minding  
Theory N2

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

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Rotary Stereotyping and  
Rotary Machine Minding  
Theory N3

Group 2: TWO from:  
Mathematics 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  
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  
Printers' Science N2

(c) NATIONAL PRINTERS' CERTIFICATE PART III

Group 1: Plate Making Theory

Group 2: TWO from:  
Hand Composition Theory N1  
Mathematics 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  
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  
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

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

5. 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  
Aircraft Electronician  
Aircraft Engine Fitting  
Aircraft Instrument Mechanician  
Aircraft Maintenance Mechanic  
Aircraft Radar/Radiotrician  
Aircraft Sheet-metalworking  
Aircraft Spray Painting  
Aircraft Welding  
Airframe Fitting  
Carpentry  
Electrician

Electronics Mechanician  
Electroplating  
Fitting and Turning  
Fitting (including Machining)  
Machine Tool Setting  
Millwright (Electro-Mechanician)  
Pattermaking  
Plating  
Plastics and Fibreglass Working  
Tool and Jigmaking  
Turning (including Machining)

BUILDING INDUSTRY

Bricklaying  
Bricklaying and Plastering  
Carpentry  
Carpentry and Joinery  
Ceiling Erecting  
Electrical Wireman  
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  
Sheet-metalworking  
Shopfitting (Architectural Metalworking)  
Shopfitting (Wood)  
Signwriting  
Stone Masonry  
Wall and Floor Tiling  
Woodmachining

COAL MINING INDUSTRY

Electrician  
Fitting and Turning  
Plating (Boilermaking)

DIAMOND CUTTING INDUSTRY

Diamond Brilliantteering  
Diamond Crossworking  
Diamond Cutting  
Diamond Sawing

ELECTRICITY SUPPLY UNDERTAKING

Automotive Electrician	Instrument Mechanician (Industrial)
Blacksmithing	Motor Mechanic
Bricklaying	Painting and Decorating
Bricklaying (Refractory)	Patternmaking
Carpentry and Joinery	Plating (Boilermaking)
Diesel Machanic	Plumbing
Electrician	Rigging
Fitting and Turning	Welding

EXPLOSIVES AND ALLIED INDUSTRIES

Blacksmithing	Fitting (including Machining)
Boilermaking	Instrument Mechanician (Industrial)
Boilermaking/Welding	Painting
Bricklaying (Refractory and/or Chemical)	Rigging
Chemical Plumbing (including Sheet-metal working)	Turning (including Machining)
Diesel Mechanic	Welding
Electrician	Woodmachining
Fitting and Turning	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)  
Framemaking (including the making of  
frames for chairs requiring up=  
holstery)  
Furniture Machining

Furniture Polishing  
Upholstering  
Woodcarving (Hand)

GOVERNMENT UNDERTAKINGS

Armament Fitter  
Automobile Electrician  
Automotive Machining and Fitting  
Boilermaker  
Bricklaying  
Carpentry and Joinery  
Coppersmith  
Construction Plant Mechanic  
Diesel Fitting  
Diesel Mechanic  
Electrical Fitter  
Electrician  
Electromechanician  
Engineering Blacksmith  
Fitting and Turning  
Industrial Electronics Mechanician  
Instrument Mechanician  
Machine and Tool Setter  
Marine Fitter

Motor Mechanic  
Moulder  
Painting  
Pattermaking  
Pipe Fitter  
Plastering  
Plumbing  
Radiomechanic (Communication)  
Radiotrician  
Refrigeration Mechanic  
Rigging  
Sailmaker  
Scientific Instrument Maker and Repairer  
Sheet-metal working  
Shipwright  
Signwriting  
Toolmaking  
Welding

GRAIN MILLING INDUSTRY

Maize Milling  
Milling

HAIRDRESSING INDUSTRY

Gentlemen's Hairdressing  
Ladies' Hairdressing

JEWELLERS' AND GOLDSMITHS' INDUSTRY

Cape

Diamond and Jewel Setting (excluding  
Marcasite Setting)  
Engraving

Precious Metal Working and Mounting  
(including Diamond Mounting but ex=  
cluding Marcasite Working)

Witwatersrand

Diamond and Jewel Setting  
Engraving

Mounting and Precious Metal Working  
Precious Metal Working

## METAL INDUSTRY (ENGINEERING INDUSTRY)

Architectural Metalworking  
Armature Winding  
Blacksmithing  
Boatbuilding and Shipwrighting (Wood)  
Bricklaying (Refractory)  
Carpentry  
Coppersmithing  
Diemaking

### Electronic Musical Equipment Serviceman

Electroplating  
Fitting and Turning  
Fitting (including Machining)  
Instrument Mechanician: Industrial  
Instrumentation and Process Control  
Lift Mechanic  
Millwright (Electro-Mechanician)  
Motor Mechanic  
Moulding  
Patternmaking  
Plating  
Plating/Boilermaking  
Plumbing  
Radio Communication Serviceman  
Refrigeration Mechanic (Commercial)

## MINING INDUSTRY

Blacksmithing  
Bricklaying  
Carpentry  
Carpentry and Joinery  
Diesel Mechanic  
Electrician  
Fitting (including Machining)  
Fitting and Turning  
Instrument Mechanician (Industrial)  
Motor Mechanic

## MOTOR INDUSTRY

Auto Body Repairing  
Automotive Acetylene and Electrical  
Welding  
Automotive Electrician  
Automotive Machining and Fitting  
Automotive Sheet-metal working  
Automotive Turning and Machining  
Diesel Mechanic  
Engine Fitting  
Fitting and Turning  
Fuel Injection Mechanic  
Motor-cycle and Scooter Mechanic

Diesel Fitting  
Diesinking and Engraving  
Domestic Appliances Mechanic  
Domestic Radio Serviceman  
Electrical Wireman  
Electrician  
Electrician (Engineering)  
Electronics Mechanician

Rigging  
Roll Tool and Template Making  
Roll Turning  
Scale Fitting  
Sheet-metal working  
Telecommunications Electrician  
Telecommunications Mechanician  
Telephone Communications Electrician  
Tool and Jigmaking  
Turning (including Machining)  
Vehicle Body Building (Composite)  
Vehicle Body Building (Metal)  
Welding

Moulding  
Painting and Decorating  
Patternmaking  
Plating  
Plating (Boilermaking)  
Plumbing  
Rigger and Ropeman  
Sheet-metal working  
Welding

Motor Mechanic  
Panel Beating including Spray Painting  
Panel Beating including Trimming  
Spray Painting  
Tool and Diemaking  
Tool and Jigmaking  
Tractor Mechanic  
Trimming  
Trimming including Spray Painting  
Vehicle Body Building  
Woodmachining

## PRINTING INDUSTRY

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

## RAILWAYS UNDERTAKING

Aircraft Electrician	Machinist (Wood)
Aircraft Instrument Mechanic	Millwright
Aircraft Mechanic	Motor Mechanic
Aircraft Metalworker	Motor Vehicle Body Builder
Aircraft Radiotrician	Moulder
Blacksmith	Painter
Boilermaker	Patternmaker
Bricklayer	Plumber
Carpenter	Radiotrician
Communications Electrician	Scales Fitter
Construction Plant Mechanic	Sheet-metal worker
Diesel Electrical Fitter	Shipwright
Electrical Fitter	Toolmaker
Electrician	Trimmer
Electrician (Armature Winding)	Turner and Machinist
Electroplater	Underframe Maker
Fitter	Vehicle Builder
Instrument Mechanician	Welder

## SUGAR MANUFACTURING AND REFINING INDUSTRY

Auto Electrician	Fitting (including Machining)
Blacksmithing	Instrument Mechanician (Industrial)
Bricklaying and Plastering	Motor Mechanic
Carpentry	Moulding
Diesel Fitting	Plating/Boilermaking
Diesel Mechanic	Radio Communications Serviceman
Electrician	Turning (including Machining)
Electronics Mechanician	Welding

## 6. 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 new regulations of the Department of National Education (from 1972), 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 and the artisans also form an important source for supplying at least two technician groups. For example, 33,5 per cent of engineering technicians and 33,3 per cent of draughts=men technicians are qualified artisans. In practice, especially in the pri=ivate 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 ad=vanced 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. Consequent=ly he may obtain the NDT and artisan status simultaneously.



CHAPTER III  
CAREERS IN PUBLIC SERVICES

1. THE CIVIL 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.

The initial training of airport assistants usually extends over a period of six months.

Vocational service: Airport Assistants are employed by the Department of Transport and are stationed at the different State airports throughout 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.

Journeyman 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, boiler-makers, 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 and other implements.

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 Relations and Rehoboth Affairs 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 (MALE AND FEMALE)

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.

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: 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, Accounting and Auditing and Inland Revenue are offered by the Pretoria and Cape Town Colleges for Advanced Technical Education. See Tertiary training outside universities and career opportunities(pp. 84, 86-87) 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

Requirements: Std 8 Certificate. Eyesight must be excellent because this plays an important rôle in the classification and identification of fingerprints.

Training: Prospective fingerprint officers are trained at the Training School of the Fingerprint Section in the Department of Bantu Administration and Development. The training includes, inter alia, theoretical training, instruction being given in the definition of the various types of patterns and how to distinguish them. After they have passed the test, the fingerprint officers undergo practical training under the guidance of a Senior Fingerprint Officer.

Vocational service: With the establishment of the Bantu Reference Bureau in Pretoria, in 1952, a population register as well as a fingerprint register was introduced for all Bantu inhabitants of the Republic of South Africa. The fingerprint register contains a set of fingerprints of every Bantu, male and female, to whom a reference book has been issued and serves as a handy source of reference, for instance, for the identification of deceased persons.

The Fingerprint Officer at the Bantu Reference Bureau is concerned only with the classification, identification and filing of fingerprints. After classification it is the task of the Fingerprint Officer to check whether the Bantu concerned has not previously been issued with a reference book.

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

### 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 in the eight forestry regions located mainly in the eastern coastal regions of the Republic and Eastern Transvaal, namely Cape Town, Knysna, King William's Town, Pietermaritzburg, Eshowe, Nelspruit, Sabie and Louis Trichardt. Official accommodation is provided, since the forest reserves are not situated near towns or 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 reserve these posts especially for White men and boys with low qualifications but who are physically fit. The minimum age is 16 years.

Training: In-service training.

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

#### OUTDOOR OFFICER

Requirements: Std 8 Certificate. In the Departments where the officer must necessarily use a motor car, a valid motor vehicle 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 sixteen stations from which control is exercised.

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 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:

- Department of Information: Std 10 Certificate and post-matric training ranging from a diploma in photography to proof of professional status.
- Department of Agricultural Technical Services: At least a Std 8 Certificate.
- Department of Tourism and the Provincial Administrations of the Transvaal and the Cape of Good Hope: Std 8 Certificate and a suitable apprenticeship. Otherwise the requirements correspond with those of the Department of Information.

Provision is, however, made in all the departments for candidates who do not have the necessary experience, to be appointed as Pupil Photographers.

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.

## POLICE

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 fully bilingual. Women must hold a Std 10 Certificate.\*

Training: The training of candidates who hold a Std 10 Certificate or equivalent, lasts six months, while the training of candidates with lesser qualifications lasts twelve months.

### Divisions in which training is provided:

- Training of students - basic training
- Ordinary functional stream - course for promotion

\*For the training of women in the Police Service see Tertiary training outside universities and career opportunities, p. 142.



- Mechanical branch, building branch and radio-technical branch - training of apprentices and artisans
- South African Police Band - training in instrument playing
- Art - course such as offered by the Pretoria Art Centre
- Dogmasters
- South African Criminal Bureau - training of experts
- In-service training:
  - . candidate officers
  - . refresher course for promotion - lieutenant to captain
  - . reservist officers
  - . sergeants
  - . probation detectives

Training centre: The South African Police College in Pretoria is the only training centre for White members of the Force. The College is adequately equipped for the training of approximately 2 000 students per year.

After they have entered the police service, candidates receive continued in-service training in the different specialized branches, and the passing of advanced examinations apart from practical ability is a prerequisite for promotion.

Apart from the Police College, the South African Police also has the following training centres:

- (a) The South African Criminal Bureau in Pretoria for the training of experts i.a. in ballistics, identification of fingerprints and investigators into disputed documents and handwriting;
- (b) the South African Police School for Mechanical Training in Benoni where police drivers are trained in driving and maintaining police vehicles; and
- (c) the South African Police Dog Depot in Pretoria for the training of police dogs and dogmasters.

Vocational service: The S.A. Police Force is a semi-military organization which consists of the uniform, detective and security branches.

Opportunities for advancement: Possibilities for promotion for ambitious men and women are virtually unlimited. Promotion to higher ranks mainly occurs on the successful completion of internal examinations. The remuneration of members of the Force is the same as that of civil servants.

## 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 infirmity and of strong constitution; produce references 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, self-defence, civil defence and other aspects related to the duties of the Department such as military etiquette, staff, prison administration, stores,

accounts, internal relations, public relations, spiritual preparedness, court procedure, practical language, self-development and drug addiction.

Candidates who do not possess a Standard 10 Certificate are given the opportunity to obtain it during their training. Such members remain at the College for the full year. Instruction is given in the following subjects:

Afrikaans  
English  
Introduction to Anthropology and Criminology  
Geography or Criminal Procedure

Success in any of these subjects is recognized by the Department of National Education.

- In-service training: The Department of Prisons also offers courses of a general and specialized nature in order to equip its members as well as possible for the performance of their tasks. These courses include, inter alia, the following:

Legal courses  
Courses for Supervisors and Managers  
Agricultural courses  
Courses for Nursing Staff  
Courses for Caterers  
Dogmasters' Course  
Work study  
Assistants to Social Workers and  
Social Group Work

- Technical training: 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: The old view that the duties of the prison personnel consist practically exclusively of surveillance, no longer holds good today. The prison officer is a professionally trained person and no "minder of convicts". Activities also include, among other things, specialized services such as observation, classification and training of prisoners. Ample provision for higher posts is constantly being made in order to keep pace with the development and extension of the Department. There are also opportunities for choosing a field in one of the functional divisions of the Department, viz the administrative division, technical division, building division, agricultural division or hospital division.

Women who are interested in the prison services as a career must satisfy approximately the same admission requirements as men. 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 or Pretoria (Headquarters).

#### 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 larger local authorities.

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

As from 1 January 1973 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 South 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 South 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 assistant 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, stock inspectors and assistant 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. The stock inspector and assistant stock inspector serve as links between the farmer and the State Veterinarian.

Each stock inspector is in charge of an 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.

Opportunities for advancement: An assistant stock inspector who has the necessary experience and ability and who has consistently rendered good service, may apply for promotion to stock inspector after at least three years' service. A stock inspector may, furthermore, be promoted to the rank of Technician, Senior Technician and Chief Technician.

#### 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.

#### SUBINSPECTOR OF WEIGHTS AND MEASURES

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 of Weights and Measures. After appointment candidates undergo a five-month period of full-time theoretical and practical training at the Training School of the Division of Weights and Measures in Pretoria.

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 Assize 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.

Vocational service: The Division of Weights and Measures of the Department of Commerce applies the Weights and Measures Act. 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, etc. The Subinspector of Weights and Measures also checks the weights and 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 approximately 14 cities.

Opportunities for advancement: Candidates may through further study qualify for the course for Inspectors of Weights and Measures. See Tertiary training outside universities and career opportunities, p. 135.

#### SUPERINTENDENT OF WORKS

##### Requirements:

- Department of Coloured Relations and Rehoboth Affairs 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 Relations and Rehoboth Affairs 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 Relations and Rehoboth Affairs 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.

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 keep in regular contact 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 Photographic Section. 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 sub-division. 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.

- 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 ruler and pencil, 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 "Vartyper" typewriters for adding notes and measurements on drawings
  - . Filing of plans and related documents.
- 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
  - . Tracing of topographical plans
  - . Filing of plans.

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.

#### 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 Department/Administration concerned for further information.

<u>Post</u>	<u>Department/Administration</u>
Agricultural Overseer	Bantu Administration and Development
Beacon Builder	Agricultural Credit and Land Tenure
Boatswain's Mate	Industries
Cook	Department of the Prime Minister; Transport; Finance; Health; Industries
Court Interpreter	Justice
Driver	Transport; Bantu Administration and Development; Agricultural Technical Services; Finance
Driver/Handyman	Water Affairs
Driver/Operator	Forestry
Fishing Harbour Assistant	Industries
Foreman	Agricultural Economics and Marketing
Gardener	Health
Groundsman	Health
Headman	Industries
Health Supervisor	Health
Institution Assistant	Social Welfare and Pensions
Laundry Assistant	Health
Leading Fireman	Industries
Lithographic Operator	Bantu Administration and Development; Agricultural Technical Services; National Education; Provincial Administrations of the Transvaal and OFS
Marine Assistant	Transport
Mate	Industries
Mechanic	Industries
Mechanic Assistant	Industries
Mill Operator	Forestry
Nature Conservation Officer	Provincial Administrations of the Cape and Transvaal
Nursing Assistant	Health
Nursing Auxiliary (student)	Health
Operator	Water Affairs; Transport
Orderly	Health
Overseer	Health

<u>Post</u>	<u>Department/Administration</u>
Pharmacy Assistant	Health
Punch Operator	Various departments
Pupil Driller	Water Affairs
Pupil Inspector of Works	Community Development
Radiographic Assistant	Mines
Skipper	Industries
Steward	Transport; Industries
Stores Officer	Various departments
Student Male Nurse	Health
Telephonist	Water Affairs; Health; Statistics; Prisons; Provincial Administration of Natal
Usher-Messenger	Justice
Waterworks Supervisor	Water Affairs

2. 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, Esselen 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 9 Certificate. Must be at least 20 years, but not older than 26 years, not shorter than 1,58m and not taller than 1,73m, with a reasonable proportion between height and mass.

Training: Air hostesses receive approximately eight weeks' training at Jan Smuts Airport before commencing flight duty.

Vocational service: The Air Hostess acts as hostess during flights. She is responsible for the comfort of passengers, especially the care of elderly passengers and mothers with children. She also assists the flight steward with the serving of meals and refreshments.

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.

APPRENTICES

See p.29 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 at artisan rates.

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.

See Chapter II : From Apprentice to Artisan.

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

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.

#### CARGO HANDLER OR BAGGAGE HANDLER (AIRWAYS)

Requirements: Success in an aptitude test.

Training: In-service training.

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, 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 II to grade I, 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.

#### 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 five 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 2½ months' duration in driver's duties at the Railway College after completion of the five 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, but under 36 years; 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.

Training: Extends over approximately two weeks.

Vocational service: A ground hostess is responsible for reservations, mass measuring of luggage, perusal of travel documents and allocation of seats on aircraft.

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 2½ 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 ticket examiner and progress to conductor, 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.

A Lady Clerk progresses to the maximum of her grade. After ten years' service she progresses on the salary scale of a clerk (male), grade II, and competes on equal footing with him for promotion.

### OFFICE ASSISTANT (FEMALE)

Requirements: Success in an aptitude test.

Training: Receives training under actual working conditions.

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 under actual working conditions 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.

### 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 2 $\frac{1}{2}$  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 1,69m tall and have a chest measurement of not less than 0,86m.

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 2½ 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 2½ 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: Receives practical training under actual working conditions.

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.

## TICKET-EXAMINER

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

Training: To qualify in ticket-examiner's duties candidates attend a course of 2 $\frac{1}{2}$  months' duration at the Railway College or at one of its branches.

Vocational service: The Ticket-examiner 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 ticket-examiner special class, conductor, ticket inspector and senior ticket 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.

3. THE POST OFFICE

CABLE JOINTER

Requirements: At least a Std 7 Certificate or equivalent. At least 16 and not older than 55 years. Cable Joiners must be free from any mental or physical defect, disease or infirmity that would be likely to interfere with the proper performance of their duties.

Training: In-service training. All newcomers receive theoretical and practical training. Young men who are not yet qualified are initially trained as Learner Telephone Mechanics and thereafter appointed as Cable Joiners. (See Telephone Mechanic p. 60).

Vocational service: The Cable Joiner is responsible for the jointing and repair of all lead and plastic cables in the telephone network.

Further study is encouraged and officers who improve their educational qualifications sufficiently are considered for transfer to other divisions in the Post Office.

Promotion is effected on merit.

CLERK (MALE AND FEMALE)

Requirements: At least a Std 8 or equivalent certificate with both official languages as subjects. Candidates with higher educational qualifications receive preference. Good health is required. At least 16 and not older than 55 years.

Training: In-service training. Newcomers who will perform counter, sorting and teleprinter duties receive both theoretical and practical training. Training periods vary between 4 and 8 months. Clerks receive tuition while they work.

Vocational service: The work includes one of the following:

- Counter: This comprises the sale of postage and revenue stamps, post-cards, 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 and cables as well as the transmission and reception of 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.
- Clerical: The duties of clerks comprise correspondence work on telephone, postal and staff matters, accounting and auditing, work study, systems analysis, programming and stores control. Women often operate punch and accounting machines.

This division offers employment opportunities at all post offices throughout the Republic and in South-West Africa.

Further study is encouraged and officers who improve their educational qualifications receive recognition for certain certificates obtained.

Promotion is effected on merit. Supervisory and management posts are within the reach of hard-working and ambitious young men and women.

## 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 his primary task of delivering mail, many other tasks such as the collection of mail matter posted at various points, the datestamping of postal articles, etc. are undertaken by the postman. Some postmen also perform driving duties when mail is conveyed to and from 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

(A career for women)

Requirements: At least a Std 8 or equivalent certificate with both official languages as subjects. Higher academic qualifications receive preference. At least 16 and not older than 55 years, must be interested in work of a technical nature and be skilful.

Training: Technical assistants learn while they do the work.

Vocational service: Technical assistants work in a number of divisions where they do different types of work. Their duties are, however, of a less technical nature than that of the technician and comprise the following:

- Installation and maintenance of automatic exchanges
- duties at huge manual exchanges
- drawing offices
- efficiency control
- maintenance of telegraph equipment
- maintenance of carrier equipment.

Technical assistants work under pleasant conditions in workshops and well-equipped rooms in practically all post offices.

The Post Office encourages private study.

Officers who improve their academic qualifications will receive recognition for certain certificates which they have obtained.

## TELEPHONE MECHANIC

Requirements: At least a Std 7 Certificate or equivalent. At least 16 and not older than 55 years. Good health is required.

Training: In-service training. All newcomers receive theoretical as well as practical training according to modern training methods in well-equipped training centres in Johannesburg, Cape Town, Pretoria, Port Elizabeth, Bloemfontein and Pietermaritzburg. The training period is two years.

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

- Line construction: Construction and maintenance of overhead and underground telecommunication connections
- Indoor construction: Cabling, wiring and fitting of equipment in automatic exchanges, carrier stations, telegraph offices, subscribers' premises and the installation of switchboards, telephones, private branch exchanges, etc.
- Automatic equipment: Overhauling, adjusting and routine testing of switching equipment, telegraph equipment and teleprinters.
- Workshop duties: Overhauling of all types of equipment such as telephones and switchboards, etc.
- Outstations: Installation and maintenance of equipment at smaller centres and surrounding areas
- Urban faults: Maintenance of subscriber's lines, telephones, etc. at the main centres
- Radio stations: Routine duties - assisting in the maintenance of equipment and carrying out construction work when necessary.

Promotion is effected on merit.

#### 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 of- ficial languages as subjects.

Training: Under actual working conditions. Varies from four to eight weeks or longer, according to the candidate's ability to learn.

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

- Telephone switching duties in trunk and international telephone exchanges
- 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 effected on merit.

#### 4. THE PERMANENT FORCE

##### ARTISANS

Requirements: At least a Standard 8 Certificate. Candidates must be unmarried and between the ages of 16 and 25 years.

The Defence Force also enlists qualified artisans. In some trades no training is offered and only qualified artisans are enlisted.

Training: The training of apprentices in the S.A. Defence Force (Army, Navy and Air Force) is not subject to the Apprenticeship Act, Act No. 37 of 1944. Training takes place, however, in co-operation with the Department of National Education and consequently with the technical colleges. After four years as an apprentice a young man may take a trade test provided he has passed the NTC II (N2) examination on completion of his four years' apprenticeship. An artisan may also advance to the rank of technician in those trades in which technician status may be achieved.

Trades:

Airfield Constructor  
Ammunition Fitter  
Armament Fitter  
Armourer (Army)  
Armourer (Navy)  
Bricklayer and Plasterer\*  
Carpenter\*  
Cutter and Tailor\*  
Dental Mechanic\*/  
Diagnostic Radiographer\*/  
Draughtsman (Aeronautical)/  
Draughtsman (Architectural)/  
Draughtsman (Electrotechnical)/  
Draughtsman (Mechanical)/  
Draughtsman (Naval Architecture)/  
Draughtsman (Topographical)/  
Electrical Fitter (Aircraft)  
Electrical Fitter (Medical Equipment)  
Electrical Fitter (Ships)  
Electrician  
Electrician (Ships)  
Electrician (Signals)  
Electronician (Aircraft)  
Electronician (Weapon Control Systems)  
Electroplater  
Engine Room Fitter  
Engine Room Mechanic  
Farrier\*  
Field Engineer  
Fitter and Turner  
Fitter (Aircraft)  
Fitter (Diver)  
Instrument Fitter  
Laboratory Technician:\*/  
    (a) Chemical  
    (b) Metallurgical  
    (c) Pathological  
Leather and Textile Worker  
Male Nurse\*/  
Metalsmith  
Moulder\*  
Orthopaedic and Surgical Technician\*/  
Painter and Signwriter  
Photographer (Air)  
Photographer (Cartographic)\*  
Photographer (Navy)  
Photolithographer  
Physiotherapist\*/  
Plumber and Drainlayer\*  
Printer (Lithographic)\*  
Radio Fitter (Guided Weapons)  
Radio Fitter (Radar)  
Radio Fitter (Telecom)  
Rigger\*  
Rubber and Plastic Worker  
Safety Equipment Worker  
Sheet-metal Worker (Aircraft)  
Shipwright  
Surveyor (Topographical)/  
Telegraph Mechanic  
Toolmaker\*



Vehicle Fitter (i.e. Motor Mechanic)  
Welder\*

\*Indicates musterings in which only qualified artisans can be enlisted.

7Requires post-Standard Ten training.  
See Tertiary training outside universities and career opportunities.

#### NON-ARTISANS

Requirements: Candidates must be

- White male citizens of the Republic of South Africa
- medically fit in accordance with the requirements of the Permanent Force
- in possession of at least a Std 8, but preferably a Std 10 Certificate
- between the ages of 18 and 49 years.

Training: After attestation in the Permanent Force, all recruits undergo basic training for approximately three months. During this period they are taught to drill and generally to adapt themselves to the military way of life. Members of the S.A. Army and S.A. Air Force do their basic training in the Pretoria area, while members of the S.A. Navy do theirs in the Simonstown area. After basic training members are posted to various units to commence their careers.

Vocational service: The non-artisan fields in the Permanent Force are as follows:

- Clerks: The clerical personnel handle all the administrative matters of the vast defence organization. Their duties include the keeping of complete personnel records, general files and registers, the calculating of and accounting for rations, payment of salaries, travelling and subsistence allowances, handling of correspondence, organization and supervision of departments and sections and numerous other diverse administrative matters such as welfare, housing, sport, discipline and security.

(In the Navy clerks are known as "Writers".)

- Dockyard Police (S.A. Navy only): Guard important check points to prevent unauthorised persons from entering naval installations or boarding naval vessels. One of their duties is to identify visitors to restricted areas and to guard against theft of naval property. They also patrol naval bases and harbours to guard against fires. Should a fire break out ashore or on board ships in harbours, it is their duty to extinguish such fires.
- Dog Handlers: Young men who are fond of animals are, from time to time after basic training, selected to attend the S.A.D.F. Horse and Dog Centre for training as dog handlers. After training they become responsible for the handling of dogs which are used at various depots and installations for guard duties.
- Guard Commanders: Guards are always on duty at military installations to protect the interests of the Force and consequently the interests of the nation. The Guard Commanders of the S.A. Army are the men responsible for ensuring that guards execute their duties efficiently. After a period of basic training they receive the temporary rank of corporal, without pay of rank, to enable them to maintain discipline.
- Military Police: In the S.A. Army, S.A. Air Force and S.A. Navy, military policemen (members of the S.A. Corps of Military Police) are responsible for the maintenance of good order and discipline, the prevention and investigation of crime as well as the control of traffic.

- Ops/Intelligence Clerks: They are employed in the Operations and Intelligence Sections of the various arms of the service and they are concerned with the keeping of operational data, records, files, maps, charts and wall-boards. They also assist with the administration of Intelligence libraries and reading rooms. The work they do is of a highly confidential nature and only persons of high integrity are employed after receiving thorough training.
- Personnel of the S.A. Medical Corps: The S.A. Medical Corps offers a wide variety of jobs such as medical orderlies, ambulance drivers, clerks, storemen, instructors, etc. These men are called upon to assist the professional and technical personnel in the care of their ill and wounded comrades. They are usually attached to hospitals and ambulance units.
- Regimental Instructors: It is the task of the regimental instructor to condition the recruit to the requirements of a military way of life. Prospective regimental instructors like all other recruits, must also initially undergo a period of basic training. Subsequently, should they be considered suitable for further training, they proceed on instructors' courses. After successful completion of their training, they are posted to various units to act as regimental instructors and assist with training.
- Seamen: The utilization of the ship as a weapon is dependent on the seamen of the S.A. Navy. In addition to basic seamanship (boats, ropework, etc.) the seamen are required to undergo specialized training in either gunnery, torpedo-anti-submarine warfare, radar plotting, underwater weapons, etc. to enable them to handle the ship in combat.
- Storemen: The trained storemen are responsible for the procurement and issue of stores, ammunition, spare-parts, and other essential equipment. The storeman must have a thorough knowledge of provisioning procedures and some technical knowledge of the stores handled by him.
- Technical Clerks: The S.A. Air Force makes use of the services of technical clerks. Their duties differ entirely from those of administrative clerks in the sense that they are concerned mainly with the keeping of technical registers and the processing of data pertaining to aircraft machines and engines. Accuracy is of extreme importance, especially in the case of aircraft engines where different maintenance services must be carried out after specified numbers of flying hours. Furthermore, these services differ from aircraft to aircraft.

## CHAPTER IV

### OTHER CAREER FIELDS

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

#### 1. CLERICAL CAREERS

Requirements: Std 8 Certificate. Sometimes a Std 10 Certificate is preferred.

Training: In-service training.

Vocational service: Clerks are needed in all kinds of offices: in industry, commerce, municipalities, the Post Office (see p. 59), the South African Railways, Harbours and Airways (see p. 52), the Civil Service (see p. 33) and in the Permanent Force (see p. 63). The work is varied and may involve filing, correspondence, work 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.

Vocational service: Cashiers receive money from clients, issue receipts and/or change, and ensure that the correct amount is deposited in the bank. Cashiers 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 hand-writing 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 book-keeping 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: Keeps a record of each client's account either by hand or by using the bookkeeping machine; sends out accounts.

### 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.

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 preferred.

Training: Works with Senior Meter Inspector until well acquainted with the work.

Vocational service: Works for the municipality of a town or city where he makes rounds of all houses, flats, business premises, etc. allotted to him by the chief meter inspector, to read the electricity and water meters.

#### 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.

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

#### TELEPHONIST/SWITCHBOARD OPERATOR

Requirements: A Std 8 Certificate. Bilingual. Cultured accent. Friendly voice. Tact and courtesy. Two to three years' experience.

Training: In-service training.

Vocational service: Operates the switchboard. Copes with incoming and outgoing calls. Carries out clerical duties as well in smaller firms.

#### 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, the Civil Service, the South African Railways and the Post Office.

#### OTHER CLERICAL CAREERS

Consult the pages indicated for the following careers:

Building Clerk p. 32	Technical Clerks p.64
Clerical Assistant p. 33	Telephonist p. 52,61
Clerks p. 63	Typist p. 58
Clerk (male) p. 53	
Clerk (male and female) p. 59	
Forestry Clerk p. 35	
Intelligence Clerks p. 64	
Lady Clerk p. 55	
Office Assistant (female) p. 56	
Roads Clerk p. 41	
Storeman p. 58,64	

## 2. 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.28 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 2½ 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 2½ years in the 5-year trades and 1½ 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.115.

### MINE SURVEYOR

Requirements: At least a Std 8 Certificate, but a Std 10 Certificate 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.

### MINERWORKER

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. Tel. No. 663-4215.

### 3. PROCESSING AND/OR MANUFACTURING

#### CLOTHING INDUSTRY

The Clothing Industry is one of the biggest employers of labour in South Africa. It offers great scope to the matriculant and school-leaver with creative talent. School-leavers come into consideration for vacancies in the production sections.

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 positions are found in one form or another in most of the larger 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: A part-time course is available for candidates who have a Std 8 Certificate and who are employed with a Sewing-machine Dealer or with a Clothing factory.
- 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' Pattermaking and Grading Course and a Men's Pattermaking and Grading Course are offered by the College.



- Material and Trimmings Buyer: The Buyer needs to have a good textile background to judge the quality of materials required. He has to be successful in negotiating prices and must be familiar with local as well as overseas market trends. A Special part-time course in Textiles is provided.
- Supervisor: Plays an important rôle in labour relations because he or she forms the link between management and workers. The position of Supervisor is increasingly being recognized as playing a vital rôle in the production process. A full-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 pattern making, is a very precise job. The Grader receives the pattern from the pattern maker 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' Pattermaking and Grading Course or the Men's Pattermaking 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.

In the Transvaal alone more than 25 000 workers are employed by the 350 factories which are mostly situated in the Witwatersrand complex. It can therefore be claimed that any person with determination to improve himself has every opportunity for advancement.

#### 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 and Pretoria. (See Tertiary training outside universities and career opportunities (p. 107).)

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: Today almost all kinds of fur-bearing animals are hunted for their pelts which the furrier, who is a master of his craft, turns into glamorous coats, stoles, hats, collars, etc. Furriers are employed by large fur firms. Furriers are situated in Johannesburg, Cape Town, Pretoria and Durban. The qualified, talented furrier with originality and imagination may open his own fur shop.

## 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.

Examinations are conducted at the end of each trimester, i.e. in April, August and November of each year.

#### Subjects:

Site Organization and Control  
Site Administration  
Personnel Supervision and Welfare

N.B.: 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.

## GLASSFIBRE WORKER

Requirements: People with experience in an allied trade are normally appointed.

Vocational service: Glassfibre-reinforced plastics products are made by reinforcing a synthetic resin with glassfibre. One of the methods of manufacture is the hand lay-up method which consists of laminating successive layers of polyester-resin and glassfibre in an open mould. The fibreglass 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 glassfibre-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.

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 RADIOGRAPHER

SPECIALIZED PART-TIME COURSE IN INDUSTRIAL RADIOGRAPHY AND OTHER TECHNIQUES USED IN NON-DESTRUCTIVE TESTING

Requirements: Std 10 Certificate or equivalent. Candidates in possession of an NTC I or Std 8 Certificate will be permitted under special circumstances.

Training: This short part-time course is offered by the Pretoria College for Advanced Technical Education in co-operation with the Atomic Energy Board and the South African Bureau of Standards and comprises the following:

#### Subjects:

Principles of Radio-activity  
Safety Precautions  
Testing Techniques: Industrial Radiography  
Magnetic  
Electro-magnetic  
Dye Penetrant  
Ultrasonic

The emphasis will be on practical applications.

After successful completion of this course and six months' certified experience candidates may apply for recognition by the Atomic Energy Board to handle radio-isotope sources for Industrial Radiography.

### 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.

#### CRANE-DRIVER

Requirements: No specific educational qualification. Some employers, however, prefer prospective operators who hold a Std 6 Certificate. They should not be afraid of high places and eyesight should be good.

Training: Usually given by qualified operators with several years' experience of the work.

Vocational service: The job of the crane operator is mainly to hoist, move and lower materials. One of the most important skills the operator has to acquire, is to lower the load exactly on to the indicated spot. The operator has to see to the crane's maintenance.

#### 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 instructor operator. After completion of one year's service the trainee is tested and the successful candidate is appointed as an operator. After a further year of service the operator is allowed to complete a "barrier test" and although he cannot be promoted he receives a substantial increase in salary. After completion of another two years' service the operator can complete a further test and may become either a senior operator or operator instructor.

Vocational service: The operator must know how to handle, inter alia, the following heavy construction machinery: Lorries, mechanical loaders, a variety of tractors, road graders, steam rollers, bulldozers, tarsprayers, mobile grease units, etc. The operator is responsible for the machinery which he handles. The operator working on the construction of a new road, for example, is 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.

Because of the fast development of the country, there is a shortage of operators and prospects are therefore bright.

#### PROFILE CUTTING MACHINE OPERATOR AND THE STRAIGHTENING MACHINE OPERATOR

Requirements: Physically fit with excellent eyesight.

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

Vocational service:

- Profile Cutting Machine Operator: Various types of flame-cutters are used for production work on steel plates. The operator can, by using different forms, shape the metal into any desired form.
- Straightening Machine Operator: Large engineering works almost daily receive iron bars and beams which have to be processed. On the other hand, processed iron bars and beams (manufactured items) are delivered daily to clients. These objects must often be bent to a greater or lesser extent. The straightening machine operator is responsible for this task.

#### 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.

### OPTICAL MECHANIC

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

Training: Under the present industrial agreement the training period lasts three years. Each trainee serves a probationary period of three months during which the foreman pays particular attention to him. During his training years the trainee is given written instructions from time to time and is guided and assisted by the foreman.

Vocational service: Mechanical optics includes the manufacture and assembly of spectacles. Prescriptions for glasses are received from optometrists, oculists, opticians and such.

When a prescription is received, the optical mechanic 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 a suitable process to be complete. This includes, inter alia, rough-grounding the lens, smoothing, polishing and curving if necessary. Finally the lenses have to be fitted into the frame.

An optical mechanic should be able to make a pair of spectacles in its entirety, although he may specialize in one or another phase of the manufacture.

The prospects for continued employment are good. In a large company, the qualified optical mechanic may become a foreman in the workshop, then a branch manager of a small branch and later a manager of a larger branch.

### 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 WORKER

Requirements: At least a Std 6 Certificate, 16 years old and prepared to work shifts.

Training: Learner production workers are trained in service over a period of a few months in the theory and practice of production operating work. After a person has completed his training he is transferred to a production post at a higher wage rate.

The learner production worker who is found suitable can also be transferred - should he be interested - as an apprentice for training in a trade.

Vocational service: Industrial undertakings of which, in this case, Iscor is the most important, offer employment opportunities to production workers in iron and steel.

#### ULTRASONIC TESTER

##### SPECIALIZED PART-TIME COURSE IN ULTRASONIC TESTING

Requirements: An NTC I or a Std 8 Certificate. Experience in non-destructive testing techniques and Ultrasonic testing.

Training: This part-time course which extends over 5 months, comprising two evening classes per week, is offered by the Pretoria College for Advanced Technical Education.

#### Subjects:

Principles of Sound Waves  
Basic principles of Instruments  
Calibration of Instruments  
Testing Techniques

The emphasis will be on practical applications.

##### OTHER EMPLOYEES IN PROCESSING AND/OR MANUFACTURING

Consult the pages indicated for the following careers:

Tailor p. 94.

Bootmaker and Shoemaker p. 92.

#### 4. SALES AND RELATED CAREERS

##### AUCTIONEER

Requirements: Must be able to speak quickly, clearly and at great length and must be bilingual.

Training: Learning through practical experience. After leaving school the aspiring auctioneer can directly enter an established firm. He will first do clerical work and accompany the auctioneer to auctions as his assistant for a year or two. Beginners must accumulate the necessary legal knowledge on their own.

Vocational service: It is the Auctioneer's task to dispose on behalf of the owner, of any kind of property to the highest bidder at a public auction. He serves as a link between the buyers and the owners who do not come into direct contact with one another.

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.

After the auction the Auction list must be balanced by the auctioneer and his assistants. This rough roll contains a complete list of the names and addresses of buyers, the articles sold and the prices paid. The seller is handed a full statement by the auctioneer, and after the auctioneer has deducted the tax, advertising costs and his own commission, the balance is handed to the seller.

### BEAUTY CONSULTANT

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

Training: Initial training courses are offered by various beauty firms\*.

Vocational service: Most beauty consultants sell cosmetics behind counters. They also advise women on how to make the best use of cosmetics. With sufficient experience, candidates may be promoted to travelling consultants.

\*See Tertiary training outside universities and career opportunities, (p. 130) for the one-year full-time course for the National Certificate in Beauty Culture.

### COMMERCIAL TRAVELLER

Requirements: No minimum qualifications, but the higher a person's qualifications the greater is the possibility of success.

Training: No formal training. Firms employ young people in their head offices to learn about the goods they have to sell.

Vocational service: The commercial traveller sells various goods to businesses or to the public. The type of goods he sells varies greatly and depends on the kind of firm which employs him. A certain territory is usually allotted to each traveller and he is generally remunerated with a basic salary plus commission in proportion to the amount of goods sold.

### 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 and the taking of test photographs.

There are training schools in Durban, Johannesburg, Cape Town and Pretoria. In Cape Town there is an association which cares for the interests of mannequins, viz the Cape Town Mannequin Association. 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.

#### OTHER EMPLOYEES IN SALES AND RELATED CAREERS

Consult the pages indicated for the following careers:

Butcher p. 92.  
Cashier p. 65.  
Investigator p. 66.  
Supervisor : Deliveries p. 68.

#### 5. SERVICE CAREERS

##### AMBULANCEMAN

Requirements: A Std 6 Certificate, a heavy vehicle licence, physical fitness; must be at least 18 years of age; must be able to lift a weight of at least 68 kilograms (150 lbs.); must have extensive knowledge of first aid, be a sympathetic and a responsible level-headed person.

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.

Ambulancemen must belong to a recognized first aid organization. They are employed by municipalities.

##### AUXILIARY NURSE

Requirements: Std 8 Certificate and must be at least 16 years old.

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 auxiliary nurses.

The training of nurses in the RSA and South-West Africa is controlled by the S.A. 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 and well-equipped nursing colleges, while practical clinical training is received in the wards and sections of training hospitals.

Vocational service: The Auxiliary 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. Auxiliary nurses make beds, feed patients who are unable to feed themselves, answers bed-bells, prepares baby food, feeds the babies, etc.

If the Auxiliary 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.

## 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 Leisure Pursuits

##### Second year

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

N.B.: 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 Kollege vir Beroepsleiding. 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 at present offered only in Afrikaans. The College is translating the course into 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. 51.

## CRÈCHE ASSISTANT

Requirements: Need not have any particular academic qualification, but should be patient and like little children.

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 requires dedication.

## 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 shows.

## 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.

## HOSPITAL PORTER

Requirements: Std 8 Certificate.

Vocational service: Porters are responsible for transporting patients from one part of the hospital to another and for some general messenger work.

### 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 (pp. 75-76) 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.

#### MATRON IN A HOSTEL

Requirements: No formal training is required. A girl who has attended a domestic science high school is usually preferred. School-leavers are appointed as assistant matrons and may apply for a position as matron when more experienced.

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 and servants who execute her orders.

#### 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.

N.B.: Non-blind piano tuners are trained only overseas.

PROJECTIONIST

Requirements: Std 8 Certificate or equivalent.

Training: Training by their employers which usually extends over three years, after which they apply for a cinematograph operator's licence. This application is submitted to the Chief of the Fire Department in the municipality concerned. The applicant is then tested. He must then be at least 18 years old and have an elementary knowledge of first aid. A fair mechanical ability is also required for the handling and repairing of the projector.

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; select the musical records which he must play before the show and during the interval; watch the hall for any emergency; check the air-conditioning of the hall, and know the mechanism of his apparatus so that he can handle repair work, replacements and adjustments if necessary before or during the show.

Projectionists can advance to the rank of chief projectionist.

There is at present a shortage of projectionists and employment opportunities are very good. They are employed by all the theatres in the country, film studios of the National Film Board and also by the division Audio-visual Education of the Department of National Education in Pretoria.

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: 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 Noodhulpliga 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.

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. 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

Requirements: At least a Std 7 Certificate. Should be physically fit.

Vocational service: Usherettes show cinema patrons to their seats and sell refreshments during intervals.

#### ZOO-KEEPER

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

Training: In-service training.

Vocational service: The zoo-keeper should enjoy the company of animals and working in the open air. He must have good observational powers and build up rapport with the animals. He is responsible for the feeding of the animals and cleaning of the cages and enclosures. He assists the professional officers through recording interesting behaviour sequences which the animals may display; and reporting sicknesses.

#### OTHER EMPLOYEES IN SERVICE CAREERS

Consult the pages indicated for the following careers:

Air Hostess p. 52  
Baker p. 91  
Beauty Consultant p. 78  
Cook/Assistant Flight Caterer p. 54  
Flight Steward p. 54  
Military Staff p.61  
Outdoor Officer p. 36



Pest Controller p. 89  
Photographer p.38 (S.A.R.); p.56 (Civil Service) and p.93 (Apprenticeship)  
Police p. 38  
Policeman (South African Railways) p. 56  
Prison Officer p. 39  
Provincial Inspector p.40  
Steward p. 52,57  
Traffic Officer p.40

6. TRANSPORT AND COMMUNICATION

RUNNING-STAFF EMPLOYEE

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 running-staff employee 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 buses 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.

Running-staff are promoted on merit to the position of inspector in the various divisions of the transport service, such as running-staff inspectors, training inspectors and information inspectors at enquiry offices.

TRAFFIC OFFICER (FEMALE)

Requirements: A Std 8 Certificate and at least 18 years of age.

Training: After theoretical training of two or three weeks offered by the local traffic department, the candidate accompanies an experienced traffic officer by day until she has mastered the practical aspects of the work.

Vocational service: Female traffic officers only deal with traffic offences. They are not employed by all municipalities.

OTHER EMPLOYEES IN TRANSPORT AND COMMUNICATION

South African Railways See p.52  
The Post Office See p.59

OTHER CAREERSDIVER

Diving comprises the following:

- Scientific diving: Collecting samples by the scientists themselves
- Commercial diving: Exploitation of raw materials and food resources on the sea-bed
- 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.

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.

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.

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).

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.

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.

## 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.

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.

## 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  
Common Pests  
Environmental Control of Pests  
Pest Control and Health

Afrikaans A (Junior) OR  
English A (Junior)  
Afrikaans A or B (Junior) OR  
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: At least a Std 8 Certificate. Candidates with higher educational qualifications and/or experience of sheep farming receive preference.

Training: Wool-classers may obtain training of one or two years at one of the agricultural colleges or take a three-month course at the Grootfontein College of Agriculture, Middelburg, C.P., or the College of Agriculture, Glen, near Bloemfontein, during which tuition is given in wool-classing. Wool schools of one week's duration are held on various farms also by the Department of Agricultural Technical Services. 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. The standard of this Diploma is very high and is not easily obtained. Yet it is a qualification set as a requirement by the various organizations which employ wool-classers.

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. Wool-classers spend periods which vary from a few days to a few weeks on one farm.

Wool-classers are employed by large wool-brokers on a temporary basis. Usually persons who work as wool-classers do other jobs when the season is over. Shearing Service Co-operative Limited, Bloemfontein, however, appoints wool-classers on a full-time basis.

## 8. 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.108 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 9)  
Applied Science N3  
Commercial Arithmetic (Std 9)  
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

N.B.: The NTC III gives admission to the National Diploma in Horticulture.  
(See Tertiary training outside universities and career opportunities,  
p. 19.)

## 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)

9. 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. 107 for the list of addresses.

APPENDICES A, B AND C

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     Operator - Road Construction Machinery: 74  
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 Printers' Mechanic (Typesetting): 29  
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 Production Manager: 70  
 Production Worker: 76  
 Profile Cutting Machine Operator: 75  
 Projectionist: 85  
 Proof-reader: 22,29  
 Provincial Inspector: 40  
 Punch Card Machine Operator: 67  
 Punch Operator: 52  
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 Radiotrician (X-ray): 11,12  
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 Refrigeration Mechanic: 11,12,27,28  
 Regimental Instructors: 64  
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 Rigger: 11,12,26,27,28,31,62  
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 Riveter: 75  
 Road Construction Machinery - Operator: 74  
 Roads Clerk: 41  
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 Safety Equipment Worker: 62  
 Sailmaker: 27

Saw Doctor: 25,26  
 Scale Fitter: 11,12,28  
 Scales Fitter: 29  
 Scientific Instrument Maker and Repairer: 27  
 Seamen: 64  
 Sewing-machine Mechanic: 71  
 Sewing-machine Technician: 70  
 Shampoo Lady: 85  
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 Sheet-metal Worker(Aircraft): 62  
 Sheet-metal Worker and Boilermaker: 11,12  
 Shipwright: 11,12,13,27,29,62  
 Shoemaker: 92  
 Shop Assistant: 79  
 Shopfitter(Architectural Metal-working): 25  
 Shopfitter (Wood): 25  
 Shunter: 57  
 Signal Fitter: 11,12  
 Signwriter: 13,25,27  
 Skipper: 53  
 Spray Painter: 13,28  
 Spring-smith: 11,12  
 Station Foreman: 57  
 Station Master: 57  
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 Steward: 52,57  
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 Watchmaker: 90  
 Water Bailiff: 50  
 Water Purification Operator: 75  
 Waterworks Supervisor: 52  
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 Woodcarver: 13,26,27  
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B. ADDRESSES OF ORGANIZATIONS AND INSTITUTIONS WHICH OFFER TRAINING AND/OR ADDITIONAL INFORMATION

1. COLLEGES FOR ADVANCED TECHNICAL EDUCATION

The Registrar  
Cape College for Advanced Technical  
Education  
P.O. Box 652  
CAPE TOWN  
8000

The Registrar  
Natal College for Advanced Technical Education  
P.O. Box 953  
DURBAN  
4000

The Registrar  
Witwatersrand College for Advanced  
Technical Education  
P.O. Box 3293  
JOHANNESBURG  
2000

The Rector  
College for Advanced Technical Education  
Private Bag X6011  
PORT ELIZABETH  
6000

The Registrar  
Pretoria College for Advanced Technical  
Education  
420 Church Street East  
PRETORIA  
0002

The Registrar  
Vaal Triangle College for Advanced Technical  
Education  
Private Bag X021  
VANDERBIJLPARK  
1900

2. TECHNICAL COLLEGES (alphabetical according to towns/cities)

Enquiries must be addressed to the Principal.

Technical College  
Private Bag X1004  
BENONI  
1500

Free State Technical College  
Private Bag X20542  
BLOEMFONTEIN  
9300

Technical College  
Private Bag  
BOKSBURG NORTH  
1461

Technical College  
Private Bag  
Brenthurst  
BRAKPAN  
1542

Technical College  
Private Bag  
CARLETONVILLE  
2500

Technical College  
Private Bag  
Congella  
DURBAN  
4013

East London Technical College  
Private Bag  
EAST LONDON  
5200

Technical College  
Private Bag X1030  
GERMISTON  
1400

Technical College  
Private Bag X23  
JOHANNESBURG  
2000

Northern Cape Technical College  
Private Bag X31  
KIMBERLEY  
8300

Technical College  
Private Bag XA13  
KLERKSDORP  
2570

Technical College  
Private Bag X22  
KROONSTAD  
9500



Technical College  
Private Bag X2004  
KRUGERSDORP  
1740

Technical College  
Private Bag X9032  
PIETERMARITZBURG  
3200

Technical College  
Private Bag  
Howard Place  
PINELANDS  
7450

Technical College  
Private Bag X6040  
PORT ELIZABETH  
6000

Technical College  
Private Bag  
RANDFONTEIN  
1760

Technical College  
Private Bag X2086  
RUSTENBURG  
0300

Technical College  
Private Bag X2009  
SASOLBURG  
9670

Technical College  
Private Bag X21  
SPRINGS  
1560

Technical College  
Private Bag X5012  
STELLENBOSCH  
7600

Technical College  
Private Bag  
UITENHAGE  
6230

Vanderbijlpark Technical College  
Private Bag X05  
VANDERBIJLPARK  
1900

Technical College  
Private Bag  
VEREENIGING  
1930

O.F.S. Goldfields Technical College  
Private Bag X21  
WELKOM  
9460

Technical College  
Private Bag X7215  
WITBANK  
1035

3. TECHNICAL INSTITUTES (alphabetical according to towns/cities)

Enquiries must be addressed to the Principal.

Technical Institute  
P.O. Box 50180  
New Redruth  
ALBERTON  
1452

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 147  
BRITS  
0250

Technical Institute  
P.O. DURNACOL  
3082

Technical Institute  
P.O. Box 376  
ERMELO  
2350

Technical Institute  
P.O. Box 170  
EVANDER  
2280

Technical Institute  
c/o Fish Hoek High School  
Recreation Road  
FISH HOEK  
7975

Technical Institute  
P.O. Box 142  
GRAHAMSTOWN  
6140

Technical Institute  
P.O. Box 159  
KING WILLIAM'S TOWN  
5600

Technical Institute  
P.O. Box 55  
LICHTENBURG  
2740

Technical Institute  
P.O. Box 127  
NELSPRUIT  
1200

Technical Institute  
Private Bag  
PAARL  
7620

Technical Institute  
Old Library Buildings  
Chancery Lane  
PINETOWN  
3600

Technical Institute  
P.O. Box 925  
POTCHEFSTROOM  
2520

Education Institute of the SAP  
P.O. Polkol  
PRETORIA  
0111

Technical Institute  
P.O. Box 71  
QUEENSTOWN  
5320

Technical Institute  
P.O. Box 66  
STANDERTON  
2430

Technical Institute  
P.O. Box 192  
TZANEEN  
0850

Technical Institute  
P.O. Box 253  
VRYHEID  
3100

Technical Institute  
Private Bag X529  
GEORGE  
6530

The Kempton Park Technical Institute  
P.O. Box 844  
KEMPTON PARK  
1620

Ladysmith Technical Institute  
Private Bag X903  
LADYSMITH NATAL  
3370

Technical Institute  
P.O. Box 533  
MIDDELBURG TVL  
1050

Technical Institute  
P.O. Box 665  
NEWCASTLE  
2940

Pietersburg Technical Institute  
P.O. Box 205  
PIETERSBURG  
0700

Technical Institute  
Private Bag X829  
PORT SHEPSTONE  
4240

Technical Institute  
P.O. Box 137  
POTGIETERSBURG  
0600

Technical Institute Pretoria West  
P.O. Box 19  
PRETORIA WEST  
0117

The Tygerberg Technical Institute  
Private Bag  
SANLAMHOF  
7532

Technical Institute  
P.O. Box 76  
STRAND  
7140

Technical Institute  
Private Bag X886  
UPINGTON  
8800

Technical Institute  
Private Bag X960  
WORCESTER  
6850

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  
P.O. Box 1114  
JOHANNESBURG  
2000

African United Colleges  
P.O. Box 2115  
PRETORIA  
0001

Aviation College of South Africa  
P.O. Box 6701  
JOHANNESBURG  
2000

Britzius Correspondence College  
P.O. Box 5482  
JOHANNESBURG  
2000

Canyon Academy of South Africa  
P.O. Box 52060  
SAXONWOLD  
2132

Capital College  
P.O. Box 2782  
PRETORIA  
0001

Cleaver-Hume College (Pty.) Ltd.  
P.O. Box 8417  
JOHANNESBURG  
2000

College of Accountancy  
P.O. Box 31125  
BRAAMFONTEIN  
2017

College of Commerce  
P.O. Box 884  
CAPE TOWN  
8000

Damelin Institute of Professional Studies  
(Pty.) Ltd.  
P.O. Box 4129  
JOHANNESBURG  
2000

Dun & Bradstreet (Pty.) Ltd.  
P.O. Box 5166  
JOHANNESBURG  
2000

Exclusive Interiors International  
P.O. Box 11115  
CAPE TOWN  
8000

The Good Samaritan School  
P.O. Box 37174  
BIRNAM PARK  
2015

Harvard College  
P.O. Box 7487  
JOHANNESBURG  
2000

Insurance Institute of South Africa  
P.O. Box 61837  
MARSHALLTOWN  
2107

Institute of Building  
P.O. Box 10524  
JOHANNESBURG  
2000

Institute of Personnel Management  
P.O. Box 31390  
BRAAMFONTEIN  
2017

Institute for Industrial Education  
P.O. Box 2103  
DURBAN  
4000

International Correspondence Schools  
(Overseas) Limited  
P.O. Box 19  
CAPE TOWN  
8000

Jannie Raath Kollege (Edms.) Beperk  
P.O. Box 1175  
PRETORIA  
0001

Lyceum Correspondence College  
(Pty.) Ltd.  
P.O. Box 1103  
JOHANNESBURG  
2000

Melody School of Music (Pty.) Ltd.  
P.O. Box 5312  
JOHANNESBURG  
2000

Milwaukee School of Watchmaking P.O. Box 1622 PRETORIA 0001	National School of Salesmanship (Pty.) Ltd. P.O. Box 3235 JOHANNESBURG 2000
Rapid Results College P.O. Box 1809 DURBAN 4000	Radiokom (1969) (Pty.) Ltd. P.O. Box 56310 PINEGOWRIE 2123
Skryfhuis P.O. Box 538 FLORIDA 1710	St. Vincent & Taxidermy Correspondence College P.O. Box 7927 JOHANNESBURG 2000
School of Accountancy P.O. Box 2918 CAPE TOWN 8000	Sukses Korrespondensie-kollege P.O. Box 8737 JOHANNESBURG 2000
S.A. Faculty of Homoeopathic Medicines P.O. Box 6071 JOHANNESBURG 2000	S.A. Institute for Mind Training P.O. Box 207 STRAND 7140
S.A. National School of Electronics P.O. Box 9766 JOHANNESBURG 2000	S.A. Tegniese Instituut P.O. Box 134 BELLVILLE 7530
S.A. College of Engineering Designers & Draughtsmen P.O. Box 53 JOHANNESBURG 2000	Sielkunde-Kollege P.O. Box 171 CLOCOLAN 9735
South African School of Film Techni- que (Pty.) Ltd. 7 Gladstone Street EAST LONDON 5201	Theological College of South Africa P.O. Box 50402 NEW REDRUTH ALBERTON 1452
Transafrika Correspondence College (Pty.) Ltd. P.O. Box 3512 JOHANNESBURG 2000	Turret Correspondence College (Pty.) Ltd. P.O. Box 11350 JOHANNESBURG 2000
Union College (Pty.) Ltd. P.O. Box 3541 JOHANNESBURG 2000	Veasey's Engineering College P.O. Box 35 JOHANNESBURG 2000
Veritas Kollege vir Beroepsleiding P.O. Box 1066 BLOEMFONTEIN 9300	Willand Trust P.O. Box 2040 BLOEMFONTEIN 9300
World Correspondence College (Pty.) Ltd. P.O. Box 924 PRETORIA 0001	Zama Tutorial and Assisted Studies Correspondence College P.O. Box 165 UMTATA 5100

5. AGRICULTURAL COLLEGES

The Director : Karoo Region  
Department of Agricultural Technical Services  
Grootfontein College of Agriculture and Research Station  
MIDDELBURG CP  
5900

The Director : OFS Region  
Department of Agricultural Technical Services  
College of Agriculture and Research Station  
P.O. 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, 6630  
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, Paarl, 7620  
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, Standerton, 2430  
P.O. Box 476, Upington, 8800  
Private Bag, 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
98 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 House cor. Market Square and Stead Street KIMBERLEY	Private Bag X5012 KIMBERLEY 8300
P.C. Pelser Building Voortrekker Street KLERKSDORP	P.O. Box 461 KLERKSDORP 2570
414 Adami House (Mondays 11 am - 1 pm and Brand Street Thursdays 2 - 4 pm only) KROONSTAD 9500	
New Government Building cor. Commissioner and Bicard Streets KRUGERSDORP	Private Bag X2022 KRUGERSDORP 1740
6 Dyer Street EAST LONDON	P.O. Box 312 EAST LONDON 5200
Woolfson House cor. Church and West Streets PIETERMARITZBURG	Private Bag X9048 PIETERMARITZBURG 3200
Government Building 41 Schoeman Street PIETERSBURG	Private Bag X9368 PIETERSBURG 0700
Eben Dönges Building Hancock Street PORT ELIZABETH	Private Bag X3908 PORT ELIZABETH 6000

Address

Postal Address

23 Greyling Street  
POTCHEFSTROOM  
(Mondays 9-12 am 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  
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 (An Apprenticeship Committee for this industry - assembly and building of automobiles - is at present in embryo.)

Industrial Council for the Automobile Manufacturing Industry,  
Eastern Province  
P.O. Box 2221  
PORT ELIZABETH  
6000

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, Bloemfontein  
P.O. Box 693  
BLOEMFONTEIN  
9300

Industrial Council for the Building Industry, Kimberley  
P.O. Box 462  
KIMBERLEY  
8300

Pietermaritzburg and Northern Areas Industrial Council for the Building Industry  
P.O. Box 103  
PIETERMARITZBURG  
3200

Industrial Council for the Building  
Industry (Port Elizabeth)  
Private Bag X4089  
Korsten  
PORT ELIZABETH  
6014

Industrial Council for the Building  
Industry, Western Province  
P.O. Box 2212  
CAPE TOWN  
8000

Industrial Council for the Building  
Industry, Kroonstad  
P.O. Box 425  
KROONSTAD  
9500

Worcester Building Industrial Council  
P.O. Box 240  
WORCESTER  
6850

#### Canvas Goods Industry

Industrial Council for the Canvas Goods  
Industry (Witwatersrand and Pretoria)  
P.O. Box 4172  
JOHANNESBURG  
2000

Industrial Council for the Building  
Industry, Transvaal  
P.O. Box 3201  
JOHANNESBURG  
2000

Industrial Council for the Building In-  
dustry, Durban P.O. Box 1125  
DURBAN  
4000

Industrial Council for the Building  
Industry (East London)  
P.O. Box 890  
EAST LONDON  
5200

Industrial Council for the Building In-  
dustry (Queenstown)  
P.O. Box 184  
QUEENSTOWN  
5320

Industrial Council for the Canvas and  
Ropeworking Industry (Cape)  
P.O. Box 1436  
CAPE TOWN  
8000

#### Diamond Cutting Industry

Industrial Council for the Diamond Cutting  
Industry of South Africa  
P.O. Box 2389  
JOHANNESBURG  
2000

#### Electrical Contracting Industry (Building)

Industrial Council for the Electrical  
Contracting Industry (Transvaal)  
P.O. Box 10604  
JOHANNESBURG  
2000

Industrial Council for the Electrical  
Contracting and Servicing Industry (Cape)  
807 "Monte Carlo"  
Heerengracht  
Foreshore  
CAPE TOWN  
8001

Industrial Council for the Electrical  
Industry (Natal)  
P.O. Box 722  
DURBAN  
4000

Industrial Council for the Electrical  
Industry, East London  
P.O. Box 271  
EAST LONDON  
5200

#### Engineers (Metal Industry)

National Industrial Council for the Iron, Steel, Engineering and  
Metallurgical Industry of South Africa  
P.O. Box 9381  
JOHANNESBURG  
2000



Explosives and Allied Industries

Central Industrial Council for the  
Explosives and Allied Industries  
P.O. Box 1122  
JOHANNESBURG  
2000

Furniture Industry

Industrial Council for the Furniture  
Manufacturing Industry, Transvaal  
P.O. Box 10467  
JOHANNESBURG  
2000

Industrial Council for the Furniture  
Manufacturing Industry of the South  
Western Districts  
P.O. Box 2221  
PORT ELIZABETH  
6000

Industrial Council for the Furniture  
Industry of the Orange Free State  
P.O. Box 869  
BLOEMFONTEIN  
9300

Hairdressing Trade

Industrial Council for the Hairdressing  
Trade, Cape Peninsula  
P.O. Box 887  
CAPE TOWN  
8000

Industrial Council for the Hairdressing  
Trade, Port Elizabeth and Uitenhage  
P.O. Box 2221  
PORT ELIZABETH  
6000

Industrial Council for the Hairdressing  
Trade, Witwatersrand  
P.O. Box 1201  
JOHANNESBURG  
2000

Jewellery and Precious Metal Industry

Industrial Council for the Jewellery  
and Precious Metal Industry (Cape)  
P.O. Box 1536  
CAPE TOWN  
8000

Industrial Council for the Furniture  
Manufacturing Industry of the Eastern  
Cape  
P.O. Box 2221  
PORT ELIZABETH  
6000

Industrial Council for the Furniture Manu-  
facturing Industry, Natal  
P.O. Box 1554  
DURBAN  
4000

Industrial Council for the Furniture  
Industry of the Western Cape  
P.O. Box 964  
CAPE TOWN  
8000

Industrial Council for the Hairdressing  
Trade, Durban  
P.O. Box 2182  
DURBAN  
4000

Industrial Council for the Hairdressing  
Trade, Pretoria  
P.O. Box 1237  
PRETORIA  
0001

Motor Industry

National Industrial Council for the Motor  
Industry  
P.O. Box 1066  
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

Sugar Manufacturing and Refining Industry

Industrial Council for the Sugar Manufac-  
turing and Refining Industry  
408/9 J.B.S. Buildings  
Cr. West and Field Streets  
DURBAN  
4001

9. 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 Technical  
Services  
Private Bag X116  
PRETORIA

Department of Bantu Education  
Private Bag X212  
PRETORIA

Department of Commerce  
Private Bag X84  
PRETORIA

Department of Community Development  
Private Bag X149  
PRETORIA

Department of Customs and Excise  
Private Bag X47  
PRETORIA

Department of Finance  
Union Buildings  
PRETORIA  
0002

Department of Foreign Affairs  
Union Buildings  
PRETORIA  
0002

Department of Health  
Private Bag X88  
PRETORIA

Department of Indian Affairs  
Private Bag X92  
PRETORIA

Department of Agricultural Economics and  
Marketing  
Private Bag X250  
PRETORIA

Department of Bantu Administration and  
Development  
P.O. Box 384  
PRETORIA

Department of Coloured Relations and  
Rehoboth Affairs  
Private Bag X9058  
CAPE TOWN  
8000

The Superintendent  
Division of Weights and Measures  
Department of Commerce  
P.O. Box 431  
PRETORIA

Controller and Auditor-General  
Department of Controller and Auditor-  
General  
P.O. Box 446  
PRETORIA

The Commandant-General of the S.A. Defence  
Force  
Department of Defence  
Private Bag X160  
PRETORIA

The Treasury  
Private Bag X115  
PRETORIA

Department of Forestry  
Private Bag X93  
PRETORIA

Department of Immigration  
P.O. Box 2072  
PRETORIA

Department of Industries  
Private Bag X342  
PRETORIA

The Director  
Division of Sea Fisheries  
Department of Industries  
Private Bag  
SEA POINT CP  
8060

Department of Inland Revenue  
P.O. Box 402  
PRETORIA

Department of Justice  
Private Bag X81  
PRETORIA

Department of Mines  
Private Bag X59  
PRETORIA

Department of National Education  
Private Bag X122  
PRETORIA

The Department of the Prime Minister  
Union Buildings  
PRETORIA  
0002

Office of the Public Service Commission  
Private Bag X121  
PRETORIA

Department of Social Welfare and Pensions  
Private Bag  
PRETORIA

Department of Sport and Recreation  
Private Bag X269  
PRETORIA

Department of Tourism  
Private Bag X262  
PRETORIA

The Director  
Civil Aviation Division  
Department of Transport  
Private Bag X193  
PRETORIA

Department of Water Affairs  
Private Bag X313  
PRETORIA

Department of Information  
Private Bag X152  
PRETORIA

Department of the Interior  
Private Bag X114  
PRETORIA

Department of Labour  
Private Bag X117  
PRETORIA

The Director  
Geological Survey  
Department of Mines  
Private Bag X112  
PRETORIA

Department of Planning and the Environ=  
ment  
Private Bag X213  
PRETORIA

Commissioner of Prisons  
Department of Prisons  
Private Bag X136  
PRETORIA

Department of Public Works  
Private Bag X65  
PRETORIA

Commissioner of the South African Police  
Department of the South African Police  
Private Bag X94  
PRETORIA

Department of Statistics  
Private Bag X44  
PRETORIA

Department of Transport  
Private Bag X193  
PRETORIA

The General Manager  
South African Railways  
Paul Kruger Building  
Wolmarans Street  
JOHANNESBURG  
2001

10. REGIONAL OFFICES OF THE PUBLIC SERVICE COMMISSION

PRETORIA

Mr Ben van der Walt  
Room 301  
Northvaal Building  
Vermeulen Street  
PRETORIA  
0002  
Tel.: 484722

JOHANNESBURG

Mr Roy Schwartz  
Room 239  
Supreme Court Buildings  
Von Brandis Street  
JOHANNESBURG  
2001  
Tel.: 228143

CAPE TOWN

Mr Johan Erasmus  
Room 426  
Monte Carlo Building  
Heerengracht  
CAPE TOWN  
8001  
Tel.: 28845

PORT ELIZABETH

Mr Rex Nieuwenhuizen  
Room 59  
Eben Dinges Building  
Hancock Street  
North End  
PORT ELIZABETH  
6001  
Tel.: 49931

BLOEMFONTEIN

Mr Steve Morkel  
Room 649  
H.F. Verwoerd Building  
St Andrew Street  
BLOEMFONTEIN  
9301  
Tel.: 71180

DURBAN

Mr Andy Pretorius  
828 West Walk Building  
Smith Street  
DURBAN  
4001  
Tel.: 68829

KIMBERLEY

Mr Banie van der Walt  
304 Saambou Building  
Du Toitspan Road  
KIMBERLEY  
8301  
Tel.: 5612

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 the Orange  
Free State  
P.O. Box 517  
BLOEMFONTEIN  
9300

The Secretary for South-West Africa  
The Administration of South-West Africa  
Private Bag X13186  
WINDHOEK  
9100

The Provincial Secretary  
Provincial Administration of Natal  
Private Bag X9037  
PIETERMARITZBURG  
3200

The Provincial Secretary  
Provincial Administration of the Trans-  
vaal  
Private Bag X64  
PRETORIA  
0001

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 President  
Human Sciences Research Council  
Private Bag X41  
PRETORIA  
0001

The General Manager  
Chamber of Mines of South Africa  
P.O. Box 809  
JOHANNESBURG  
2000

The Chief Engineer : Training  
Department of Posts and Telecommuni-  
cations  
Private Bag X74  
PRETORIA  
0001

The Secretary  
The Jockey Club of South Africa  
P.O. Box 3409  
JOHANNESBURG  
2000

The Director  
South African Bureau of Standards  
Private Bag X191  
PRETORIA  
0001

The Secretary  
South African Council for Scientific  
and Industrial Research  
P.O. Box 395  
PRETORIA  
0001

The Secretary  
South African Nursing Association  
P.O. Box 1280  
PRETORIA  
0001

The Personnel Officer  
Atomic Energy Board  
Private Bag X256  
PRETORIA  
0001

The Careers Officer  
Chamber of Mines of South Africa  
P.O. Box 809 (5 Hollard Street)  
JOHANNESBURG  
2000

The Secretary  
Federation of Building Industries (SA)  
P.O. Box 11359  
JOHANNESBURG  
2000

The Personnel Manager  
Rand Water Board  
P.O. Box 1127  
JOHANNESBURG  
2000

The Personnel Manager  
South African Coal, Oil and Gas Corpora-  
tion Ltd  
P.O. Box 1  
SASOLBURG  
9570

The Corporative Manager (Personnel)  
South African Iron and Steel Industrial  
Corporation Limited  
P.O. Box 450  
PRETORIA  
0001

The Principal  
Training College for the Clothing Indus-  
try (Tvl.)  
First Floor, Endpark House  
Cor. End and Rokeby Streets  
JOHANNESBURG  
2001

C. BIBLIOGRAPHY

These publications, inter alia, may be consulted to obtain further information.

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