

## Requirements for Application for Certificate of Authorization as a Wireman

### Documentation and Past Experience

- Form B, Application for Certificate of Authorisation as a Wireman
- 2 x passport photographs
- References from licensed Electrical Contractors or Authorised Wiremen which provide proof that you have had practical experience of installing electrical wiring and apparatus for a period of not less than three years
- Copies of certificates from relevant Educational Institutes

### Examination

A written examination based on

- Installation Work and Regulations
- Electrical Sciences and Principles

has to be undertaken by the applicant. Note that the applicant must pass the exam in order for the application to be approved. A syllabus is provided for reference.

The test is of a two-hour duration. Applicants will be notified beforehand of the time and venue of the examination.

Please note that a calculator will be required for the examination, as well as writing instruments. No mobile phones are allowed to be used during the examination, and **failure to comply will result in instant dismissal of your application.**

### Application Fee

Please note that a **SR 105.00** fee will be applied for the application. The fee can be paid at the PUC cashier's offices located at Malavois (Boie de Rose Avenue), Creole Spirit Building (Quincy Street, Victoria) or Anse Royale office; or at PUC B.S.A, Praslin.

## EXAMINATION OF WIREMEN

- (1) Authorization of Electricity Wiremen will be carried out by the Seychelles Licensing Authority. No such authorization can be issued before the applicant has satisfied the Chief Engineer of the Electricity Division that:
- (i) He understands the scientific principles of electricity
  - (ii) He has practical experience as a wireman under the immediate and constant supervision of an authorized wireman for a continuous period of not less than three years and
  - (iii) He understands the provisions of the Acts and the Regulations which are directly applicable to wiring.
- (2) A candidate who satisfies the Chief Engineer that he holds a certificate of proficiency as a wireman issued in pursuance of the laws of any other country or territory enforcing substantially the same standards and that he has had practical experience during not less than one year subsequent to the date of his certificate may be exempted from examinations at the discretion of the Chief Engineer.

Equally, a candidate who can demonstrate his comprehension of and skill in electrical installation practice by virtue of qualifications obtained in Seychelles or elsewhere, backed up by adequate practical experience may, at the discretion of the Chief Engineer be recommended for authorization as an electrical wireman without necessarily meeting all the requirements of paragraphs (1) above.

### (3) SYLLABUS

The syllabus is arranged to guide an applicant in acquiring the practical and theoretical knowledge necessary for him to pass the test

#### SAFETY

- (I) ELECTRICAL HAZARD
  - (a) Fire risks. Flammable atmospheres. Battery charging (safe operating practice)
  - (b) Emergency control of machines and equipment. Appreciation of special installation problems e.g. Flame-proof switch gear, electrical machinery in flammable atmospheres.

#### INSTALLATION WORK AND REGULATIONS

- (II) LIGHTING, HEATING AND CALL INSTALLATION SYSTEMS
  - (a) Typical domestic and office distribution systems
  - (b) Control gear at consumer supply point (single phase). Connection of energy meters
  - (c) Meaning of 'polarity' in distribution circuits. Live and neutral. Method of connection of single-pole switches fuses and neutral links. Use of double-pole switches. Socket outlets and spur units.
  - (d) Circuits. The general layout of lighting circuits. Basic switching circuits: one-way and two-way switching. Multi-switching. Starting and control gear of fluorescent lighting circuits.

- (e) The general layout of socket and socket outlet circuits. Radial and ring circuits. Cooker and immersion heater circuit.  
Study of I.E.E. Regulations and Seychelles Electricity Regulations for final sub-circuits up to 30A rating.
- (f) Wiring of bell circuits with indicators. Transformer-operated bell system. General installation practice for fire alarm systems, call systems and burglar alarm systems.
- (g) Simple testing of basic circuits. Use of insulation and continuity tester. Basic testing using ohmmeter (continuity) and insulation tester (insulation) on typical circuit (Lighting, socket outlets) and apparatus (electrical irons etc).
- (h) Relevant I.E.E. Regulations or appropriate local electricity regulations on polarity and earthing systems: measurement of earth-loop impedance. Insulation of earth-leakage circuit breakers.
- (i) Relevant I.E.E. Regulations and Seychelles Electricity Regulations on installations of sheathed wiring systems.
- (j) Preparation of requisitions for wiring materials required for simple installations.

### (III) CONDUCTORS INSULATORS AND MECHANICAL PROTECTION

- (a) Types and sizes of cables in domestic installations: pvc plain and sheathed cables: flexible cords
- (b) Rating of cables and flexible cords according to load and voltage drop. Use of I.E.E. Tables and Ratings.

### (IV) CONSUMER APPLIANCES

Applications involving

- (a) Heating elements in appliances
- (b) Lamps
- (c) Motors and associated control gear

Measurement of resistance values of common appliances, electric kettles, iron and heaters. Relating these values to power rating of appliance.

Series and parallel connection of lamps of similar wattage, measurement of current flow and voltage drop in each case.

Simple maintenance and testing for common faults in switch gear, starters and motors. Attention to appropriate fuse protection of plug tops where in use.

### (V) ELECTRONICS

- (a) Types of resistor in common use. Colour coding, power rating and tolerance
- (b) The diode and its application as a rectifier. Limit of application, advantages and disadvantages. Rectifying actions

### ELECTRICAL PRINCIPLES

- (VI) Series and parallel circuits. Practical applications in heating and lighting. Calculations on resistors in series and in parallel. The bridge circuit as applied to the measurement of resistance.
- (VII) Resistivity. Heater elements. Effect of temperature on resistance. Resistance of conductors and voltage drop in cables.
- (VIII) Rating of lamp and elements and resistors. Overload and short circuits: causes, effects and protection by fuses
- (IX) Principles of protection and control by thermal and magnetic devices. Comparison of fuses and thermal and magnetic overload devices
- (X) Principles of a direct-current electric motor: series, shunt and compound types  
Self and mutual inductance. The transformer principle. Induce e.m.f. by change of flux linkage. Energy stored.
- (XI) Elementary treatment of electro-magnetic induction in an energized coil. The switching of inductive circuits.
- (XII) Simple concept of alternating current: wave form, frequency. Root mean square, peak mean and instantaneous values.
- (XIII) Introduction of a.c circuits. Reactance as ratio of voltage to current in a.c. circuit. Power factor as ratio of watts to volt-amperes
- (XIV) Types of supply: d.c., single-phase a.c. and three- phase a.c . Potential differences between mains and earth. Control gear at common supply point.
- (XV) The polyphase a.c. generator. General concept of polyphase system. Star and delta connections. Three-phase 4-wire and 3-wire systems.
- (XVI) Production of rotating field by polyphase winding system. Production of torque in a.c. motors.
- (XVII) Methods of starting single-phase a.c induction motors
- (XVIII) A.C series motor: use of series wound motor in a.c circuits
- (XIX) Meters: principles of operation and basic details of construction

The appropriate sections of the Seychelles and I.E.E Regulations for electrical Installation should be systematically studied in relation to the topics outlined above.

The Electricity Regulations Form B

(Regulation 13)

**Application for Certificate of Authorization as a Wireman**

1. \_\_\_\_\_  
of \_\_\_\_\_  
aged \_\_\_\_ years hereby apply for a certificate of authorization as an electrical wireman.

Full Name and  
Address of  
Applicant in  
Capital Letters

2. I was educated up to the age of \_\_\_\_ years at \_\_\_\_\_

Name of Schools

and hold the following certificates \_\_\_\_\_

3. I have worked as an electrical wireman as stated hereunder

|     | Period       | Name and Address of Employer |
|-----|--------------|------------------------------|
| (a) | From:<br>To: |                              |
| (b) | From:<br>To: |                              |
| (c) | From:<br>To: |                              |

Month and Year

4. I am willing to submit to either written or practical examination in the principles and practice of electrical wiring.

5. I hold a certificate as a wireman issued by the corporation of \_\_\_\_\_  
dated \_\_\_\_\_

Delete if  
inapplicable

6. I undertake to produce the certificates mentioned in paragraphs 2 & 5 when called for interview.

I am well known to \_\_\_\_\_ who can vouch for my  
good character, being my \_\_\_\_\_.

Name and  
Address of a  
resident in  
Seychelles

Insert Employer,  
former teacher  
etc.

\_\_\_\_\_

\_\_\_\_\_

Signature of Applicant

Date

Note: Certificates and testimonials should NOT be attached to this form. The Applicant should bring them with him when called for interview