



## HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA PROFESSIONAL BOARD FOR RADIOGRAPHY AND CLINICAL TECHNOLOGY

### GUIDELINES FOR EXAMINATIONS OF FOREIGN QUALIFIED CLINICAL TECHNOLOGISTS IN THE CATEGORY CARDIOVASCULAR PERFUSION

#### A. INTRODUCTION

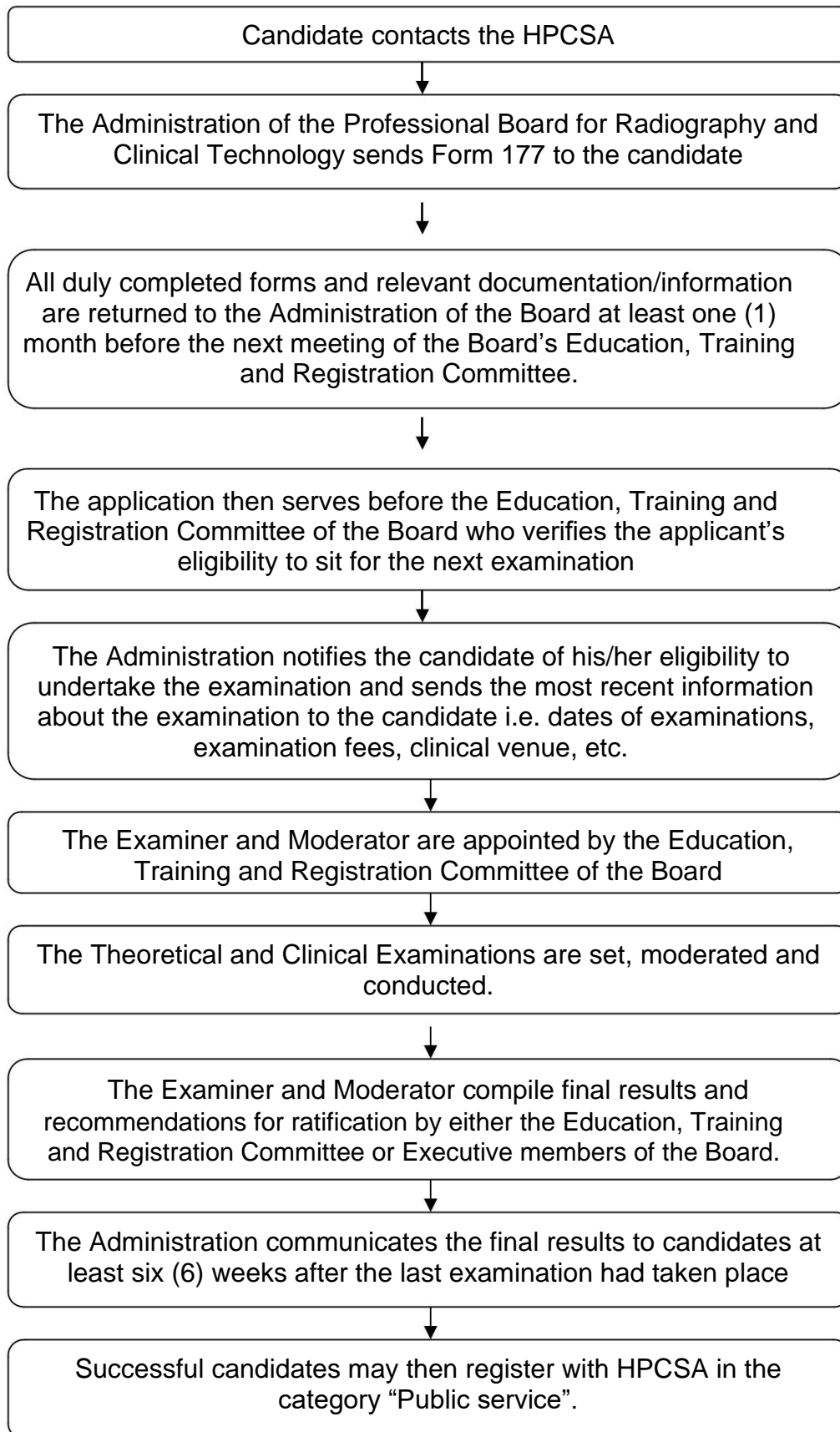
All individuals who practice any of the health care professions incorporated in the scope of the HPCSA are obliged by the Health Professions Act, 1974, to register with the HPCSA, as such failure to do so, constitutes a criminal offense.

In terms of the policy of the Professional Board for Radiography and Clinical Technology all foreign qualified candidates are required to challenge the entry examination in order to determine their eligibility to register with HPCSA. Registration with HPCSA does not imply in any way that employment is guaranteed. The onus for finding employment in the **public** service, rests with the candidate.

#### B. ADMISSION CRITERIA

1. Only candidates who qualify for registration (if applicable) to practice in the country where they have obtained their first Clinical Technology qualification will be allowed to sit for the examination.
2. Basic schooling of at least twelve (12) successful years must precede the training in clinical technology.
3. The duration of the **clinical technology** training should have been a minimum of three (3) successful years. Should the duration of the training be less than three (3) years, the candidate should be advised to approach an accredited training institution to apply to upgrade their qualification. The rules and requirements of that institution will apply. The onus for arranging this rests solely with the candidate and is not a function of the Board.
4. The candidate's clinical technology training should be of an academically acceptable standard and must be comparable to the academic standard of the South African Qualifications. The candidate should further have had adequate clinical training in line with the South African requirement.

## C. APPLICATION AND EXAMINATION PROCESS



## **D. PURPOSE OF EXAMINATION**

The purpose of the examination is to establish that all foreign qualified clinical technologists applying to work in South Africa are able to -

1. apply knowledge and skills to perform and adapt techniques applicable to the clinical condition of the patient;
2. care for the patient responsibly and efficiently to ensure that the welfare and safety of the patient is maintained;
3. apply appropriate South African health and safety regulations, ethical principles and codes of practice in performance of techniques;
4. demonstrate competency in the execution of techniques within the field of cardio vascular perfusion.
5. display knowledge and understanding of equipment used;
6. operate equipment effectively and competently;
7. express an understanding of the principles and techniques of perfusion;
8. display knowledge of Quality Assurance and Quality Control with regards to bypass and surgical equipment function;
9. exhibit a level of insight and ability to apply skills and techniques within the context of a cardiovascular perfusionists;
10. apply perfusion knowledge appropriately to cardiac bypass and surgical procedures;
11. apply basic haemodynamic intervention skills;
12. display an awareness and understanding of the South African health care system.

## **E. ADMISSION TO THE EXAMINATION**

1. A duly completed Form 177 with relevant documentation must be submitted two (2) months prior to the set date of the examination.
2. Approval for entry to the examination must be granted by the Education, Training and Registration Committee of the Professional Board for Radiography and Clinical Technology.
3. A non-refundable examination fee **must** be paid to HPCSA four (4) weeks prior to the set date of the examination. Failure to pay the fee will result in exclusion from the examination.

## **F. VENUE OF EXAMINATION**

1. The examination will be conducted at a venue approved by the Professional Board for Radiography and Clinical Technology.
2. Candidates are responsible for their own traveling, meal and accommodation costs.

## G. FORMAT OF EXAMINATION

The examination is held twice a year or as necessary, at the discretion of the Education, Training and Registration Committee.

### Part 1: Theoretical Examination

1. This examination consists of a three (3) hour paper that is set at the **exit level** of the South African Clinical Technology qualification.

This examination covers an integration of the following **exit** learning areas: anatomy, physiology, pathology, principles and practice of clinical technology in Perfusion, instrumentation and techniques in Perfusion, patient and healthcare management, ethics, contemporary social issues, restorative justice,

### Part 2: Clinical Examination/Assessment

- 1 The venue for the clinical examination will be approved by the Education, Training and Registration Committee of the Board.
- 2 During this examination, candidates are required to perform one or two (2) full sets of clinical procedures patients.
- 3 The assessment criteria for the clinical examination will include (but **is** not limited to) the following:
  - Equipment preparation
  - Correct identification of the patient and checking of all patients details and Infection control
  - Patient preparation perfusion related, calculation of blood flow and haematocrit drop
  - Patient care and communication
    - Perfusion and bypass related techniques
  - Safety checks and protection including trouble shooting use of equipment
  - Competent and safe use of equipment and accessories

- Correct protocol followed
- Assessment of use of knowledge of anatomy, pathophysiology and pharmacology in clinical application during bypass and related procedures.
- Application of corrective measures to improve patient outcomes.
- Communication skill with all related health professionals in the Cardiac team.
- Assessment of accurate record keeping.

## H. CALCULATION OF FINAL MARK

A pass mark of 65% for the clinical examination and 50% for the theory examination must be obtained as a final mark.

## I. FULFILLMENT FOR REGISTRATION

A pass mark of 65% for the clinical examination **AND** 50 % for the theory examination must be obtained as final marks. **BOTH** must be achieved in order to pass.

**If a candidate fails one of the two components, they will be considered as having failed the Board examination, upon which ONE re-assessment for that specific component may be afforded to such candidates. If both components are failed, the candidate may be offered ONE re-assessment. The re-assessments will take place on a date set by the Education, Training and Registration Committee of the Board.**

A candidate is therefore required to obtain **both minimum pass marks** as stated above in order to register with HPCSA.

A candidate will only be allowed to sit for the entry examinations for a maximum of two (2) attempts.

## J. BRIEF OVERVIEW OF 3<sup>rd</sup> YEAR TECHNIQUE SYLLABI

1. Anatomy and Physiology
2. Research methodology
3. Health Care Management
4. Restorative Justice
5. Contemporary social issues
6. Pathophysiology of the heart and related conditions
7. Pharmacology for the heart
8. Clinical Technology Practice in Perfusion
9. Instrumentation and techniques for Perfusion

## Biomedical Apparatus

1. Hemodynamic monitoring techniques and specialised equipment
2. Blood gas analysis and equipment knowledge
3. Activated clotting time monitoring and equipment use
4. Arterial and central venous pressures transducers
5. Plethysmography
6. Intra- Aortic Balloon pump
7. Left and right heart assist devices
8. Extra corporeal Membrane oxygenation and use of heart lung machine
9. Cell saving
10. Gas Flow meters
11. Patient Transportation devices
12. Echocardiogram
13. Temporary pacemaker
14. Cardioplegia delivery systems
15. Oxygenators and related devices
16. Temperature control devices

## Clinical Practice

- Assessing the Physiological Health of Patient;
- Electrocardiography (ECG) Measurement;
- Perform Advanced Cardiac Life Support;
- Perform Bloodgas Analysis;
- Oximetry Measurement;
- Operate Blenders and Vaporizers,
- Perform Capnography;
- Use of Non-provocative Nebulizers;
- Administer Oxygen Therapy,
- Calibrate the Transducers;
- Use of Ventilators;
- Use of Infusion Devices;
- Perform Phlebotomy;
- Utilize Intra-Aortic Balloon Pumps;
- Perform Autologous Blood Salvage;
- Monitor Haemodynamic Parameters;
- Operate Flowmeters;
- Perform Cardiopulmonary Resuscitation (CPR);
- Utilize the Left Ventricular Assist Devices (LVAD);
- Administer Drugs;
- Perform Basic Echocardiography (ECHO);
- Perform Vascular Sonography;
- Interpretation and Analysis of Diagnostic Data;
- Perform External Counterpulsation (ECP),

- 3-Dimensional Cardiography (3DVG) Measurement,
- Perform Stress Test,
- Monitor the Basic Electroencephalography (EEG);
- Application of Defibrillator and Cardioversion;
- Integrate Hemodialyzer;
- Interpret Magnetic Resonance Imaging (MRI);
- Perform Extracorporeal Membrane Oxygenation (ECMO);

**K. SUGGESTED READING LIST**

<b>Title</b>	<b>Author/s</b>	<b>Publisher</b>

## **L. REMARKING OF SCRIPTS**

Only candidates who had obtained a pass rate of 45-49 % in the theoretical examination may apply for their scripts to be remarked.

A remarking fee of 50 % of the examination fee will be charged for a re-mark.

The Committee Coordinator may be contacted for information about the fee involved and procedure to follow.

Should a candidate pass the theoretical examination but fail the clinical examination, one further attempt will be allowed (See section I above).

**NOTE: Currently the examinations are conducted by the RCT Board of the HPCSA, however in the future they will be conducted on behalf of the Board by approved higher education institutions and that institution's rules and policies will apply.**

## **M. ADDITIONAL INFORMATION**

For further enquiry contact:

The Committee Coordinator  
Professional Board for Radiography and Clinical Technology  
HPCSA  
P.O. Box 205  
PRETORIA  
0001

Email: [RCTBoard@hpcsa.co.za](mailto:RCTBoard@hpcsa.co.za)

**Tell:** +27 12 338 9403

**Fax:** 012 338 9403