

**PROFESSIONAL BOARD FOR RADIOGRAPHY AND CLINICAL
TECHNOLOGY**

**GUIDELINES FOR EXAMINATIONS OF FOREIGN QUALIFIED
RADIOGRAPHERS IN THE CATEGORY NUCLEAR MEDICINE
RADIOGRAPHY**

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

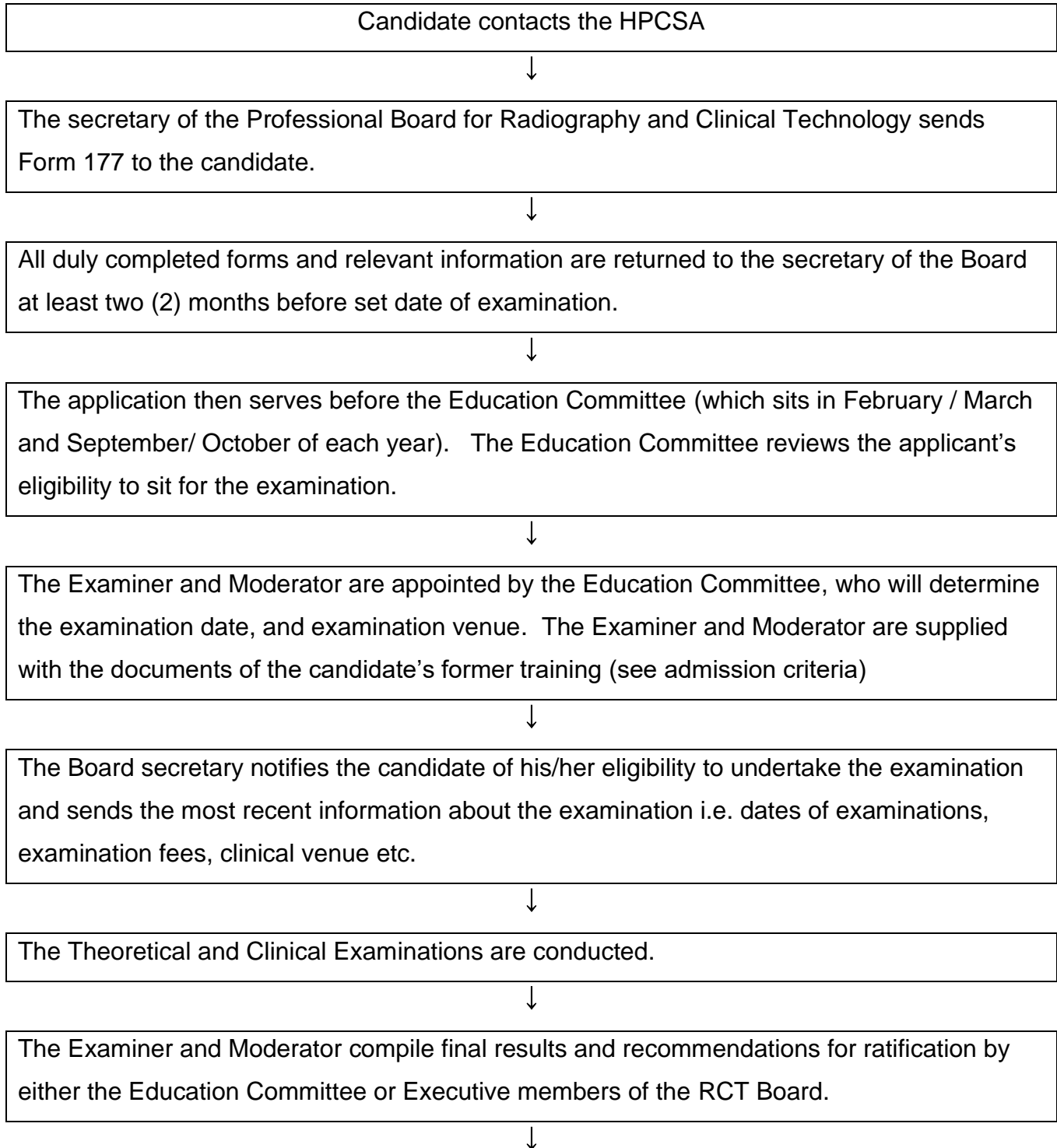
1. Candidates who are registerable as nuclear medicine technologist/ nuclear medicine radiographers, if applicable, in the country where they have obtained their nuclear medicine qualification will be allowed entry to the examination.
2. Proof of the following must be provided:
 - i) registration as a radiation therapist, Nuclear Medicine, in the country in which the qualification was obtained.
 - ii) current registration as a radiation therapist in the country in which the candidate is currently employed
3. A candidate, who has trained in, or is employed in a country where professional registration as a radiation therapist, Nuclear Medicine Radiographer/Technologist, is not a requirement, must provide an affidavit to verify this.
4. The duration of the Nuclear Medicine Radiographer/Technologist training should have been a minimum of three (3) years leading to a formal qualification. Proof of the following must be provided:

- i) A summary of the training course undertaken (academic transcript) inclusive of the subjects completed, assessment methods and an outline of the contents of each subject (where applicable the number of credits / notional hours per subject must be included).
- ii) A summary of the work integrated learning (WIL) (clinical training) received during the training course (to include the total amount of time spent in clinical training, as well as a break-down of the amount of time spent in the different divisions of the nuclear medicine/ radioisotope department, including the time worked on major equipment during clinical training)

N.B.: Where the duration of the training is less than three (3) years, entry to the examination will not be granted.

- 5. The training should be of an academically acceptable standard and the candidate should have had adequate WIL/clinical training that is in line with the South African minimum requirement. In order to assess the candidate's academic and clinical/practical knowledge and skills, the candidate will be given the opportunity to do a written examination and a clinical assessment. The latter will be arranged at the discretion of the examiner and moderator and could include an Objective Structured Clinical Examination (OSCE), and/or an assessment in a clinical setting on patients or as a simulated clinical assessment.

C. APPLICATION AND EXAMINATION PROCESS



The Board secretary communicates the final results to candidates within a maximum of four (4) weeks after the ratification by the Education Committee or the Executive members of the RCT Board.



Successful candidates register with HPCSA.

D. PURPOSE OF EXAMINATION

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

1. Demonstrate competence in the performance of nuclear medicine procedures, appropriate to the clinical presentation of the patients to ensure optimal patient preparation and planning for nuclear medicine practice.
2. Apply scientific knowledge and professional skills to perform nuclear medicine procedures for the accurate delivery of the nuclear medicine procedure and treatment prescribed.
3. Able to apply knowledge, clinical skills, human rights, medical law and ethics to provide and facilitate holistic patient care responsibly and effectively according to patients' needs
4. Demonstrate a critical understanding and application of quality assurance and radiation protection as appropriate to Nuclear Medicine.
5. Demonstrate scientific knowledge and technical skills to perform basic nuclear medicine laboratory techniques and procedures for optimal patient care and accurate delivery of the prescribed Nuclear Medicine treatment.
6. Demonstrate appropriate administrative / management skills and competencies appropriate to working in Nuclear Medicine.
7. Display knowledge and understanding of the principles of and treatment accessories used in Nuclear Medicine. (Note that familiarity with particular equipment brands is not a requirement)
8. 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 Committee of the RCT Board.
3. A non-refundable examination fee has to be paid to HPCSA four (4) weeks prior to the set date of 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 and accommodation costs.

G. FORMAT OF EXAMINATION

The examination is held annually in June/ July of each year. The theoretical examination and clinical assessment will be conducted on the same day.

Section 1: Theoretical Examination

1. This examination consists of one- 3 hour paper that is set at the equivalent level of the exit level of the South African qualification.
2. This examination covers the integration of the following: The Health Care Professional, Human Sciences, Health Science Literacy, Medical Imaging And Oncologic Modalities, Patient Care And Management, Physical Sciences, Nuclear Medicine Technology, Advanced Health Care Practice, Health Science Research, Nuclear Medicine Management, Nuclear Medicine Sciences, Advanced Nuclear Medicine Technology, Health Science Education and Research, Clinical Mentoring, Radioimmunoassay, Therapeutic Use Of Radionuclides, Molecular Imaging, Entrepreneurship, Health Science Research, Positron Emission Tomography and PET Radiopharmacy.
3. The following modules in the examination in Nuclear medicine at any one time include:
 1. Basic Sciences of NM
 2. Radiopharmacy
 - Radiation protection
 - QA

- Radionuclides/radiopharmacology
- Intervention etc
- 3. Therapeutics and theranostics
- 4. Nuclear Medicine Principles and Practices
 - Disease states
 - Conventional imaging
 - Pediatrics imaging
 - Advanced imaging
 - Hybrid imaging
- 5. Patient management and nuclear medicine department management
- 6. Pathophysiology, Anatomy and Physiology
- 7. Nuclear Medicine Instrumentation

Quality Control (LC)

Section 2: Clinical Assessment

The venue for the clinical examination is approved by the Education Committee of the Board. The clinical assessment will be in 2 parts. The assessment will be set at the equivalent of the South African nuclear medicine qualification.

1. The clinical assessment will consist of five (5) tasks or assessment that take approximately twenty (20) minutes per task. This examination includes the requirement to perform two (2) Nuclear Medicine examinations, one (1) laboratory preparation of radiopharmaceuticals, one (1) intravenous administration of radiopharmaceutical simulation, one (1) gamma camera quality control procedure.

Assessment procedure

- i. OSCE - 1h30
- ii. ORAL exam- 20 minutes
- iii. Laboratory preparation of radiopharmaceuticals -20 minutes
- iv. Gamma camera room – 1h30
 1. gamma camera quality control procedure
 2. intravenous administration of radiopharmaceutical simulation
- v. Image processing and reconstruction - 20 minutes

The above clinical assessments can be simulated assessments or involve patients.

H. CALCULATION OF FINAL MARK

Theoretical examination – contributes 60% towards final mark

Clinical assessment – contribute 50% towards final mark

I. FULLFILLMENT FOR REGISTRATION

1. A pass mark of 50% is required for the Theoretical examination
2. A pass mark of 65% for the clinical assessment must be obtained.
3. The candidate is required to obtain an overall final mark of 63% in order to register with HPCSA.
 - 3.1 Credit cannot be retained on either theory examination or clinical assessment .
 - 3.2 Both the theory examination and clinical assessment will have to be repeated should you fail any of the two.
4. The candidate will only be allowed to sit for the entry examinations for a maximum of two (2) times.

J. BRIEF OVERVIEW OF SYLLABI

- a) Basic health science (Anatomy, Physiology, Pathology)
- b) Basic physical sciences (Chemistry and Physics)
- c) Radiation Nuclear Medicine Physics & Radioprotection
- d) Radiopharmacy and Laboratory procedures
- e) Therapeutic Use of Radionuclides
- f) Human Sciences (Medical Ethics, Psychology, Sociology, Patient care)
- g) Nuclear Medicine Management
- h) Nuclear Medicine Instrumentation (Gamma Camera, PET/CT, Dose Calibrator, QC equipment)
- i) Nuclear Medicine scanning procedures
- j) Health sciences research

K. SUGGESTED READING LIST

BOOKS		
Title	Author/s	Publisher
Essentials of Nuclear Medicine and Molecular Imaging . 7 th Edition.	Mettler, F.A & Guiberteau, M.J. 2019	Philadelphia: Elsevier 9780323567893 978-0-323-48319-3 (LC)
Nuclear Medicine Textbook: Methodology and Clinical Applications	Volterrani, D., Erba, P.A., Carrio, I., Strauss, H.W., Mariani, G. (2019)	Switzerland: Springer Nature 9783319955643
Nuclear Medicine and Molecular Imaging 5 th Edition	O'Malley, J. & Ziessman, H. (2020)	Philadelphia: Elsevier 9780323550741
Nuclear Medicine and PET/CT 8 th Edition	Gilmore, D. & Waterstram- Rich, K. (2016)	Mosby 9780323356220

L. REMARKING OF SCRIPTS

Only candidates who had obtained a minimum mark of 45 - 59% in the theoretical examination may apply for their scripts to be remarked on condition that the professional/candidate passed the clinical assessment. The Board manager may be contacted for information about the fee involved and procedure to follow.

Should a candidate fail the clinical examination, the candidate will be given one final chance for reassessment

M. ADDITIONAL INFORMATION

For further enquiry contact:

RCTBoard@hpcsa.co.za