



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

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

1. PREAMBLE

These assessment guidelines underpin the commitment of the Radiography and Clinical Technology (RCT) Board towards ensuring the competency of health practitioners registers falling within the ambit of the Board. The guidelines under the overall mandate of the Health Professions Council of South Africa (HPCSA) is to protect the public and promote the health of all people in South Africa by ensuring high standards of education and training.

2. PURPOSE

The purpose of the examination guidelines are to ensure that practitioners with foreign qualifications are fit to practice within the South African context. Practitioners with foreign qualifications should approach Universities approved by the RCT Board for their Board examinations. It is thus, crucial that the Board uses standardized examinations and assessment criteria across Universities.

These guidelines are to:

- 2.1 Ensure a clear framework of principles, regulations and procedures all Universities should follow when conducting the Board examinations.

- 2.2 Ensure alignment of assessment practices across all Universities participating in the HPCSA Board examinations.

- 2.3 Provide a framework for the management of quality of the Board examinations for foreign qualified practitioners.

3. ADMISSION CRITERIA

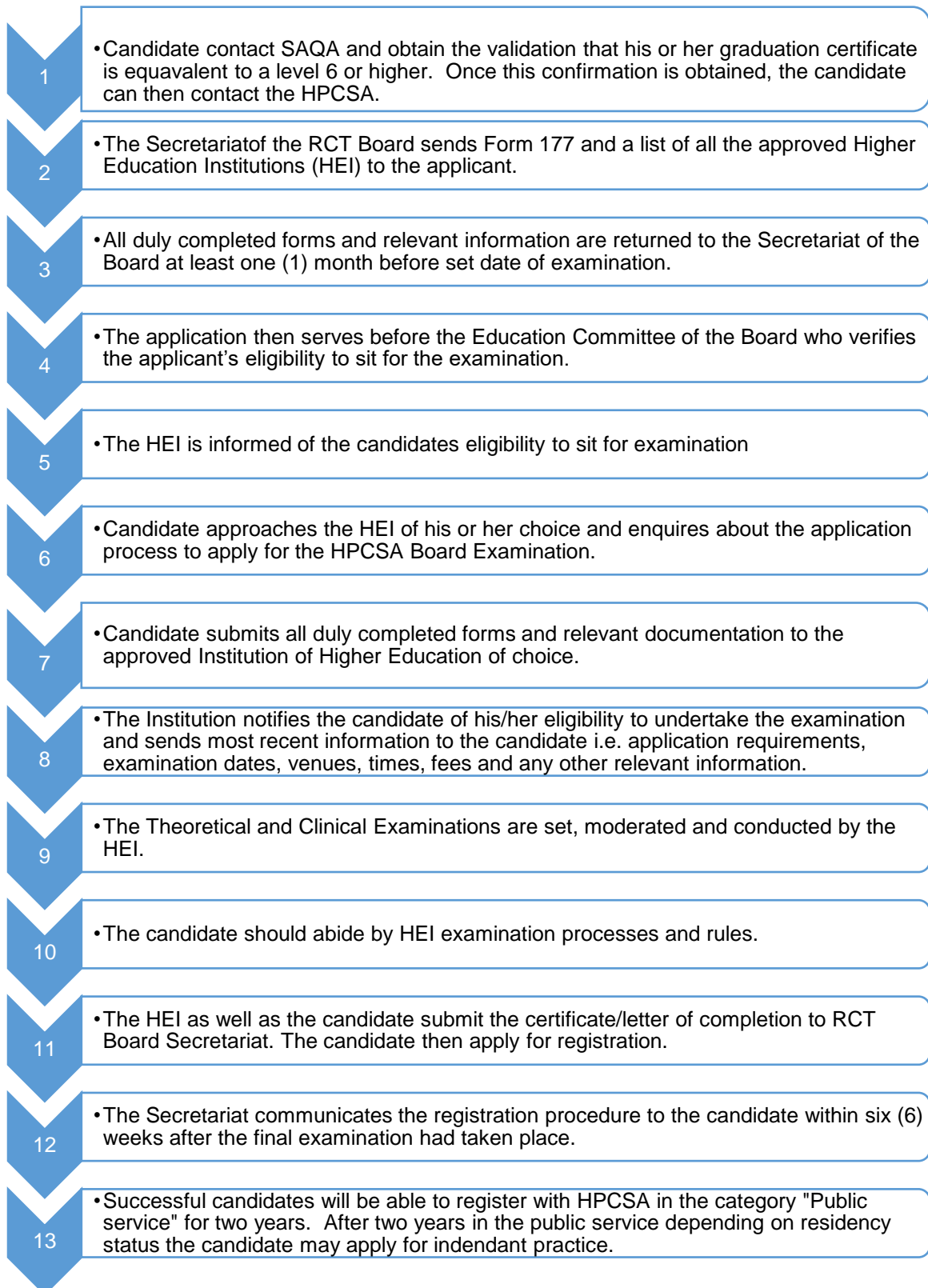
All individuals who practice in any of the health care professions incorporated within the scope of the HPCSA are obliged by the Health Professions Act, 1974, to register with the HPCSA, as such failure to do so, constitutes a criminal offense.

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 rests with the candidate.

The following admission criteria must apply:

- 3.1 Only candidates who qualify for registration (if applicable) to practice in the country where they have obtained their first radiography qualification will be allowed to sit for the examination.
- 3.2 The duration of the radiography 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.
- 3.3 The candidate's radiography training should be of an academically acceptable standard and must be comparable to the academic standard of the South African Qualifications Authority (SAQA). The candidate should further have had two years clinical training post-graduation in line with the South African requirement.

4. APPLICATION AND EXAMINATION PROCESS



5. 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: -

- 5.1 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.
- 5.2 Apply scientific knowledge and professional skills to perform nuclear medicine procedures for the accurate delivery of the nuclear medicine procedure and treatment prescribed.
- 5.3 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.
- 5.4 Demonstrate a critical understanding and application of quality assurance and radiation protection as appropriate to Nuclear Medicine.
- 5.5 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.
- 5.6 Demonstrate appropriate administrative / management skills and competencies appropriate to working in Nuclear Medicine.
- 5.7 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).
- 5.8 Display an awareness and understanding of the South African health care system.

6. ADMISSION TO THE EXAMINATION

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.

The candidate must comply with the application and examination requirements set by the HEI. Failure to comply will result in exclusion from the examination.

7 EXAMINATION PRINCIPLES FOR HEI

The Board Examination must be founded on good principles of practice. The following principles shall apply-

- 7.1 The HEI must communicate the purpose of the Board Examination and format of the Board Examination to its candidates prior to assessment.
- 7.2 The Board Examination should include a wide range of assessment approaches and methods that are fit for purpose; the use of integrated assessment is recommended.
- 7.3 Quality assurance is integral to assessment and is the responsibility of the relevant HEI.
- 7.4 The Board Examination must be *Fair* and set in accordance to HEI standard principles ensuring that candidates are treated equally and in an unbiased manner and that all candidates have access to the appeal mechanisms of the HEI.
- 7.5 The Board Examination must be *Transparent*, to ensure that assessors, candidates and moderators understand the system and have the assurance that it is well planned and properly regulated.
- 7.6 The Board Examination must be *Reliable*, in ensuring that the accuracy and consistency of the results and judgements made. This would be evident in that the same judgments pertaining to standards of assessments, assessment

evidence and marks would be attained regardless of who the assessor is or how many different people are assessing.

- 7.7 The Board Examination must be *Valid*, in ensuring that the Board Examination assesses what it was set out to assess in respect outcomes stated in Section 6 of this document.
- 7.8 The Board Examination must be *Clear*, in ensuring that the language used clearly expresses the requirements against which student performance is measured and that it incorporates a mechanism to avoid assessor/moderator deviation, inconsistency and error.

8 FORMAT OF EXAMINATION

The frequency of the Board examination will be at the discretion of the HEI.

Section 1: Theoretical Examination

- 8.1 This examination consists of a 3-hour paper that is set at the equivalent level of the exit level of the South African qualification.
- 8.2 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.
- 8.3 The following modules in the examination in Nuclear medicine at any one time include:
- a. Basic Sciences of NM
 - b. Radiopharmacy
 - Radiation protection
 - QA

- Radionuclides/radiopharmacology
- Intervention etc
- c. Therapeutics and theranostics
- d. Nuclear Medicine Principles and Practices
 - Disease states
 - Conventional imaging
 - Pediatrics imaging
 - Advanced imaging
 - Hybrid imaging
- e. Patient management and nuclear medicine department management
- f. Pathophysiology, Anatomy and Physiology
- g. Nuclear Medicine Instrumentation
- h. 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.

- 6.7 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

1. OSCE - 1h30
2. ORAL exam- 20 minutes
3. Laboratory preparation of radiopharmaceuticals -20 minutes
4. Gamma camera room – 1h30
 - a. gamma camera quality control procedure
 - b. intravenous administration of radiopharmaceutical simulation
5. Image processing and reconstruction - 20 minutes

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

9 CALCULATION OF FINAL MARK

Theoretical examination – contributes 60% towards final mark

Clinical assessment – contribute 50% towards final mark

10 FULFILLMENT FOR REGISTRATION

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

11 BRIEF OVERVIEW OF SYLLABI

- 11.1 Basic health science (Anatomy, Physiology, Pathology)
- 11.2 Basic physical sciences (Chemistry and Physics)
- 11.3 Radiation Nuclear Medicine Physics & Radioprotection
- 11.4 Radiopharmacy and Laboratory procedures
- 11.5 Therapeutic Use of Radionuclides
- 11.6 Human Sciences (Medical Ethics, Psychology, Sociology, Patient care)
- 11.7 Nuclear Medicine Management
- 11.8 Nuclear Medicine Instrumentation (Gamma Camera, PET/CT, Dose Calibrator, QC equipment)
- 11.9 Nuclear Medicine scanning procedures
- 11.10 Health sciences research

12 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

13 REMARKING OF SCRIPTS

13.1 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.

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

14 ADDITIONAL INFORMATION

For further enquiry contact:

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