



# Examination Guidelines

CANDIDATE'S GUIDE FOR THE PHARMACIST REGISTRATION EXAMINATION

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## EXAMINATION GUIDELINES

### PHARMACIST REGISTRATION EXAMINATION (PRE)

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#### **\*\* PLEASE READ THESE EXAMINATION GUIDELINES CAREFULLY \*\***

A candidate who breaches any of the Examination Guidelines shall be liable to disciplinary action.

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#### **1. INTRODUCTION**

As regulated health care professionals, pharmacists are responsible and accountable to patients through the Pharmacy Act, 2009 [Chapter 227], subsidiary legislation, and the standards established by the Bahamas Pharmacy Council (BPC). These legislation and standards set out the requirements for licensure to practice.

One of the requirements for initial registration and licensure is certification of an applicant's knowledge, skills and abilities at entry to practice. This certification is granted by the BPC to those who successfully complete the Pharmacist Registration Examination. This examination assesses both knowledge and skills.  
**The PRE is the mandatory examination for admission into the Register of Pharmacists.**

The BPC is responsible for ensuring that entry-level pharmacists have the necessary professional knowledge, skills and abilities to practice pharmacy within their scope of practice, in a safe and effective manner.

## 2. APPLICATION

It is the candidate's responsibility to submit an application that is completely and accurately filled out by the application deadline, as set by the Bahamas Pharmacy Council (BPC). **Incomplete applications will not be processed.**

All questions pertaining to the examination or the application process should be directed to the BPC office.

## 3. EXAMINATION FEE

The examination fee payment must accompany each completed application.

All fees are subject to change at the discretion of the BPC.

Please contact the BPC office regarding fee structure.

## 4. FORFEITURE OF EXAMINATION FEES

Candidates who fail to arrive at the test site on the date and time they are scheduled for examination and who have failed to get an approved withdrawal will forfeit their examination fees and must resubmit an application with the full fee if they wish to re-register for a future testing cycle.

Exceptions include special circumstances as detailed in Section 6.

Candidates who arrive at the testing site 30 minutes after his or her scheduled examination has begun will be denied admission, and will forfeit all examination fees.

**Refunds will not be issued for forfeited examinations.**

## 5. EXAMINATION WITHDRAWAL

Candidates may withdraw from the application process prior to the close of the application deadline.

**\*\* The request must be received in writing by the BPC office on or before the application deadline. \*\***

Withdrawal requests, with appropriate documentation will be considered under the following circumstances:

1. Serious illness (either the candidate or an immediate family member), supported by a physician's letter or sick note.
2. Death of an immediate family member, supported by a death certificate.
3. Disabling accident, supported by police report or hospital admission note.
4. Court appearance, supported by court documentation.
5. Jury duty, supported by jury letter or notification.

**Immediate family member:** Spouse, child, mother, father, sister, brother, or guardian.

Candidates who receive a denial of their withdrawal request will forfeit the examination fee.

If the withdrawal request is approved, examination fees will be deferred and applied to the next examination cycle. If an extension is required, the applicant must make the request in writing with supporting documents.

## 6. NO SHOW ON EXAMINATION DAY (SPECIAL CIRCUMSTANCES)

The following special circumstances, accompanied by appropriate documentation, will be considered for a non-appearance on examination day.

1. Serious illness (either the candidate or an immediate family member), supported by a physician's letter or sick note.
2. Death of an immediate family member, supported by a death certificate.
3. Disabling accident, supported by police report or hospital admission note.
4. Court appearance, supported by court documentation.
5. Jury duty, supported by jury letter or notification.

Not appearing for an examination sitting (outside of the special circumstances listed above) will count as the candidate's examination attempt. The candidate will be marked as a no show candidate and all examination fees will be forfeited. No-show candidates will have the option to apply for a future testing cycle at the full examination price.

**Immediate family member:** Spouse, child, mother, father, sister, brother, or guardian.

## 7. INCLEMENT WEATHER AND CANCELLATIONS

In the event of inclement weather, the test site shall remain closed and the examination shall be re-scheduled. BPC officials will publicly announce and contact candidates in the event of a test site closure due to inclement weather regarding the rescheduling of the examination. In this instance, telephone calls will be made and e-mails will be issued to the candidates impacted notifying them of the postponement. As appropriate, media notification will be disseminated and a notice will be posted on the BPC website.

However, because closures can occur at any time during inclement weather, it is the responsibility of the candidate to contact the BPC office to receive the most up-to-date information regarding the rescheduling of the examination.

If a test site is officially closed, candidates will not be charged a rescheduling fee. If a test site is open and the candidate does not attend the examination, the candidate forfeits all fees.

**Inclement Weather Conditions:** Extreme weather conditions that might create hazardous driving conditions or impede the normal operations of the examination(s). These conditions include, but are not limited to, snow, ice, tornados, flooding, hurricanes and other natural perils.

## 8. COMPETENCY CATEGORIES

(Adapted from Professional Competencies for Canadian Pharmacists at Entry to Practice 2007)

### Competency #1: Patient Care

Pharmacists, in partnership with patients and other health care professionals, use their unique knowledge and skills to meet patients' drug and health related needs and to achieve optimal patient outcomes and patient safety.

Competency Elements:

- 1.1 Develop a trusting professional relationship with the patient where both parties are interacting in a way where the obligations, expected benefits, and consequences are clearly defined.
  - i. Establish and maintain rapport by using effective communication skills.
  - ii. Demonstrate a caring, empathetic, and professional attitude.
  - iii. Elicit the patient's needs, values and desired level of care and desired outcomes regarding drug therapy.
  - iv. Assess the impact of factors that facilitate or impede the health of individual patients.
  - v. Define mutual obligations, expected benefits, and consequences.
- 1.2 Gather patient information.
  - i. Identify and use appropriate sources of information (e.g., patient, laboratory data, chart, electronic health record, profile, other health care professionals, etc.).
  - ii. Actively listen and interpret the information provided (e.g., medical and social history, adverse drug reactions, allergies, medication use, etc.).
  - iii. Assess the relevance of the information.
- 1.3 Assess the health status and concerns of the patient.
  - i. Use appropriate data, techniques and procedures to assess the patient's health.
  - ii. Use knowledge base to comprehend the scope and breadth of the patient's health problem.
  - iii. Identify factors (e.g., risk factors, financial, lifestyle, and nutrition) that impact on the therapeutic outcome.

- 1.4 Identify the patient's desired therapeutic outcomes.
  - i. Integrate knowledge of the patient's health status with knowledge of drug and non-drug treatment options.
  - ii. Outline the benefits and/or consequences of the treatment options.
  - iii. Enable the patient to make choices.
- 1.5 Identify and prioritize actual and potential drug therapy problems to determine if:
  - i. The patient requires drug therapy but is not receiving it,
  - ii. The patient is taking or receiving the wrong drug,
  - iii. The patient is taking or receiving too little of the right drug,
  - iv. The patient is taking or receiving too much of the right drug,
  - v. The patient is not taking or receiving the drug or is taking or receiving the drug inappropriately,
  - vi. The patient is experiencing an adverse reaction to the drug,
  - vii. The patient is experiencing a drug interaction (including drug-drug, drug-food, drug-laboratory test, drug-disease, or drug-blood product),
  - viii. The patient is taking or receiving a drug for no medically valid indication or potential substance abuse.
- 1.6 Develop a therapeutic plan.
  - i. Identify and assess treatment strategies, including drug and non-drug measures using an evidence-informed approach.
  - ii. Select therapeutic options.
  - iii. Recognize, solve and prevent actual and potential drug therapy problems.
  - iv. Consult with the patient and, if necessary, health care professionals.
- 1.7 Support the implementation of the therapeutic plan.
  - i. Explain the rationale for the proposed treatment.
  - ii. Provide patient education (e.g., counselling information and education on adherence issues, either verbal or written).
  - iii. Assess patient's understanding of the therapeutic plan.
- 1.8 Monitor the patient's progress and assess therapeutic outcomes.
  - i. Recognize the important clinical indicators (e.g., signs and symptoms, laboratory tests, adverse effects).
  - ii. Identify and apply monitoring/intervention techniques and timelines.

- iii. Specify outcomes with measurable therapeutic end points.
  - iv. Discuss with the patient the ongoing responsibilities of the pharmacist, patient and other health care professionals.
  - v. Assess tolerance and safety of therapy.
  - vi. Assess adherence to therapy.
  - vii. Conduct follow-up consultation(s) to evaluate the therapeutic effectiveness.
- 1.9 Document and share within the circle of care appropriate findings of patient information assessment, recommendations made and actions taken.
- i. Identify the purpose of the documentation.
  - ii. Maintain the patient's health record.
  - iii. Document identified drug therapy problems.
  - iv. Prioritize and document the intervention, patient's outcome, recommendations, and follow-up.
  - v. Document communication with patient and health care professionals.

## Competency #2: Professional Collaboration and Team Work

Pharmacists work in collaboration with other health care professionals to optimize patient safety and improve health outcomes.

### Competency Elements:

- 2.1 Develop collaborative relationships with health care professionals such that the obligations and expected benefits are clearly defined.
- 2.2 Cooperate with and show respect for all members of the inter-professional team.
  - i. Make expertise available to others.
  - ii. Share relevant information.
  - iii. Contribute to defining objectives shared by all professions concerned.
  - iv. Support other professionals and accept their support to optimize health outcomes.
- 2.3 Refer patients to other health care providers when required.
  - i. Determine if a referral is necessary.
  - ii. Identify the most appropriate health care provider or agency for the referral (e.g., medical or social).
  - iii. Work with other health care providers to determine the desired therapeutic outcome.
- 2.4 Work with other health care professionals to promote health and wellness in the community.
- 2.5 Contribute to the discovery of new knowledge and skills (e.g., participating in collaborative health related research).
- 2.6 Understand, participate in and promote safety initiatives (e.g., medication safety, continuity of care).

### Competency #3: Ethical, Legal and Professional Responsibilities

Pharmacists practise within legal requirements, demonstrate professional integrity and act to uphold professional standards of practice and codes of ethics.

#### Competency Elements:

- 3.1 Apply legal and ethical requirements and standards.
- 3.2 Uphold and act on the ethical principle that a pharmacist's primary accountability is to the patient.
  - i. Ensure patient confidentiality.
  - ii. Advocate on behalf of the patient.
  - iii. Involve the patient in decision-making.
  - iv. Respect the rights of patients to make their own choices.
  - v. Consider patient-specific circumstances.
- 3.3 Demonstrate personal and professional integrity.
  - i. Accept responsibility for actions and decisions.
  - ii. Show respect for the dignity of the patient.
  - iii. Maintain appropriate professional boundaries.
  - iv. Practise within personal limits of knowledge, skills and abilities.
- 3.4 Demonstrate an understanding of the Bahamian health care system and the role of the pharmacist and other health care professionals within it.
- 3.5 Demonstrate an understanding of the importance of and the process of continuing professional development.
  - i. Assess own learning needs.
  - ii. Develop a plan to meet learning needs.
  - iii. Seek and evaluate learning opportunities to enhance practice.
  - iv. Incorporate learning into practice.

**Competency #4: Drug, Therapeutic and Practice Information**

Pharmacists assume responsibility for accessing, retrieving, evaluating and exchanging relevant information to ensure safe and effective patient care.

- 4.1 Clearly define the question(s) to be researched.
  - i. Clarify requests for information.
  - ii. Identify key targets (audiences).
- 4.2 Identify appropriate sources of relevant information, using evidence-informed approaches where possible.
  - i. Name major sources of information.
  - ii. Determine the appropriateness of these sources.
  - iii. Assess the value of the sources.
- 4.3 Retrieve information from relevant sources.
  - i. Use a variety of retrieval techniques to access relevant information.
  - ii. Assess the suitability and reliability of these techniques.
- 4.4 Evaluate scientific information.
  - i. Assess the adequacy of research design (e.g., ethics, methodology, etc.).
  - ii. Assess the relevance, applicability, accuracy, reliability, validity and generalizability of information.
- 4.5 Organize information and develop a knowledge exchange strategy.
  - i. Determine key messages.
  - ii. Identify barriers to uptake.
  - iii. Identify target audience.
  - iv. Determine and apply methods for knowledge exchange.
  - v. Assess outcomes of the knowledge exchange.
- 4.6 Identify issues in pharmacy practice and drug utilization.
  - i. Interpret information in order to address issues in individual pharmacy practice.
  - ii. Use findings to improve practice.
  - iii. Communicate results to appropriate audiences.

## Competency #5: Communication and Education

Pharmacists communicate with and provide education to groups and individuals in order to promote and support optimal patient care and wellbeing.

- 5.1 Demonstrate effective communication skills.
  - i. Demonstrate comprehension and proficiency in written and verbal English.
  - ii. Demonstrate appropriate verbal, non-verbal and listening skills.
  - iii. Demonstrate effective interview techniques.
  - iv. Display clear, concise and effective writing skills.
  - v. Select appropriate communication techniques for use with patients and other health care professionals.
- 5.2 Demonstrate sensitivity, respect and empathy when communicating with diverse groups or individuals.
  - i. Demonstrate an understanding of the impact that individual differences have on communication.
- 5.3 Optimize individual and group health and wellness through education and health promotion.
  - i. Use knowledge base to discuss health care issues and public health priorities.
  - ii. Identify factors that are barriers to, or facilitators of, health and wellness in individuals and groups.
  - iii. Collaborate with patients and other health care professionals in the development and implementation of health promotion strategies and public health initiatives.
- 5.4 Design, implement and evaluate an education plan for individuals and groups.
  - i. Identify the learning needs of participants.
  - ii. Assess personal abilities to carry out a particular educational plan.
  - iii. Select educational methods that are appropriate for the learner(s).
  - iv. Implement an educational plan for individual or groups.
  - v. Assess outcomes.

## Competency #6: Drug Distribution

Pharmacists manage the drug distribution system to ensure the safety, accuracy and quality of supplied products

- 6.1 Apply relevant knowledge in the performance of tasks related to:
  - i. Interpretation of drug orders and/or prescriptions,
  - ii. Identification of bioequivalency and interchangeability of multi-source drugs,
  - iii. Performance of pharmaceutical calculations,
  - iv. Selection of quality products and ingredients,
  - v. Demonstration of compounding and dispensing, including labelling,
  - vi. Preparation of sterile products,
  - vii. Identification of storage and handling conditions to ensure stability,
  - viii. Acquiring and disposing of drugs,
  - ix. Administration of drugs,
  - x. Documentation.
- 6.2 Demonstrate ability to supervise drug distribution.
  - i. Maintain safe and effective systems of drug supply and distribution.
  - ii. Adhere to distribution policies and procedures.
  - iii. Supervise support staff.
- 6.3 Participate in continuous quality assurance.
  - i. Respond to actual or potential problems within the drug distribution system.
  - ii. Acknowledge the problem.
  - iii. Take steps to assess and resolve issues arising from the problem.
  - iv. Implement measures to prevent occurrences or reoccurrences.
  - v. Document and report the problem and resolution.
- 6.4 Monitor drug distribution patterns.
  - i. Recognize and respond to patterns of unusual drug distribution (e.g., diversion, drug misuse, fluctuations in utilization, etc.).

## Competency #7: Understanding Management Principles

Pharmacists apply knowledge, principles and skills of management with the goal of optimizing patient care and inter-professional relationships.

### Competency Elements:

- 7.1 Supervise personnel such that delegated functions are carried out to meet accepted standards.
  - i. Apply management principles and skills relevant to human and physical resources.
  - ii. Define accepted standards, policies and procedures.
  - iii. Demonstrate the principles of effective inter-professional and intra-professional working relationships.
- 7.2 Effectively manage workflow.
  - i. Demonstrate organizational skills.
  - ii. Prioritize and organize workflow.
  - iii. Demonstrate time management skills.
- 7.3 Understand management principles pertaining to pharmacy practice including:
  - i. Financial resources,
  - ii. Inventory,
  - iii. Information resources (e.g., reference library, information technology, legal documents, etc.),
  - iv. Human resources,
  - v. Quality assurance.
- 7.4 Interpret and apply the drug utilization, reimbursement and pharmaco-economic policies of health care facilities, agencies and third party payment plans (e.g., generic substitution, therapeutic interchange, use of formularies, co-payments, deductibles, prescription quantity limits, etc.).

## 9. EXAMINATION FORMAT

The Pharmacist Registration Examination (PRE) consists of three (3) Parts:

### **PART I — FOUNDATIONS IN PHARMACY PRACTICE**

PART I of the PRE consists of two (2) Papers that contain one hundred (100) multiple choice questions each.

Each question is weighted at one (1) Point for a total of one hundred (100) Points per Paper.

PAPER 1 — PHARMACY CALCULATIONS AND PRACTICE EXAMINATION

PAPER 2 — PHARMACOTHERAPY EXAMINATION

### **PART II — OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)**

PART II of the PRE is a performance assessment that consists of up to ten (10) clinical stations. Each station shall contain a clinical scenario with short answer questions. The candidate will be given five (5) minutes per station to answer the short answer questions.

Each station is weighted at ten (10) Points.

### **PART III — PHARMACY LAW AND ETHICS**

PART III of the PRE consists of one (1) Paper that contains one hundred (100) multiple choice questions.

Each question is weighted at one (1) Point for a total of one hundred (100) Points.

PAPER 1 — PHARMACY LAW AND ETHICS EXAMINATION

## 10. EXAMINATION SCORING

Scores are computed based on the number of correct responses recorded by candidates.

It is to the candidate's advantage to answer every question on the examination paper.

There is no penalty in the scoring formula for guessing or selecting an incorrect response.

The individual score report will indicate whether the candidate passed or failed the examination. A minimum score of 70% is required in each of Parts I, II, and III as follows:

- |          |  |
|----------|--|
| Part I   | The scores obtained on Paper 1 and Paper 2 will be combined and averaged. The mean score must total 70% or higher. |
| Part II  | A minimum score of 70% is required.  |
| Part III | A minimum score of 70% is required.  |

## 11. EXAMINATION CONTENT

### PART I—FOUNDATIONS IN PHARMACY PRACTICE

#### PAPER 1—PHARMACY CALCULATIONS AND PRACTICE EXAMINATION

PAPER 1 shall contain questions that assess safe and accurate preparation, compounding, dispensing, and administration of medications and provision of health care products, inclusive of the following:

- (a) Pharmacy Math
- (b) Dosage Forms and Delivery Systems
- (c) Pharmacokinetics
- (d) Compounding
- (e) Biostatistics
- (f) Sterile Products
- (g) Drug Information
- (h) Clinical Trials
- (i) Non-prescription medicines (OTC)

## Sample Questions (Correct answers are indicated in red)

1. The recommended pediatric dosage for azithromycin therapy is 12 mg/kg po once daily on Days 1 through 5. For a child weighing 8.3 kg, calculate the total volume needed for the total course of treatment, if a product supplying 200 mg/5 mL is supplied for this order.
  - A. **12.5 mL**
  - B. 15 mL
  - C. 25 mL
  - D. 37.5 mL
  - E. 50 mL
  
2. A physician wants to switch a terminally-ill patient from slow release morphine sulfate tablets, 15 mg twice daily, to a liquid morphine sulfate dosage form because the patient has difficulty in swallowing tablets. If a morphine sulfate solution containing 5 mg per mL is prescribed q4h, what volume should be dispensed for a 20 day supply to provide the same pain relief as the tablet regimen?
  - A. 20 mL
  - B. 60 mL
  - C. 80 mL
  - D. 100 mL
  - E. 120 mL**
  
3. The Michaelis-Menten equation will appear first order when:
  - A. The substrate concentration is much smaller than  $K_m$**
  - B.  $K_m$  is much smaller than the substrate concentration
  - C.  $V_{max}$  is much smaller than  $K_m$
  - D.  $V_{max}$  is much larger than  $K_m$
  - E.  $K_m$  approaches  $V_{max}$

4. Diazepam Injection U.S.P

Diazepam 5 mg/mL  
Ethanol 10%  
Propylene glycol 40%  
Benzyl alcohol 1.5%  
Water for Injection qs 100%

In the formulation given above, propylene glycol functions as what?

- A. Emulsifier
- B. Antioxidant
- C. Cosolvent**
- D. Buffer
- E. Preservative

5. Dr. Johnson has prescribed the following prescription for MJ:

Prednisone 10mg tabs  
40 mg QD x 2/7  
30 mg QD X 3/7  
20 mg QD X 4/7  
10 mg QD X 5/7

How many tablets should be dispensed?

- A. 20
- B. 30**
- C. 55
- D. 60
- E. 75

## PAPER 2 — PHARMACOTHERAPY EXAMINATION

PAPER 2 shall contain questions that assess pharmacology, safe and effective pharmacotherapy, and health outcomes. The following disease states shall be assessed:

Hypertension Diabetes Heart Failure Arrhythmia Ischemic Heart Disease Thromboembolic Disease Thyroid, Adrenal, Endocrine Women's/Men's Health Kidney Disease Fluids and Electrolytes Nutrition Oncology	Gastrointestinal Disease Arthritis, Gout, Lupus Pain Management and Migraine Seizure Disorders Psychiatric Conditions Dermatology Asthma and COPD Infectious Disease Anti-Infective Agents HIV and AIDS Anaemia
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Sample Questions (Correct answers are indicated in red)

1. Prednisone may produce all of the following effects **EXCEPT**:
  - A. Skeletal muscle weakness
  - B. Hypoglycemia**
  - C. Sodium retention
  - D. Peptic ulceration
  - E. Lowered resistance to infection
  
2. Which of the following medications requires monitoring for the adverse effect of dyslipidemia?
  - A. Ciprofloxacin
  - B. Allopurinol
  - C. Isotretinoin**
  - D. Ramipril
  - E. Raloxifene

**QUESTION 3 REFERS TO THE FOLLOWING SCENARIO:**

SM is a 34 year old female who, while vacationing in Mexico, began prophylactic treatment for travelers' diarrhea. Shortly thereafter she complained of a feeling of fullness in her ears, black stools and a black tongue. SM's previous history includes an allergy to sulfonamides.

3. Which of the following drugs could be the cause of SM's complaints?

- A. Bismuth subsalicylate**  
B. Cotrimoxazole  
C. Doxycycline  
D. Amoxicillin  
E. Loperamide

**QUESTIONS 4 AND 5 INCLUSIVE REFERS TO THE FOLLOWING SCENARIO:**

TK is a 63 year old male with chronic kidney disease ( $\text{CrCl} = 29 \text{ mL/min}/1.73\text{m}^2$ ) and gout. He experienced his last gout attack about 2 months ago. Today his toe is extremely painful, hot, red and swollen. At a walk-in clinic, he receives a prescription for naproxen 500 mg po bid for 5 days. TK's other current medication is pravastatin 20 mg po hs.

4. What drug therapy problem should the pharmacist identify for TK?
- A. Naproxen is inferior to indomethacin for the treatment of acute gout  
B. The duration of naproxen treatment is too short  
C. Naproxen should be avoided in patients taking pravastatin  
**D. Naproxen should be avoided in patients with renal dysfunction**  
E. The frequency of naproxen dosing is too low

5. Following successful resolution of the acute episode, TK's physician decides that he should initiate allopurinol. TK should be advised to:
- limit fluid intake
  - take medication on an empty stomach
  - use precautions to avoid photosensitivity
  - D. report any skin rash or itching to the physician**
  - avoid dairy products or multivitamins within 2 hours of dose

## PART II— OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

The OSCE shall contain questions that seek to assess the clinical problem-solving skills of the candidate. These questions will be derived from the content of PART I and PART III.

The Objective Structured Clinical Examination (OSCE) is an evaluation tool that has become a standard method of assessment for health care professionals. It is designed to assess competency based on objective testing and/or direct observation.

It is intended to be:

- (a) Objective — all candidates are assessed using exactly the same stations with the same marking scheme. Candidates will be marked for each step on the mark scheme that they perform correctly, which makes the assessment of clinical skills more objective, rather than subjective.
- (b) Structured — each station in the examination will have a very specific task. Where simulated patients are used, detailed scripts will be provided to ensure that the information given is the same for all candidates, including the emotions that the patient may exhibit during the consultation.
- (c) Clinical Examination — the OSCE is designed to apply clinical and theoretical knowledge.

## OSCE FORMAT

The OSCE is a **TIMED EXAMINATION** that consists of a series of up to ten (10) “stations” that may simulate common and/or practical situations that may occur in retail and/or hospital pharmacy.

Each station will refer to a patient scenario that will be affixed to the station. A series of questions related to the scenario must be answered.

Each candidate will be allowed **FIVE (5) MINUTES PER STATION** to answer the required questions and/or perform the required task.

Candidates will rotate through the stations, until they complete all the required stations. Rest stations will be included in the rotation course and candidates may use this as an opportunity to gather their thoughts and/or complete any unanswered questions.

Calculator use is allowed for the OSCE (please refer to the Calculator Policy).

Resource materials will be provided, as required.

## STATION FORMAT

Stations may be of two (2) types:

1. Written (Non-interactive)

This station will contain a scenario with written structured questions. The points assigned for each question will be clearly marked.

2. Interactive

This station may contain a demonstration requirement or face to face interactive simulations that may involve interactions with a “Standardized Patient” or “Standardized Client” (e.g., parent or caregiver) or “Standardized Health Professional” (e.g., registered nurse or physician).

Each interactive station is designed to assess one or more competencies.

For example, an interactive station may involve:

- ◆ Gathering and interpreting information needed to identify and/or solve a patient's drug therapy problem
- ◆ Identifying and solving a practice problem which may involve the same patient (e.g., sharing of clinical information)
- ◆ Collaborating with other health professionals and/or caregivers in solving the problem
- ◆ Communicating effectively

**\*\* At all interactive stations a trained examiner, using standardized assessment criteria, will observe, record and assess candidates' interactions and/or completion of the task. \*\***

Sample Question (Explanation is indicated in red)

As a hospital pharmacist you are making your daily visit to a medical ward. You are given a prescription to prepare for Mr S to go home. Mr S was taking co-amilozone before coming in to hospital, for water retention. He has since been started on lisinopril to treat heart failure. His serum potassium level is 5.4 mmol/L, which has increased from 4.3 mmol/L on admission to hospital.

(Normal potassium range 3.5–5.0 mmol/L.)

His prescription for taking home is:

- Co-amilozone 5/50mg i mane
- Lisinopril 20mg i mane

#### **Resources provided: Drug Information Handbook and BNF**

1. Is this prescription clinically appropriate? Explain your answer. (5 Points)

This prescription is not clinically appropriate because there is an interaction between co-amilozone and lisinopril. Co-amilozone is a combination of a thiazide diuretic (hydrochlorothiazide) and a potassium-sparing diuretic (amiloride) which leads to potassium retention. ACE inhibitors also cause potassium retention; therefore there is a risk of hyperkalaemia. From the laboratory results it is clear that there is evidence of the interaction, with the potassium level already exceeding the upper limit of normal.

2. What action(s) would you recommend? Explain your answer. (5 Points)

What are the guidelines for the treatment of heart failure? When an interaction is identified you need to decide which medicine, if any, to adjust or change. Here, both drugs are recommended for heart failure. In addition the patient is retaining fluid. You know that ACE inhibitors may cause hyperkalaemia, so the most sensible option is not to use a potassium-sparing diuretic. The best solution here is to choose a loop diuretic only, such as furosemide in place of co-amilozide. It is important that you mention how to monitor whether your suggestions have solved the clinical problem. Here you would recommend that serum potassium levels are monitored. You may lose marks by failing to follow-up recommendations suggested.

## PART III — PHARMACY LAW AND ETHICS

### PAPER 1 — PHARMACY LAW AND ETHICS EXAMINATION

PAPER 1 shall contain questions that assess the candidate's knowledge of the laws that govern the practice of pharmacy within the Commonwealth of The Bahamas, as well as professional and research ethics.

#### LEGISLATION AND REGULATORY INSTRUMENTS

##### 1. Pharmacy Profession and Practice

- The Pharmacy Act, 1913 (Chapter 22)
- The Pharmacy Act, Revised Edition 1987 (Chapter 212)
- The Pharmacy Act, Revised Edition 2000 (Chapter 227)
- The Pharmacy Act, 2009 (Chapter 227)
- Pharmacy (Prescription) Regulations, 2010
- Pharmacy (Import and Export) Regulations, 2010
- Pharmacy (Registration and Licensing) Regulations, 2010
- Pharmacy (Amendment) Act, 2013

##### 2. Dangerous Drugs

- Dangerous Drugs Act, 1939 (Chapter 228)
- Dangerous Drugs (Application) Order, 1994
- Dangerous Drugs (Dispensing of Narcotics) Rules, 1952
- Dangerous Drugs (Methaqualone) Order
- Dangerous Drugs (Prescription of Minimum Amounts) Rules
- Single Convention on Narcotic Drugs, 1961
- Convention on Psychotropic Substances, 1971
- United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988
- Mandate and Functions of the International Narcotics Control Board
- List of Narcotic Drugs Under International Control — International Narcotics Control Board Yellow List
- List of Psychotropic Substances Under International Control — International Narcotics Control Board Green List

### 3. Precursor Chemicals

- Precursors Chemicals Act, 2007 (Chapter 228A)
- Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances — International Narcotics Control Board
- List of Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control — International Narcotics Control Board Red List

### 4. Antibiotics

- Penicillin Act, 1948 (Chapter 229)

### 5. Prescription Writing

- Medical Act, 2014
- Medical Regulations, 2014
- The Public Hospitals Authority (Medical Staff) Byelaws, 2003
- Dental Act, 1990 (Chapter 226)
- Health Professions (General) Regulations, 2000
- Nurses and Midwives Regulations, 1971
- Veterinary Surgeons Act, 1967

### 6. National Health Services

- National Insurance (Chronic Diseases Prescription Drug Fund) Act, 2009
- National Insurance (Chronic Diseases Prescription Drug Fund) Act, 2009 (Amendment) Regulations, 2012
- National Insurance (Chronic Diseases Prescription Drug Fund) Act, 2009 (Amendment to Schedule) Order, 2012
- National Insurance (Chronic Diseases Prescription Drug Fund) Act, 2009 (Amendment) Regulations, 2015
- National Insurance (Chronic Diseases Prescription Drug Fund) Act, 2009 (Amendment to Schedule) Order, 2015
- National Health Insurance Act, 2016

## 7. Miscellaneous Legislation Affecting Pharmacy Practice

- Environmental Health Services Act, 1987 (Chapter 232)
- Environmental Health Services (Collection and Disposal of Waste) Regulations, 2004 (Chapter 232)
- Sale of Goods Act
- Consumer Protection Act
- Customs Management Act, 2011
- Stem Cell Research and Therapy Act, 2013
- Anti-Doping in Sports Act, 2009
- Hospitals and Health Care Facilities Act, 1998 (Chapter 235)

**Note:** List subject to change based on addition of new laws/regulations and (or) repeal of same.

Copies of the above named legislation may be located online at:



For official printed copies visit the Bahamas Government Printing Department (Government Publications) at Lighthouse Parking Lot, Bay Street.

Telephone: 242-322-2410

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### **1 Structure of the Council and General Terms**

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- 1.1.1. History, structure, function and responsibilities
- 1.1.2. Role of The Registrar
- 1.1.3. Publication of Registers
- 1.1.4. Terms

#### 1.2. The Bahamas National Drug Agency (BNDA)

- 1.2.1. Functions

#### 1.3. The National Insurance Act (Chronic Diseases Prescription Drug Fund)

- 1.3.1. National Prescription Drug Plan

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- 3.3. Dangerous Drugs Act Ch. 228
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  - 3.4.1. Import and Export of Drugs
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- 3.6. Penicillin Act Ch. 226
- 3.7. Precursor Chemicals Act Ch. 228A

### **4 Pharmacy Ethics**

- 4.1. Pharmacist Code of Ethics (American Pharmacists Association (APhA))
- 4.2. Ethical Principles
  - 4.2.1. Autonomy
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  - 4.2.3. Malfeasance
  - 4.2.4. Justice
- 4.3. Research Ethics

Sample Questions (Correct answers are indicated in red)

1. The Pharmacy Act (Chapter 227) serves **ALL** of the following purposes **EXCEPT:**
  - A. The regulation and control of the practice of pharmacy
  - B. The registration and licensing of pharmacy technicians
  - C. The regulation and control of dangerous drugs**
  - D. The establishment of The Bahamas Pharmacy Council
2. Which of the following is **NOT** a function of the Bahamas Pharmacy Council?
  - A. To govern and regulate the standard of practice for professionals involved in the practice of pharmacy
  - B. To establish, develop and maintain standards of knowledge, skill and professional ethics for persons involved in the profession and practice of pharmacy
  - C. To govern and regulate the standards and practice of all facilities utilized in the practice of pharmacy
  - D. To train and educate pharmacy technicians and pharmacists**
3. Where a pharmacist supplies an emergency drug, he/she may supply which of the following in accordance with the Pharmacy (Prescription) Regulations, 2010?
  - A. A 72 hour supply of an Oral Contraceptive Pill
  - B. A 48 hour supply of a Dangerous Drug
  - C. A metered dose inhaler of Salbutamol**
  - D. A 30 day supply of Lisinopril 10mg tablets
4. Which of the following narcotic drugs appear in both Narcotic Schedule I and Narcotic Schedule IV of the Dangerous Drugs Act (Application) Order, 1994?
  - A. Morphine
  - B. Thiofentanyl**
  - C. Codeine
  - D. Amphetamine

5. The ethical principle of veracity requires that pharmacists do which of the following?
- A. Respect the rights of patients to make choices
  - B. Do good to patients
  - C. Act with honesty**
  - D. Act with fairness

## 12. EXAMINATION DATES

The PRE shall be conducted four (4) times per calendar year, in the months of MARCH, JUNE, SEPTEMBER and DECEMBER on dates so determined by the BPC.

In the event of inclement weather, the examination shall be subject to cancellation and rescheduled in accordance with Section 7.

If circumstance requires, an extraordinary sitting of the PRE may occur as deemed necessary by the BPC.

## 13. EXAMINATION SCHEDULE

The PRE will be held over a **three (3) day** period, Friday, Saturday and Sunday.

### Day 1 (Friday)

PART I      Paper 1 — Morning Session      9:00 am to 11:00 am  
                Paper 2 — Afternoon Session      2:00 pm to 4:00 pm

### Day 2 (Saturday)

PART II      OSCE — Morning start until completed  
                9:00 am until all candidates have cycled through the examination.

### Day 3 (Sunday)

PART III      Paper 1 — Morning Session      9:00 am to 11:00 am

**\*\* SCHEDULE SUBJECT TO CHANGE, AS REQUIRED. \*\*****\*\* Candidates must be in place 30 MINUTES prior to exam start time \*\***

This will allow adequate time for admission to the examination hall and instructions to candidates.

**14. EXAMINATION VENUE**

- ◆ Examination sittings shall be scheduled at a set venue, 'examination centre', which may vary from year to year and sitting to sitting.
- ◆ Candidates must make their own travel arrangements to and from the examination centre.
- ◆ Each examination centre will have an examination room – where candidates will write the examination.
- ◆ Only specified items shall be allowed in the examination room.
- ◆ The examination room is a controlled environment, which is invigilated at all times by BPC invigilators.
- ◆ Candidates must arrive at the examination room thirty (30) minutes [one half ( $\frac{1}{2}$ ) hour] before the scheduled examination.
- ◆ Candidates must enter and exit the examination room as specified by the BPC invigilators.
- ◆ Candidates are not allowed to leave the examination room unless at times specified by BPC invigilators.
- ◆ Candidates will be escorted when taking toilet breaks during the examination.
- ◆ Testing room temperature can be unpredictable; therefore, we suggest that you bring appropriate clothing with you (e.g., sweater, sweatshirt without hood) to help you adapt to a cooler or warmer climate in the examination room.

## 15. LATE ARRIVALS

Candidates are advised to plan ahead and allow for extra travelling time that will allow for the candidate to be punctual for the examinations. No extra time will be given for candidates who arrive late. Candidates who arrive thirty (30) minutes after the examination has started will not be allowed entry into the examination and will forfeit all examination fees.

## 16. IDENTIFICATION

Your Candidate Identification Card will be sent to you 2 weeks before the examination. This card will bear your Candidate Number, which will serve as your unique identifier. The Candidate Identification Card must be brought to the examination room for **each sitting** and placed on your desk for inspection by the Presiding Officer and Invigilators (examination personnel). You must also bring another piece of government-issued photo identification (i.e., a passport, driver's license, National Insurance (NIB) card, or voter's card) to the examination. Both pieces of identification will be checked by exam personnel to verify your identification. You will not be admitted to the examination unless you provide both pieces of identification and both are a likeness of your current physical appearance. As well, the names on your Candidate Identification Card and government-issued photo ID must reasonably correspond.

## 17. ADMISSION TO THE EXAMINATION ROOM

- ◆ You must arrive 30 minutes before the scheduled start of the examination at the specific location and time indicated on your Candidate Identification Card.
- ◆ During the 30-minute period between the report time and the examination start time, the Presiding Officer will distribute answer sheets and provide examination instructions. After instructions are given and all candidates are seated, the Examination Booklets will be distributed and the examination will begin.
- ◆ You will not be admitted for the examination after **thirty (30) minutes** of the commencement of the examination.

- ◆ No extra time will be provided to candidates who arrive late.
- ◆ Unless otherwise authorized, only candidates for the scheduled examination who present their Candidate Identification Card and government-issued photo ID will be permitted to enter the examination room. Family members or friends of candidates are NOT permitted to enter the examination room.

## 18. CANDIDATE MATERIALS

### PART I — FOUNDATIONS IN PHARMACY PRACTICE

- ◆ PART I of the PRE is a closed-book examination.
- ◆ Use of a standardized basic scientific calculator is permitted in **PAPER 1 ONLY** (Please refer to the Calculator Policy).
- ◆ No. 2 Pencils, erasers and blue or black ink pens are permitted.

### PART II — OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

- ◆ Reference books or materials will be provided, as appropriate.
- ◆ Use of a standardized basic scientific calculator is permitted (Please refer to the Calculator Policy).
- ◆ No. 2 Pencils, erasers and blue or black ink pens are permitted.

### PART III — PHARMACY LAW AND ETHICS

- ◆ PART III of the PRE is a closed-book examination.
- ◆ No. 2 Pencils, erasers and blue or black ink pens are permitted.

## 19. CALCULATOR POLICY

A standardized basic scientific calculator is permitted, i.e., calculators that are **NON-PROGRAMMABLE**, hand-held, silent, non-printing, battery or solar powered.

Hand-held calculators that contain addition, subtraction, multiplication, division, and log functions are appropriate for the examination. Candidates may **NOT** use calculators or any other devices that have either word processing or word storage capabilities (complete A-Z keypad).

All calculators will be examined by a BPC invigilator before a candidate is admitted to the examination area.

**Please Note:** Candidates are responsible for providing their own calculators.

## 20. PROHIBITED MATERIALS

Candidates are expressly prohibited from bringing the following items into the examination room:

- ◆ Cameras, cell phones, optical readers, or other electronic devices that include the ability to photograph, photocopy or otherwise copy test materials
- ◆ Notes, books, dictionaries or language dictionaries, documents, envelopes, pictures or reference materials of any kind
- ◆ Book bags or luggage
- ◆ Purses or handbags, briefcases
- ◆ iPods, mp3 players, tablets, headphones, or pagers
- ◆ Programmable calculators (see CALCULATOR POLICY ABOVE)
- ◆ Computers, PDAs, or other electronic devices with one or more memories
- ◆ Audio/video/gaming devices
- ◆ Rulers, pencil cases, and highlighters
- ◆ Google and smart glasses (any glasses with any electronics)
- ◆ Smart watches
- ◆ Weapons
- ◆ Food and (or) beverages
- ◆ Paper items of any kind, whether blank, printed or written upon, including similar items such as wrappers on food or beverages
- ◆ Coats and jackets
- ◆ Hats, hoods, or other headwear are not permitted in the examination room unless required for religious purposes.

All items are subject to inspection by the BPC invigilators if suspicious behavior is detected.

The BPC invigilators are not liable for lost or damaged items brought into the examination room.

All personal belongings are prohibited and must be placed at the designated area of the examination room. **Please bring only the essential materials required for the examinations.**

**Cellular devices brought into the examination room must be switched off at ALL times.** If your cellular device is found to be switched on in the examination room, it will be confiscated and retained for investigation of possible violation of regulations.

Photography is **NOT** allowed in the examination room at **ANY** time.

**Please Note:**

The Presiding Officer or Examination Invigilator has the authority to inspect any materials brought into the examination **and/or to request that candidates remove outerwear, roll up their sleeves and empty all pockets to permit inspection for smart watches and other prohibited items.**

## **21. AT THE START OF THE EXAMINATION**

- ◆ Please have your Candidate Identification Card and identification document (such as passport, drivers licence, voter's card) out and available to be checked by the invigilator(s).
- ◆ Candidates will be required to sign-in and will be instructed on where to store personal items and where to keep identification. The candidate's identity will be verified every time he/she enters or leaves the testing room.
- ◆ Candidates who arrive 30 minutes after their scheduled examination time and candidates without valid photo identification will not be admitted to the examination. If that occurs, their fees will be forfeited. Candidates will not be permitted to enter the exam unless proper identification as described above is presented.

- ◆ Candidates will be directed to sit at the desk that corresponds with their Candidate Number.
- ◆ All examinations are anonymous. Therefore, candidates must not write their name on the answer sheet. You should write only your candidate number, correctly and legibly, in the space provided on the answer sheet. Providing incorrect or illegible candidate number could risk your answer sheet being considered void.
- ◆ Candidates must **NOT** make any marking(s) on the examination booklet or the Candidate Identification Card.
- ◆ Invigilators will administer exam booklets and answer sheets to all candidates at the start of the examination period. Test instructions will be provided to candidates on the use of the answer sheet. Only answers properly marked on the answer sheet will be scored. **Answers written in the test book will not be scored.**
- ◆ The test booklet and the answer sheet are the property of the BPC. BOTH must be returned to the invigilators at the end of EACH session of the examination.

## 22. DURING THE EXAMINATION

- ◆ Candidates **MUST NOT** converse or communicate with one another in any manner whatsoever, or speak or read out loud while the examination is underway or during the time when answer sheets and examination papers are being distributed or collected.

**\*\* Any candidates who violate this rule will forfeit the examination (i.e., they will not receive a result and it will count as an attempt). \*\***

- ◆ You may converse with BPC invigilators if required, in a discrete and confidential manner.
- ◆ If you wish to use the washroom or when you are ready to hand in your examination materials, you must raise your hand to indicate this to examination personnel.
- ◆ Candidates should behave in a professional and courteous manner when interacting with examination personnel.

- ◆ Unless granted permission by an invigilator, you are not allowed to leave your seat.
- ◆ Once you have entered the examination room, you will not be allowed to leave the room until **one hour** after the examination has commenced.
- ◆ If, for any reason, you are given permission to leave the room temporarily, you must be accompanied by an invigilator throughout your absence from the examination room.
- ◆ **DO NOT** write on, mark, highlight or deface the examination booklet or the Candidate Identification Card.
- ◆ The Presiding Officer will make regular announcements about the time remaining throughout the examination.
- ◆ During the examination period, you will **NOT** be permitted to have **anything** on your desk, **EXCEPT:**
  - your Candidate Identification Card
  - the Examination Booklet
  - answer sheet
  - blue or black ink pen, No.2 pencil and eraser
  - a standardized scientific calculator, when permissible

**\*\* Surfaces of desks and all candidate materials and belongings are subject to inspection by examination personnel, at any time. \*\***

- ◆ Any devices or other materials that may compromise the administration or security of the examination will be confiscated.
- ◆ Confiscated items will be sent to the BPC for inspection, together with a report of the incident, and will be kept until any investigation is completed.

## 23. AT THE END OF THE EXAMINATION

- ◆ You are **NOT** allowed to leave the examination room during the last **30 minutes** of the examination and during the collection of the answer sheets and examination papers. All candidates must remain seated throughout this period in order to allow for invigilators to properly account for all answer sheets and examination booklets.

- ◆ When the Presiding Officer announces the end of the examination, all candidates must stop filling in their answer sheets immediately.

**\*\* Any candidates who continue to fill in their answer sheets after the end of the examination will forfeit the examination (i.e., they will not receive a result and it will count as an attempt). \*\***

- ◆ You are to stay in the examination room until the Presiding Officer has given the permission to leave. **DO NOT** talk or communicate with other candidates until you are outside of the examination room.
- ◆ Once dismissed, you should leave the examination room in an orderly manner. Remember to take your personal belongings with you.
- ◆ Before leaving the examination room candidates are required to sign out. This indicates that all examination scripts have been submitted and received by the invigilator.

## 24. EXAMINATION RESULTS

Each candidate will receive a letter advising of the results on Parts I, II and III of the PRE. The letter must be collected in person from the BPC office. Candidates will be notified within six weeks following the close of the exam.

Candidates shall not contact any member of the BPC or the BCP Examination Committee regarding test results. All enquiries shall be submitted in writing to the BPC office.

**\*\* For reasons of confidentiality, results will not be released by telephone, fax or email. \*\***

## 25. UNSUCCESSFUL EXAMINATION

If a candidate fails to achieve the passing scores (as detailed above), retaking of the unsuccessful Part(s) of the examination is permitted.

Each candidate is allowed a maximum of three (3) attempts for each Part of the PRE.

For re-examination fee structure, contact the BPC office.

## REFERENCES

1. The Board of Pharmacy Specialties (BPS), Candidates Guide.
2. The National Association of Pharmacy Regulatory Authorities (NAPRA), Professional Competencies for Canadian Pharmacists at Entry to Practice, 2007.
3. The Pharmacy Examining Board of Canada (PEBC).

## The Bahamas Pharmacy Council (BPC) Pharmacist Registration Examination (PRE)

The Bahamas Pharmacy Council wishes to advise all prospective applicants for registration as pharmacists under the provisions of the Pharmacy Act that with effect from the 30th June, 2018 the Council shall require all applicants to take the Pharmacist Registration Examination (PRE). The examination shall include testing of the core competencies for pharmacy practice in the following areas: Foundations in Pharmacy Practice, Pharmacy Law and Ethics and an Objective Structured Clinical Examination (OSCE).



### **Professional Ethics & Pharmacy Regulations**