

**Guide to the  
Singapore Pharmacy Council  
Competency Assessment/Examination  
2018**



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# **A. Information on the Competency Assessment/Examination**

## **Introduction**

In the Singapore healthcare environment, the pharmacist plays a key role as:

- a) a gatekeeper to ensure the provision and use of safe, effective, high quality health products, and;
- b) an expert in drug knowledge, to be not only a healthcare professional but also a health educator and promoter.

As a pre-registration pharmacist, you are undergoing training both in theory and in practice in an approved training centre registered with the Singapore Pharmacy Council (SPC). Your training covers the competency standards stipulated by the SPC and prepares you for entry to practise as a pharmacist.

## **Objective of the Competency Assessment/Examination**

The Competency Assessment/Examination is an evaluation of your knowledge and understanding of topics that form the core knowledge required by a newly registered pharmacist for effective professional practice.

The results of this assessment/examination will be taken into consideration by the training centres in the overall evaluation of the candidate for completion of training.

## **Format of the Competency Assessment/Examination**

This is a closed book examination. No reference material will be allowed to be brought into the examination room. The paper consists of all multiple-choice questions. Candidates are encouraged to attempt all questions. For each question, candidates will be required to pick the most appropriate answer out of the given choices. No marks will be deducted for incorrect or unanswered questions (i.e. no negative marking).

There will be a total of 100 questions. The time allowed is 2 hours. The passing mark is 60%.

The weightage for questions are approximately: 85% Pharmaceutical Care and 15% Pharmacy Ethics, Pharmacy Systems and Procedures.

40% of the questions will be case-based.

You are advised to familiarise yourself with the syllabus listed in Section B of this guide.

## Competency Assessment/Examination Structure

The syllabus lists all the topics of knowledge and understanding identified by the Board of Examiners that would be required by newly registered pharmacists to practise competently.

While the examination syllabus lists the topics to be covered by the examination, it cannot provide comprehensive detail of all items of knowledge that might be tested.

You would not need in-depth knowledge of all topics in the syllabus since a pharmacist in practice would refer to information references for such in-depth knowledge.

However, you would need to have a good working knowledge of the basic and generally common aspects of pharmacy that would be encountered in practice.

## Preparation for the Competency Assessment/Examination

It is important that you are familiar with the examination syllabus so that you can better prepare for the examination.

The syllabus is based on the competency standards set by the SPC for pre-registration training. It specifies the broad topics to be covered in the examination that pharmacists entering/re-entering the profession are expected to be competent in. For further details, please refer to section B for the assessment/examination syllabus.

The Board of Examiners advises candidates to be well-versed with the syllabus and to read as widely as possible, to enable them to do well in the examination.

## Eligibility for the Competency Assessment

The Competency Assessment is for:

- a) National University of Singapore (NUS) pharmacy graduates who are applying for registration;

NUS pharmacy graduates undergoing pre-registration training must have completed at least 32 weeks of training, including the in-course preceptorship (at SPC-approved training centres) during the semester breaks before sitting for the assessment.

The Competency Assessment will be held three times a year. Please check the SPC website for the exact dates of the Competency Assessment.

Candidates who do not pass on the first attempt are permitted to have 2 re-sit attempts, within 24 months from the date of the first sitting.

## **A.6a Eligibility for the Competency Examination**

The Competency Examination is for:

- b) Pharmacy graduates with overseas qualifications who are applying for registration.
- c) De-registered pharmacists (both local/foreign trained) who have not held a practising certificate for more than 5 years and wish to restore their name in the Register of Pharmacists.

Applicants from category b) must have completed a stipulated period of training as determined by the SPC before sitting for the Competency Examination.

The Competency Examination will be held three times a year. Please check the SPC website for the exact dates of the Competency Examination.

Candidates who do not pass on the first attempt are permitted to have 2 re-sit attempts, within 24 months from the date of the first sitting.

## **Deadline for Registration for Competency Assessment**

With reference to A.6, candidates from category (a) must register for the assessment through their respective training centres. All registrants should register with the SPC at least one month before the date of the assessment.

## **A.7a Fees and Deadline for Registration for Competency Examination**

With reference to A.6a, candidates from category (b) must register for the examination through their respective training centres. Category (c) candidates should register directly with the Singapore Pharmacy Council. All candidates should register with the SPC at least one month before the date of the examination. The examination fee is S\$300 per candidate per examination.

## **Competency Assessment/ Examination Venue**

The Competency Assessment/Examination are held at locations that will be announced to all the candidates upon registration.

## **On the Assessment/Examination Day**

Candidates are required to bring their identity card / company's identification badge (with photograph) to facilitate the authentication of the candidate's identity. As calculations may be required for some questions, candidates are permitted to bring their calculators.

Candidates will be permitted to enter the assessment/examination room 30 minutes after commencement of the assessment/examination. After the first half-hour, candidates will not be admitted into the assessment/examination hall.

## The Board of Examiners

The examiners are drawn from hospital practice, community practice, academia and regulatory.

The main functions of the Board of Examiners are to:

- set the syllabus and information guide for the assessment/examination
- propose to the Singapore Pharmacy Council the dates and location of the assessment/examination
- determine the conduct, condition and marking of the assessment/examination
- approve the assessment/examination paper for each examination
- disseminate the results of the assessment/examination
- determine information to be provided to prospective candidates and unsuccessful candidates
- determine checks to perform to confirm the marks of unsuccessful candidates
- consider requests and special considerations from candidates
- consider appeals against results

## Notification of Results

Candidates will be notified of their results (pass or fail) through the e-mail address given at the time of registration for the assessment/examination, within 1 month after the Competency Assessment/Examination was conducted. The training centre will also be notified of the results of their own candidates.

## Withdrawal Before or On The Day of the Assessment/Examination

If you decide for any reason that you are unable to or do not want to attempt the assessment/examination, you can withdraw in writing **at least 5 working days** before the assessment/examination. You will then be treated as having not attempted the assessment/examination and your examination fee will be forfeited.

## Sitting for the Competency Assessment/Examination in the Event of Illness or Adverse Circumstances

If you believe that your performance at the assessment/examination has been adversely affected by illness, or some circumstances which occurred before the assessment/examination, but you decide nevertheless to sit for the assessment/examination (i.e. you do not withdraw), you can report the event to the chief invigilator at the assessment/examination venue.

You will be required to write a detailed request with corroborating evidence stating your circumstances and send the letter to the Chief Examiner, Board of Examiners, Singapore Pharmacy Council, reaching SPC no later than the 5<sup>th</sup> day after the assessment/examination, for consideration.

- In your letter, you can request for your illness or adverse circumstances to be taken into consideration in the marking of the paper.
- In your letter, you can request for your assessment/examination attempt to be nullified.

The candidate will be required to pay a new fee at the next assessment/examination attempt.

## Appeal System

A candidate can ask for a re-consideration of his/her result, based on procedural grounds i.e. some aspects of the assessment/examination procedures have not been applied correctly in his/her case.

The candidate must set out the grounds of the appeal in writing to the Registrar, Singapore Pharmacy Council, no later than 21 days after the date of release of the assessment/examination results. The appeal will be referred to the Board of Examiners which will consider the appeal within 60 working days upon receipt by the SPC.

## B. Assessment/Examination Syllabus

### B.1 Main Syllabus

The syllabus is divided into 4 sections (A to D) encompassing the common practice areas that pharmacists entering the profession are expected to be competent in:

SYLLABUS	LEARNING OUTCOMES
<b>A) Pharmaceutical Care (Weightage is approximately 85% of Assessment/Test)</b>	
Drug (clinical pharmacokinetics and clinical pharmacodynamics)	You must be able to demonstrate an understanding of: <ul style="list-style-type: none"><li>• the mechanism of action, administration, absorption, distribution, metabolism and excretion of commonly used medicines</li><li>• the rationale of medication usage</li><li>• correct dosages and dose adjustments for patients with particular needs because of their age and/or disease condition</li><li>• the normal ranges for therapeutic blood levels of drugs with narrow therapeutic index</li></ul>
Pathophysiology and clinical biochemistry	You must be able to demonstrate an understanding of and be able to interpret: <ul style="list-style-type: none"><li>• the basic pathophysiology of the various disease states</li><li>• the normal ranges for blood electrolytes and key biochemistry</li><li>• the normal ranges for key parameters of body functions e.g. blood pressure</li><li>• the disease treatment outcome</li><li>• the implications of figures outside these ranges</li></ul>



SYLLABUS	LEARNING OUTCOMES
Optimisation of drug therapy	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• the relevant patient's medication history and/or current medication treatment record</li> <li>• the relevant clinical and medication-related information from patients and/or caregiver and/or healthcare professionals</li> <li>• the purpose and principles of medication management and pharmaceutical care (detection of drug-related problems &amp; formulating an optimized drug plan for patient)</li> <li>• the appropriateness of dosages and routes of administration</li> <li>• the effectiveness of drug therapy, taking patient factors in consideration</li> <li>• the recognised adverse effects and toxicities of prescribed and over-the-counter medicines</li> <li>• the circumstances in which prescribed and over-the-counter medicines are contra-indicated</li> <li>• the major interactions that can occur between medicines, foods and supplements(vitamins, minerals, natural remedies ,etc)</li> </ul>
Management of minor ailments	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• differentiating minor illnesses from more serious diseases</li> <li>• the symptoms of conditions that require referral to a medical or other healthcare practitioner</li> <li>• the actions and indications of over-the-counter medicines available that are commonly used to treat minor ailments</li> </ul>

SYLLABUS	LEARNING OUTCOMES
Health promotion and disease prevention	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• the concepts of health promotion and health education</li> <li>• recommendations for key health parameters</li> <li>• the basis for health improvement programmes</li> <li>• the social, environmental, lifestyle and dietary factors that influence health</li> <li>• how awareness of the stages of behavioural change can help pharmacists make interventions appropriate to the individual</li> <li>• actions which pharmacists and pharmacy support staff can take and resources they can refer to for further help to promote health and prevent disease</li> </ul>
Pharmaceutical calculations	<p>You must be able to perform and demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• performing accurately all types of calculations in the process of dispensing pharmaceutical care</li> <li>• the correct procedures for the dilution of solid, semi-solid and liquid dosage forms, including selection of the correct diluents</li> </ul>
Evidence-based practice	<p>You must be able to:</p> <ul style="list-style-type: none"> <li>• interpret scientific papers and the relevance of biostatistics</li> <li>• understand the principles of obtaining and applying evidence in practice</li> </ul>

SYLLABUS	LEARNING OUTCOMES
<b>B) Pharmacy Ethics, Pharmacy Systems and Procedures (Weightage is approximately 15% of Test/Assessment)</b>	
Pharmacy Ethics	<p>You must be able to demonstrate an understanding of and be able to interpret:</p> <ul style="list-style-type: none"> <li>• Singapore Pharmacy Council Code of Ethics for Pharmacists</li> <li>• Pharmacy Practice Standards</li> <li>• Guidelines governing pharmacy practice</li> </ul>
Prescribing guidelines and formularies	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• The roles &amp; purpose of drug formularies including MOH Standard Drug Lists &amp; Drug Use Evaluation</li> </ul>
Adverse drug reaction reporting	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• the correct actions to take in response to any report of an adverse drug reaction by patients, public or healthcare professionals</li> <li>• the national adverse drug reaction reporting programme and pharmacovigilance</li> </ul>
Drug recall	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• the correct actions to be taken in the activation of product recall under the following circumstances: product withdrawal from pharmacy (e.g. wrong issuance of drug, contamination), HSA or supplier</li> </ul>
Medication safety	<p>You must be able to demonstrate an understanding of:</p> <ul style="list-style-type: none"> <li>• Ministry of Health Medication Safety Guidelines and Practices</li> <li>• <a href="#">Institute For Safe Medication Practices</a> Guideline</li> </ul>
<b>C) Pharmacoeconomics</b>	Currently omitted
<b>D) Pharmacogenomics</b>	Currently omitted

## B.2 Core Topics for Pharmaceutical Care

<b>1. Cardiovascular</b>	<ul style="list-style-type: none"> <li>• Dry eyes</li> </ul>
<ul style="list-style-type: none"> <li>• Arrhythmias</li> </ul>	<ul style="list-style-type: none"> <li>• Ear wax removal</li> </ul>
<ul style="list-style-type: none"> <li>• Coronary heart disease</li> </ul>	<ul style="list-style-type: none"> <li>• Swimmer's ear</li> </ul>
<ul style="list-style-type: none"> <li>• Congestive heart failure</li> </ul>	<ul style="list-style-type: none"> <li>• Motion sickness</li> </ul>
<ul style="list-style-type: none"> <li>• Hyperlipidaemia</li> </ul>	<ul style="list-style-type: none"> <li>• Tinnitus</li> </ul>
<ul style="list-style-type: none"> <li>• Hypertension</li> </ul>	<b>6. Gastrointestinal</b>
<b>2. Dermatological</b>	<ul style="list-style-type: none"> <li>• Colitis, Irritable bowel syndrome, Crohn's disease</li> </ul>
<ul style="list-style-type: none"> <li>• Acne</li> </ul>	<ul style="list-style-type: none"> <li>• Constipation and diarrhoea</li> </ul>
<ul style="list-style-type: none"> <li>• Common drugs causing Stevens-Johnson Syndrome, Toxic Epidermal Necrolysis Syndrome</li> </ul>	<ul style="list-style-type: none"> <li>• Gastro-oesophageal reflux disease</li> </ul>
<ul style="list-style-type: none"> <li>• Dry skin</li> </ul>	<ul style="list-style-type: none"> <li>• Nausea and vomiting</li> </ul>
<ul style="list-style-type: none"> <li>• Dermatitis</li> </ul>	<ul style="list-style-type: none"> <li>• Non-ulcer dyspepsia</li> </ul>
<ul style="list-style-type: none"> <li>• Hair loss</li> </ul>	<ul style="list-style-type: none"> <li>• Peptic ulcer disease</li> </ul>
<ul style="list-style-type: none"> <li>• Insect bites</li> </ul>	<b>7. Health Promotion and Education</b>
<ul style="list-style-type: none"> <li>• Psoriasis</li> </ul>	<ul style="list-style-type: none"> <li>• Weight management</li> </ul>
<ul style="list-style-type: none"> <li>• Sun care</li> </ul>	<ul style="list-style-type: none"> <li>• Smoking cessation - nicotine replacement therapy</li> </ul>
<b>3. Drugs used in Special Populations</b>	<ul style="list-style-type: none"> <li>• Vitamin supplements</li> </ul>
<ul style="list-style-type: none"> <li>• Children &lt; 18 years</li> </ul>	<ul style="list-style-type: none"> <li>• Recommended Daily Allowance of vitamins and minerals</li> </ul>
<ul style="list-style-type: none"> <li>• Hepatic &amp; renal dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Treatment of vitamin deficiency states and maintenance of health</li> </ul>
<ul style="list-style-type: none"> <li>• Elderly (&gt; 65 years old) patients</li> </ul>	<b>8. Infectious Diseases</b>
<ul style="list-style-type: none"> <li>• Pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>• Upper &amp; Lower Respiratory tract Infections</li> </ul>
<ul style="list-style-type: none"> <li>• Breast-feeding</li> </ul>	<ul style="list-style-type: none"> <li>• Otitis, pharyngitis, sinusitis,</li> <li>• Tuberculosis</li> </ul>
<b>4. Endocrine</b>	<ul style="list-style-type: none"> <li>• Urinary tract (complicated and uncomplicated infections)</li> </ul>
<ul style="list-style-type: none"> <li>• Diabetes mellitus</li> </ul>	<ul style="list-style-type: none"> <li>• Protozoal disease, malaria, lice, scabies, helminthic infestation</li> </ul>
<ul style="list-style-type: none"> <li>• Thyroid disease</li> </ul>	<ul style="list-style-type: none"> <li>• Systemic and superficial fungal infections</li> </ul>
<ul style="list-style-type: none"> <li>• Osteoporosis</li> </ul>	<ul style="list-style-type: none"> <li>• Gastrointestinal infections</li> </ul>
<b>5. Eye / Ear Care</b>	<ul style="list-style-type: none"> <li>• Skin Infections</li> </ul>
<ul style="list-style-type: none"> <li>• Conjunctivitis</li> </ul>	<ul style="list-style-type: none"> <li>• Meningitis</li> </ul>
<ul style="list-style-type: none"> <li>• Contact lens related problems</li> </ul>	

<b>9. Infection Control &amp; Disinfection</b>	<b>14. Renal</b>
<ul style="list-style-type: none"> <li>• Chemical disinfectants, disinfection</li> </ul>	<ul style="list-style-type: none"> <li>• Chronic kidney disease</li> </ul>
<b>10. Men &amp; Women's Health</b>	<b>15. Respiratory</b>
<ul style="list-style-type: none"> <li>• Hormone Replacement Therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Asthma</li> </ul>
<ul style="list-style-type: none"> <li>• Benign Prostatic Hyperplasia</li> </ul>	<ul style="list-style-type: none"> <li>• Chronic obstructive pulmonary disease</li> </ul>
<ul style="list-style-type: none"> <li>• Oral Contraception</li> </ul>	<ul style="list-style-type: none"> <li>• Cough and cold</li> </ul>
<ul style="list-style-type: none"> <li>• Erectile Dysfunction</li> </ul>	<b>16. Vaccination and Immunoprophylaxis</b>
<b>11. Mental Health</b>	<ul style="list-style-type: none"> <li>• Childhood vaccination</li> </ul>
<ul style="list-style-type: none"> <li>• Depression</li> </ul>	<ul style="list-style-type: none"> <li>• Influenza</li> </ul>
<ul style="list-style-type: none"> <li>• Schizophrenia</li> </ul>	<ul style="list-style-type: none"> <li>• Hepatitis</li> </ul>
<ul style="list-style-type: none"> <li>• Generalised Anxiety Disorder</li> </ul>	<ul style="list-style-type: none"> <li>• Pneumococcal</li> </ul>
<ul style="list-style-type: none"> <li>• Psychosis</li> </ul>	<ul style="list-style-type: none"> <li>• Rabies</li> </ul>
<ul style="list-style-type: none"> <li>• Dementia</li> </ul>	<ul style="list-style-type: none"> <li>• Tetanus</li> </ul>
<b>12. Neurological</b>	<ul style="list-style-type: none"> <li>• Travel Medicine</li> </ul>
<ul style="list-style-type: none"> <li>• Epilepsy</li> </ul>	<ul style="list-style-type: none"> <li>• Varicella</li> </ul>
<ul style="list-style-type: none"> <li>• Parkinson's disease</li> </ul>	<b>17. Wound management</b>
<ul style="list-style-type: none"> <li>• Stroke</li> </ul>	<ul style="list-style-type: none"> <li>• Wound care products for various types of wounds</li> </ul>
<b>13. Pain Management (Neuropathic, Nociceptive)</b>	<ul style="list-style-type: none"> <li>• Systemic treatment of wounds</li> </ul>
<ul style="list-style-type: none"> <li>• Acute pain</li> </ul>	<b>18. Allergy management</b>
<ul style="list-style-type: none"> <li>• Headaches</li> </ul>	<ul style="list-style-type: none"> <li>• Allergic Rhinitis</li> </ul>
<ul style="list-style-type: none"> <li>• Menstrual</li> </ul>	<ul style="list-style-type: none"> <li>• Skin Allergy (e.g. Eczema)</li> </ul>
<ul style="list-style-type: none"> <li>• Migraine</li> </ul>	
<ul style="list-style-type: none"> <li>• Musculoskeletal (e.g. osteoarthritis, rheumatoid arthritis)</li> </ul>	
<ul style="list-style-type: none"> <li>• Chronic pain</li> </ul>	
<ul style="list-style-type: none"> <li>• Gout</li> </ul>	

## Recommended References

1. Health Promotion Board (<http://www.hpb.gov.sg>)
2. MOH Medication Safety Practice Guidelines and Tools
3. Pharmacy Practice Standards for Healthcare Institutions and Pharmacies in Singapore
4. MOH National Medication Safety Guidelines Manual
5. MOH Drug-Food Administration Instructions
6. American Hospital Formulary Service Drug Information
7. Applied Therapeutics
8. British National Formulary
9. Drug Information Handbook (Lexicomp)
10. Drugs In Pregnancy and Lactation (Gerald G Briggs)
11. Handbook of Non-prescription Drugs
12. Health Professionals Portal (<http://www.hpp.moh.gov.sg>)
13. Pharmacotherapy – A Pathophysiologic Approach
14. Pharmaceutical Society of Singapore Practice Guide for Minor Ailments