

## **WARNING**

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Family Name	
Given Names	
Student Number	
Teaching Period	Semester 1, 2017

<b>FINAL EXAMINATION</b>	<b>DURATION</b>				
<b>PHA411 – Therapeutics C</b>	<table border="1"> <tr> <td>Reading Time:</td> <td><b>10</b> minutes</td> </tr> <tr> <td>Writing Time:</td> <td><b>180</b> minutes</td> </tr> </table>	Reading Time:	<b>10</b> minutes	Writing Time:	<b>180</b> minutes
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**INSTRUCTIONS TO CANDIDATES**

The examination has **THREE** (A, B and C) Sections:

**Section A:** Multiple Choice Questions: Answer **ALL** (40) questions on the SELS 100-MCQ Answer Sheet provided. Total marks allocated: Twenty (20). Suggested allocated time: 60 minutes

**Section B:** Extended Answer Questions: Answer any **4** out of **6** questions. Marks as indicated by lecturer. Total marks allocated: Forty (40). Suggested allocated time: 60 minutes.

**Section C:** Case Study Questions: Answer **ALL** (2) questions. Total marks allocated: Forty (40). Suggested allocated time: 60 minutes

**EXAM CONDITIONS**

**You may begin writing from the commencement of the examination session.** The reading time indicated above is provided as a guide only.

This is a CLOSED BOOK examination

Any non-programmable calculator is permitted

No handwritten notes are permitted

No dictionaries are permitted

<b>ADDITIONAL AUTHORISED MATERIALS</b>	<b>EXAMINATION MATERIALS TO BE SUPPLIED</b>
No additional printed material is permitted	1 x 8 Page Book 1 x 20 Page Book 1 x 5-Multiple Choice Answer Sheet 1 x Scrap Paper

**THIS EXAMINATION IS PRINTED  
DOUBLE-SIDED.**

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**Section B**  
**Extended Answer Questions**  
**Total No of Marks for this section: 40**

This section should be answered in the Answer Booklet provided.  
**Answer any FOUR (4) questions only.**

Marks for each question are indicated. Suggested Time allocation for Section B: 60 mins

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**Question 1**

- a) What is meant by ‘carcinoma *in situ*’ (CIS)? What are the differences between a CIS and a carcinoma?

(Marks: 5)

- b) In the TNM staging system, CIS is reported as T<sub>is</sub>N<sub>0</sub>M<sub>0</sub> (Stage 0). Define the TNM staging system and discuss how it is used clinically, and its limitations.

(Marks: 5)

**Question 2**

- a) Discuss the pathophysiology and clinical presentation of benign prostatic hyperplasia (BPH). Include in your answer a description of how BPH is diagnosed.

(Marks: 6)

- b) Describe the mechanisms of action of TWO (2) different classes of therapeutic agents available for the symptomatic relief or treatment of BPH, with an example of each.

(Marks: 4)

**Question 3**

- a) What is “Tumour Lysis Syndrome”? Outline the signs and symptoms and appropriate prevention and/or treatment(s) for this syndrome.

(Marks: 6)

- b) In relation to oncology, what is meant by "targeted treatment"? Provide THREE (3) examples.

(Marks: 4)

#### Question 4

- a) In relation to palliative care, discuss FIVE (5) symptoms or conditions commonly experienced by patients. Include in your answer an explanation of how these symptoms could be managed.

(Marks: 5)

- b) Discuss the role of the pharmacist in palliative care, providing at least 5 reasons why they are an important part of the multidisciplinary team.

(Marks: 5)

#### Question 5

- a) What is endometriosis? Include in your answer at least TWO (2) symptoms, how it is diagnosed and THREE (3) options to assist in managing the condition.

(Marks: 6)

- b) Identify FOUR (4) common symptoms of menopause and why they occur. Include in your answer how each of these symptoms can be managed.

(Marks: 4)

#### Question 6

- a) Provide THREE (3) examples of hormonal agents, acting via different mechanisms of action, used in the treatment of breast cancer. Include in your answer a brief description of how they benefit breast cancer patients.

(Marks: 5)

- b) Describe why ABVD (*doxorubicin, bleomycin, vinblastine and dacarbazine*) has replaced MOPP (*mechlorethamine, vincristine, procarbazine, prednisone*) as the clear-cut standard for initial treatment for Hodgkin's Lymphoma (HL) even though many patients who received MOPP therapy are alive and well more than 20 years later?

(Marks: 5)

*End of Section B*

**Section C**  
**Case Study Questions**  
**Total Number of Marks for this section: 40**

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested Time allocation for Section C: 60 mins

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**Question 1 (24 marks)**

Mrs CS, a 61-year-old female, presents to her general practitioner with a persistent cough accompanied by haemoptysis, chest pain, shortness of breath and a 6-month history of weight loss and increasing fatigue. She also complains of lower back pain and aching bones, irritability due to chronic headache and two days ago she had an episode when she “blacked out”. Her husband witnessed the “black out” and insisted she see a doctor because it looked like she’d had a seizure.

A chest X-ray and CT scan reveals a central mass causing obstruction of the middle lobe of her right lung, as well as lymphadenopathy. Bronchoscopy washings and cytology are positive for small-cell lung cancer (SCLC). Her LFT results show elevations in all parameters. She denies exposure to environmental and occupational carcinogens including asbestos, but admits to a 3-pack-per week history of cigarette smoking.

- a) Discuss the association between the aetiology and pathophysiology of SCLC and Mrs CS’s clinical signs and presentations. Based on her symptoms, what is the likely stage of her SCLC?

(Marks: 5)

- b) What are the current recommendations for prevention and screening for early detection of lung cancer?

(Marks: 2)

- c) What are the differences between the treatment for SCLC and non-small-cell lung cancer (NSCLC)?

(Marks: 4)

d) Is Mrs CS a suitable candidate for surgery? Explain your answer.

(Marks: 2)

e) Chemotherapy with etoposide and cisplatin is initiated. Explain how these agents act to benefit Mrs CS, including the mechanism of action of the two chemotherapeutic agents.

(Marks: 5)

f) How should Mrs CS be monitored during therapy, taking into consideration the toxicities of etoposide and cisplatin?

(Marks: 4)

g) Comment on the suitability of cetuximab as targeted therapy in SCLC.

(Marks: 2)

## Question 2 (16 marks)

MM, a 67-year-old Caucasian man with a history of severe acne as a teenager is being evaluated in the dermatology clinic for a recent change in the intensity of a mole on his back. The characteristics of this mole are compared to a photograph taken 6 months earlier. The results show that the mole is indeed darker and larger in diameter (currently 10mm), the border is ragged and irregular, and multiple shades of black and white colour are also noted. About 3 months ago, it began to itch.

MM has blue eyes, blonde hair, a fair complexion and a moderate amount of freckling. He was a concreter for most of his working life, and also worked on a prawn trawling vessel in his teens and early 20s. He has a history of numerous blistering sunburns in his childhood and teenage years, and he currently still enjoys outdoor activities such as swimming, skiing and golf with his wife. He admits that on numerous occasions he did not use sunscreen during his outdoor activities because it simply was not available when he was a young man, and at other times he forgot to take it with him. MM does not have a family history of melanoma and he smokes two packs of cigarettes per week.

- a) Identify and discuss MM's risk factors for malignant melanoma.

(Marks: 4)

- b) What information is suggestive of malignant melanoma and how is the stage of this cancer determined?

(Marks: 4)

- c) What are the primary preventative measures for melanoma?

(Marks: 4)

- d) Outline a suitable treatment plan for MM if the biopsy of his resected sentinel lymph node is positive, suggesting a metastasis of his melanoma.

(Marks: 4)

*End of Section C*

*End of Exam Paper*