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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 1, 2019				

PHA210 – Pharmacology 1	DURATION	
	Reading Time:	10 minutes
	Writing Time:	180 minutes
INSTRUCTIONS TO CANDIDATES		
<p>This examination has 2 (A and B) Sections:</p> <p>Section A contains Forty (40) Multiple Choice Questions. Answer all questions on the Faculty/School supplied Multiple Choice Answer Sheet. Total marks allocated: Twenty (20). Suggested time allocation: One (1) hour.</p> <p>Section B contains Ten (10) Extended-Answer Questions. Answer any Eight (8) questions only in the 20-page Booklet provided. Total marks allocated: Eighty (80). Suggested time allocation: Two (2) hours.</p>		
EXAM CONDITIONS		
<p><u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.</p>		
This is a CLOSED BOOK examination		
No calculators are permitted		
No handwritten notes are permitted		
No dictionaries are permitted		
ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED	
No additional printed material is permitted	1 x 20 Page Book 1 x Scrap Paper College Multiple Choice Answer Sheet	

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DOUBLE-SIDED.**

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LEFT BLANK.**

Section A
Multiple Choice Questions
Total No. of Marks for this Section: 20

Please write the answers for this section on the 100-MCQ Answer Sheet provided. Ensure that your name and student number have been written on the answer sheet.

Answer **ALL (40)** questions
0.5 mark for each question. Suggested Time allocation for Section A: 60 mins

Section B
Extended-Answer Questions
Total No. of Marks for this Section: 80

Please answer this section in the 20-page Answer Booklet provided. Ensure that your name and student number have been written on the front page of the answer booklet.

Answer any EIGHT (8) questions.

Marks for each question are indicated. Suggested time allocation: 120 mins

Question 1

Mr HC has a history of coronary heart disease and his medications include:



- a. Describe the therapeutic use(s) and mechanisms of action of the active ingredients in Vytorin®.

(8 marks)

- b. What are the consequences if Mr HC is not compliant with taking this medication?

(2 marks)

Question 2 (multiple topics)

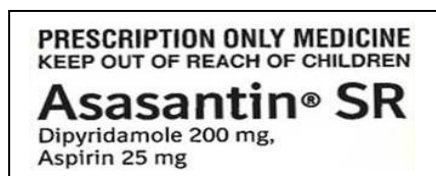
- a. Explain why the activity for a local anaesthetic could be reduced when it is injected into areas with inflammation.

(5 marks)

- b. Describe the mechanism by which digoxin affects myocardial contractility and benefit a patient with heart failure.

(5 marks)

Question 3



- a. Describe the mechanisms of action of the active ingredients in Asasantin®. (7 marks)
- b. What are the consequences if a patient is not compliant with taking this medication? (3 marks)

Question 4 (multiple topics)

- a. Triple therapy (omeprazole, amoxicillin and clarithromycin) is often required for the treatment of peptic ulcers. Describe the mechanism of action of omeprazole and explain when this therapy is necessary. (5 marks)
- b. Describe the mechanisms of action of nitrates in relieving the signs and symptoms of angina. (5 marks)

Question 5

- a. Describe and differentiate the mechanism(s) of action and clinical uses of amlodipine and verapamil. (6 marks)
- b. List FOUR (4) adverse effects or risks associated with the use of these agents. (4 marks)

Question 6

Describe the adverse effects which could be expected when a non-selective β (beta)-adrenoceptor antagonist is used in patients with the following co-morbidities:

- a. Raynaud's Disease (2 marks)
- b. Congestive heart failure (2 marks)
- c. Asthma (2 marks)
- d. Diabetes mellitus (4 marks)

In your answer, identify which β -adrenoceptor subtypes are involved in producing these adverse effects.

Question 7

When warfarin therapy is initiated in a patient suffering from deep vein thrombosis (DVT) or atrial fibrillation (AF), it is necessary to co-administer heparin for the first 5-7 days.

- a. Describe the mechanism of action of heparin and warfarin. (5 marks)
- b. Explain why there is a requirement for heparin co-administration when commencing warfarin therapy. (3 marks)
- c. What are the antidotes for heparin and warfarin overdose? Explain how they work. (2 marks)

Question 8

Describe how each of the following therapeutic agents acts to lower the blood pressure:

- a. Prazosin
- b. Clonidine
- c. Fosinopril
- d. Carvedilol
- e. Telmisartan

(2 marks each)

Question 9

Ms RS is currently taking amiodarone.

- a. What disorder is Ms RS likely to be suffering from? (1 mark)
- b. Describe the mechanism(s) of action of amiodarone and explain how it benefits Ms RS. (6 marks)
- c. A loading dose of amiodarone is needed when commencing the treatment. Explain what is meant by “loading dose” and the reason for this requirement. (3 marks)

Question 10

- a. Describe the mechanisms of action of furosemide (frusemide) and spironolactone in diuresis. Which one is more powerful/effective? Explain your answer.

(6 marks)

- b. Therapy with furosemide and spironolactone can change the concentrations of potassium in blood. Explain how these changes affect the activity of digoxin.

(4 marks)

End of Sections B

End of Exam Paper