



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

THIRD BPHARM PART I EXAMINATION – JUNE 2022

PH 3153 PHARMACOLOGY III – SEQ

TIME: THREE HOURS

INSTRUCTIONS

- There are six questions in part A, B, C and D in this SEQ paper.
- Answer all questions.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

PART A

1. Warfarin is one of the main drugs used as an oral anticoagulant.
 - 1.1. Briefly describe the mechanism of action of warfarin. **(20 marks)**
 - 1.2. List three advices a pharmacist should give when dispensing warfarin. **(15 marks)**
 - 1.3. “Unfractionated heparin can inhibit both factor Xa and thrombin while low molecular weight heparin can only inhibit factor Xa”. Briefly explain this statement. **(20 marks)**
 - 1.4. List three examples for fibrinolytics. **(15 marks)**
 - 1.5. Clopidogrel is used as an antiplatelet agent. Briefly explain how clopidogrel produces its antiplatelet effect. **(20 marks)**
 - 1.6. Give two examples for hematinic agents used in the treatment of anemia. **(10 marks)**

2.
 - 2.1. List three clinical uses of Omeprazole. **(15 marks)**
 - 2.2. What are the different groups of Bronchodilators? **(20 marks)**
 - 2.3. Briefly explain the mechanism of action of one of the groups mentioned in above 2.2. **(20 marks)**
 - 2.4. Write short notes on, **(15*3 = 45 marks)**
 - 2.4.1. Antitussives
 - 2.4.2. Expectorants
 - 2.4.3. Nasal decongestants

PART B

- 3.
- 3.1. Write two examples of antimineralocorticoids. (10 marks)
 - 3.2. Briefly explain the mode of action of antimineralocorticoids. (20 marks)
 - 3.3. Write two indications of antimineralocorticoids. (10 marks)
 - 3.4. Write four main types of antiemetic agents. (20 marks)
 - 3.5. State the mode of action of each type and give one example for each type. (40 marks)
- 4.
- 4.1. Briefly explain the mode of action of sulfonylureas. (20 marks)
 - 4.2. Classify sulfonylureas according to the duration of action giving two examples for each type. (20 marks)
 - 4.3. Write three common side effects of sulfonylureas. (10 marks)
 - 4.4. What are the advantages and disadvantages of progestin only contraception? (30 marks)
 - 4.5. Write two absolute and relative contraindications of combined OCP. (10 marks)
 - 4.6. Write four hormones available in combined oral contraceptive pills. (10 marks)

PART C

- 5.
- 5.1. Match each drug used in thyroid diseases with the mode of action given in the box. Each lettered option can be selected only once, more than once, or not at all. (20 marks)

Mode of action

- A. Inhibits the incorporation of iodine molecules into the amino acid tyrosine.
- B. Causes thyroid cell necrosis
- C. Inhibits hormone release from the thyroid gland.

Drugs

- 5.1.1. Methimazole
 - 5.1.2. Potassium iodide
 - 5.1.3. Propylthiouracil
 - 5.1.4. Radioactive iodine
- 5.2. A 27-year-old woman who was having trouble trying to conceive started a cycle of therapy with one of a selective estrogen receptor modulator (SERM). Eight weeks later, she had a positive pregnancy test.
- 5.2.1. Mention the drug which is more likely to treat the infertility of the above patient. **(05 marks)**
 - 5.2.2. Briefly describe the mechanism of action of the drug you mentioned in 5.2.1. **(25 marks)**
 - 5.2.3. Write four adverse effects of this drug. **(10 marks)**
- 5.3. A 64-year-old woman complained to her physician of persistent back pain for the past 3 days. Dual-energy x-ray absorptiometry showed osteoporosis of the spine and hips. The physician prescribed calcium and vitamin D supplementation and alendronate, one tablet daily.
- 5.3.1. Briefly describe the mechanism of action of alendronate. **(20 marks)**
 - 5.3.2. Severe esophageal reactions are one of the side effects associated with alendronate. Briefly explain how you would counsel patients to reduce the risk of developing esophageal reactions. **(20 marks)**

PART D

- 6.
- 6.1. Briefly explain below regarding tetracycline. **(40 marks)**
 - 6.1.1. Mechanism of action
 - 6.1.2. Mechanism of resistance
 - 6.1.3. Adverse effects
 - 6.1.4. Drug Interactions
 - 6.2. Briefly describe the rationale of combined therapy with gentamycin and penicillin for infective endocarditis. **(30 marks)**
 - 6.3. Briefly explain the mechanism of action of β -lactam antibiotics. **(30 marks)**

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