Faculty of Medicine, University of Ruhuna

Third Examination for Medical Degrees (Part II) April 2019

Pharmacology Paper I

Thursday 2nd May 2019

Answer all 05 questions **(9.00 a.m. - 11.30 a.m.) 2 ½ hours**

Answer each question in a separate book

1.

1.1. Adrenaline is the drug of choice for anaphylaxis.

1.1.1. Write the dose, dilution, route and site of administration of adrenaline in anaphylaxis for an adult **(20 marks)**

1.1.2. State the therapeutic actions of adrenaline in anaphylaxis **(30 marks)**

1.1.3. List three (03) other drugs/agents used in anaphylaxis with the dose and route of administration for an adult **(20 marks)**

1.2. Describe the pharmacological basis of using propranolol and isosorbide mononitrate (ISMN) in portal hypertension **(30 marks)**

2. A 42 year-old female with a history of bronchial asthma was admitted to an Emergency Treatment Unit (ETU) with shortness of breath for a day. On examination she was conscious, but couldn't complete a sentence in one breath. Her respiratory and heart rates were 30 breaths/min and 120 bpm respectively. Rhonchi were present in both lung fields.

2.1. List three (03) drugs which should be administered on admission **(15 marks)**

2.2. Briefly describe the mode of action of three drugs mentioned in 2.1 **(45 marks)**

2.3. She failed to respond to the treatment received in ETU and transferred to the Intensive Care Unit (ICU).

Write one other drug which could be given in ICU with close monitoring to control her condition **(10 marks)**

2.4. List three (03) adverse effects of the drugs you mentioned in 2.3 **(15 marks)**

2.5. Write three (03) drugs which you would prescribe for this patient on discharge **(15 marks)**

3.

3.1. Explain the following terms and outline their clinical significance

3.1.1. First pass metabolism **(30 marks)**

3.1.2. Plasma elimination half-life **(30 marks)**

3.2.

3.2.1. List two (02) types of kinetics with regard to drug metabolism giving an example to each **(20 marks)**

3.2.2. Compare the differences between the types of kinetics you mentioned in 3.2.1 **(20 marks)**

4.

4.1. Write five (05) different groups of oral antidiabetic drugs with an example to each group **(20 marks)**

4.2. Write the drug of choice in treating a newly diagnosed patient with type 2 diabetes **(05 marks)**

4.3. Describe the mode of action of the drug you mentioned in 4.2 **(20 marks)**

4.4. Write five (05) clinical indications for insulin **(15 marks)**

4.5. Describe the mode of action of insulin in the treatment of diabetes mellitus **(40 marks)**

5.

5.1. List four (04) different groups of medications used in the treatment of congestive heart failure with an example for each group **(20 marks)**

5.2. Briefly describe the mode of action of the drugs mentioned in 5.1 **(40 marks)**

5.3. List two (02) common adverse effects of each of the drugs mentioned in 5.1 **(20 marks)**

5.4. What precautions would you like to take in order to prevent the adverse effects listed with each drug? **(20 marks)**