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UNIVERSITY OF RUHUNA - FACULTY OF MEDICINE  
THIRD MBBS (PART II EXAMINATION)  
PHARMACOLOGY - PAPER I  
DECEMBER 2014



2 hours and 30 minutes

Answer all questions

9.00am -11.30 am

Date: 11/12/2014

Answer each part in a separate book.

Part A

1.1

- 1.1.1 State the two groups of elimination kinetics. (5 marks)
- 1.1.2 Give an example for each group. (5 marks)
- 1.1.3 Compare the differences between two groups of elimination kinetics you mentioned in 1.1.1. (40 marks)

1.2 Describe the importance of

- 1.2.1 therapeutic index. (25 marks)
- 1.2.2 plasma half-life. (25 marks)

Part B

- 2.1. Name ~~two~~ local and two general anaesthetic agents. (10 marks)
- 2.2. State ~~the~~ mode of action of one of the drugs mentioned in 2.1. (10 marks)
- 2.3. Describe the clinically important drug interactions of carbamazepine therapy. (30 marks)
- 2.4. List two drug groups used in the treatment of acute migraine. (10 marks)
- 2.5. Describe ~~the~~ mode of action of one of the drugs you mentioned above (20 marks)
- 2.6. List ~~the~~ uses of benzodiazepine. (20 marks)

migrain

3.1. Indicate the differences between non-selective COX<sub>2</sub> inhibitors and selective COX<sub>2</sub> inhibitors giving examples for each group. (15 marks)

SBR 3.2. Describe the possible drug interactions between COX<sub>2</sub> inhibitors and frusemide. (25 marks)

3.3. Describe the pharmacological basis of using

3.3.1. bromocriptine in parkinsonism. (30 marks)

3.3.2. morphine in general anaesthesia. (30 marks)

#### Part C

4. Explain the pharmacological basis of the following.

4.1. Use of beclomethasone metered dose inhaler with a spacer device in a 78-year-old male with bronchial asthma. (40 marks)

4.2. Use of glibenclamide in a patient with type 2 diabetes mellitus having BMI of 22 kg/m<sup>2</sup>. (30 marks)

4.3. Use of Lugol's iodine daily for 10 days before thyroidectomy. (30 marks)

#### Part D

5. A previously healthy 15-year-old school boy was admitted with features of diabetes ketoacidosis (DKA). On examination he was drowsy with GCS of 12. His random plasma glucose on admission was 455 mg/dL.

5.1. State three pharmacological agents used in the acute management of DKA. (10 marks)

5.2. Describe the pharmacological actions, therapeutic uses and adverse effects of one of the drugs mentioned in 5.1. (25 marks)

5.3. Describe the steps in the management of DKA during the first 24 hours of the admission. (40 marks)

5.4. Discuss in brief the pharmacological management you would propose for this patient on discharge. (25 marks)