



**Faculty of Medicine, University of Ruhuna**  
**Third Examination for Medical Degrees (Part II) - April 2017**  
**Pharmacology Paper I**

Wednesday 5<sup>th</sup> April 2017

9.00 am to 11.30 am  
2 ½ hours

Answer ALL FIVE questions.

Answer each part in a SEPARATE book.

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1.

1.1. Describe the pharmacological basis of using

1.1.1. bisoprolol in the long term management of cardiac failure. (25 marks)

1.1.2. propranolol in portal hypertension. (25 marks)

1.2. Compare insulin lispro and lente insulin. (20 marks)

1.3. Discuss the therapeutic effects of sitagliptin and exenatide in controlling postprandial hyperglycaemia in type 2 diabetes mellitus. (30 marks)

2.

2.1.

2.1.1. Name a diuretic and its route of administration in following clinical conditions.

2.1.1.1. Acute heart failure (05 marks)

2.1.1.2. Glaucoma (05 marks)

2.1.2. Describe the pharmacological basis of using the diuretic you have mentioned in 2.1.1.1 in acute heart failure. (40 marks)

2.2.

2.2.1. Name three (03) nitrates. (15 marks)

2.2.2. Describe the pharmacological basis of using nitrates in angina pectoris. (35 marks)

3.

3.1.

3.1.1. Define a neurotransmitter. (10 marks)

3.1.2. Describe five (05) mechanisms that a drug can act by changing the action of neurotransmitters giving an example to each. (40 marks)

3.2.

3.2.1. Describe the pharmacological basis of using clozapine in schizophrenia. (40 marks)

3.2.2. State adverse effects and precautions of clozapine. (10 marks)

4.

4.1. A 55 year-old previously healthy male was admitted to Emergency Treatment Unit with sudden onset of severe chest pain for last one hour. His blood pressure was 150/100 mmHg. He was diagnosed to have extensive anterior ST elevated myocardial infarction.

4.1.1. Name a specific drug which should be used in the acute management of this patient. (05 marks)

4.1.2. Describe the pharmacological basis of using the drug mentioned in 4.1.1. (30 marks)

4.1.3. List four (04) drugs which can be prescribed for the long term management of this patient. (20 marks)

4.2. Three days after his admission, an echocardiography was performed and found to have a thrombus in the left ventricle.

4.2.1. Name a drug which should be given for the above condition including the route of administration. (10 marks)

4.2.2. List three (03) drugs which can be used as secondary prophylaxis for the above condition. (15 marks)

4.2.3. Outline the mode of action of a drug stated in 4.2.2. (20 marks)

5. A 43 year-old female with asthma admitted to a medical casualty ward with intermittent cough and shortness of breath for 6 months duration. She is not on regular treatment for these symptoms. Possibility of poorly controlled asthma was considered.

5.1. Mention three (03) classes of drugs that can be used to relieve her symptoms and state their route of administration. (15 marks)

5.2. Mention two (02) classes of drugs that can be used as prophylaxis of bronchial asthma. (10 marks)

5.3. Describe the mechanism of action, mode of administration and possible adverse effects of each of drug class mentioned in 5.2. (30 marks)

5.4. Outline the steps in managing a patient with acute severe asthma. (45 marks)