Faculty of Medicine University of Ruhuna
3rd MBBS (Part II Examination)
Pharmacology –Paper 1
July/August 2013

(9.00 - 11.30 a.m.) 2 ½ hours

Answer all 05 questions.
Use a separate answer book for each section.

Part A

1)

1.1) List the essential features of a randomized controlled clinical trial. ***(20 marks)***

1.2) Briefly describe the necessity of therapeutic trials. ***(40 marks)***

1.3) Explain the following pharmacological terms giving examples where necessary.

1.3.1) Tolerance. ***(25 marks)***

1.3.2) Synergism. ***(15 marks)***

Part B

2)

2.1) Describe the pharmacological mechanism for the

2.1.1) post antibiotic effect of aminoglycoside. ***(20 marks)***

2.1.2) ion trapping of aspirin. ***(15 marks)***

2.1.3) ultra short action of thiopentone. ***(15 marks)***

2.2) Explain the pharmacological basis of using carvedilol in heart failure. ***(25 marks)***

2.3) Compare and contrast the antiepileptic drugs carbamazepine and sodium valprovate. ***(25 marks)***

Part C

3) Describe the pharmacological basis of using

3.1) methotrexate in the management of rheumatoid arthritis. ***(25 marks)***

3.2) levodopa in combination with carbidopa in Parkinson's disease. ***(25 marks)***

3.3) combined drug therapy in tuberculosis. ***(25 marks)***

3.4) fenofibrate in hypertriglyceridaemia. ***(25 marks)***

Part D

4)

4.1) A 53-year-old male presented to the coronary care unit with palpitation of two hours duration. Electrocardiogram (ECG) taken at the time of admission showed atrial fibrillation with heart rate around 180 /minute.

4.1.1) List **three** drugs from different groups which can be used to control atrial fibrillation in this patient. ***(15 marks)***

4.1.2) Discuss the pharmacological basis of using **two** of the above drugs in atrial fibrillation. ***(30 marks)***

4.2)

4.2.1) List the indications for warfarin therapy. ***(15 marks)***

4.2.2) Describe the mode of action of warfarin. ***(20 marks)***

4.2.3) Indicate the precautions you would take when prescribing warfarin. ***(20 marks)***

Part E

5) Name the most appropriate oral hypoglyacemic agent you would prescribe to treat hyperglycaemia in each of the following patients. Explain the reason for your choice in each situation.

5.1) A 40-year-old male with body mass index of 28 who was found to have fasting blood glucose of 256 mg/dl at a routine checkup. ***(25 marks)***

5.2) A 78-year-old male who is bedridden after a stroke and having recurrent balanitis, found to have fasting blood glucose of 189mg/dL. ***(25marks)***

5.3) A 55-year-old obese male with 10 years history of type 2 diabetes mellitus who is taking glibenclamide 10 mg bid and metformin 1 gram tid found to have HbA1c of 12% (good control < 7%) while having very good dietary and drug compliance without any evidence of infection. ***(25 marks)***

5.4) A 57-year-old male with type 2 diabetes mellitus and stage 3 chronic kidney disease, who developed recurrent hypoglycemia while taking glimepiride 4 mg bid and twice daily insulin, found to have HbA1c of 9% (good control < 7%). ***(25 marks)***