



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

THIRD BPHARM PART II EXAMINATION – JUNE 2017

PH 3212 PHARMACOLOGY IV AND TOXICOLOGY (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

- Answer **all** questions.
 - No paper should be removed from the examination hall.
 - Do not use any correction fluid.
 - Use illustrations where necessary.
1. Methotrexate and Tamoxifen are drugs used in treatment of cancers. Methotrexate is a cell cycle phase dependant drug.
 - 1.1. Mention **two** clinical applications of methotrexate in chemotherapy. *(20 marks)*
 - 1.2. Explain the mechanism of action of methotrexate. *(20 marks)*
 - 1.3. Mention **three** side effects of methotrexate. *(20 marks)*
 - 1.4. Explain the mechanism of action of tamoxifen. *(20 marks)*
 - 1.5. Briefly explain the meaning of “**cell cycle phase independent drugs**”. Give **two** examples of such drugs. *(20 marks)*

 2.
 - 2.1.
 - 2.1.1. What is iron overload? *(20 marks)*
 - 2.1.2. What are the clinical features of iron overload? *(10 marks)*
 - 2.1.3. Name **two** drugs used in the treatment of iron overload. *(08 marks)*
 - 2.1.4. Explain the mechanism of action of **one** of the drugs mentioned in 2.1.3. *(12 marks)*
 - 2.2.
 - 2.2.1. Write **two** antidotes for paracetamol poisoning. *(08 marks)*
 - 2.2.2. Write an adverse effect of **toxic dose** of aspirin. *(05 marks)*
 - 2.2.3. Write **four** drugs used in **physical abstinence syndrome** of alcohol. *(12 marks)*
 - 2.3.
 - 2.3.1. Write the CAT 1 regimen for the treatment of tuberculosis. *(15 marks)*
 - 2.3.2. Write the categories of patient that should be given CAT 2 regimen. *(10 marks)*

3. "All substances are poisons; there is none that is not a poison".
- 3.1. List **three** methods that can be used to prevent the absorption of an ingested poison. (09 marks)
- 3.2. Write **one** specific antidote for the overdose of the following drugs. (15 marks)
- 3.2.1. Paracetamol
 - 3.2.2. Benzodiazepines
 - 3.2.3. Opiates
 - 3.2.4. Anticholinergics
 - 3.2.5. Beta blockers
- 3.3. List **three** methods that can be used to increase the elimination of an ingested poison. (09 marks)
- 3.4. Explain the meaning of LD₅₀ of a substance. (15 marks)
- 3.5. Explain the meaning of 'bio-activation' of a poison. (12 marks)
- 3.6. Explain the treatment for paracetamol overdose. (40 marks)
4. Tacrolimus is a fungal macrolide used in immunosuppression.
- 4.1. Briefly explain the mechanism of action of tacrolimus. (30 marks)
- 4.2. Name **three** drugs that may increase the clearance of tacrolimus when co-administered. (12 marks)
- 4.3. List **five** adverse effects of tacrolimus. (10 marks)
- 4.4. Explain why concurrent administration of tacrolimus and spironolactone is not appropriate. (16 marks)
- 4.5. List **three** immunosuppressant antibodies. (12 marks)
- 4.6. Briefly describe the hybridoma technology used in the production of immunosuppressant monoclonal antibodies. (20 marks)

@@@@@@@@@@