

NATIONAL UNIVERSITY OF LESOTHO

**BACHELOR OF PHARMACY (HONOURS) SUPPLEMENTARY
EXAMINATIONS**

PHA515-CLINICAL PHARMACY

JULY 2009

TIME: 3 HOURS

MARKS: 100

INSTRUCTIONS

Section A: Answer all questions.	[30 marks]
Section B: Answer all questions.	[30 marks]
Section C: Answer any 4 questions.	[40 marks]

ANSWER EACH SECTION ON A SEPARATE ANSWER BOOK

SECTION A [30 marks]

INSTRUCTIONS: ANSWER ALL QUESTIONS

QUESTION 1 [10 marks]

A woman in labour (in her 30th week of pregnancy) is diagnosed with eclampsia. This is verified with:

- an elevated BP (160/110) which was unresponsive to bed-rest;
- proteinuria (2+);
- edema of the face and extremities; and
- convulsive seizures.

Since this condition calls for a more vigorous therapy, an IV infusion of MgSO₄ in Ringer's Lactate Solution administered at 4gm over 15 minutes is indicated.

- a. Why is MgSO₄ indicated instead of an antihypertensive drug?
- b. If this patient is continuously administered MgSO₄ with out monitoring serum Mg²⁺ levels what are possible symptomatic risks the patient may be exposed to?
- c. How can those symptomatic risks be reversed? Is the reversal permanent or temporary? Explain.

QUESTION 2 [10 marks]

Five years after your graduation date, a university colleague, well known for their indulgent alcohol consumption behaviour is admitted to your hospital, with the following symptoms:

- Irritability
- Confusion
- Seizures
- Nausea and Vomiting
- Congestive cardiomyopathy
- Respiratory muscle fatigue

It is apparent, this colleague of yours has not given up on his drinking escapades (in fact has graduated to being an alcoholic), is emaciated and has a previous medical history of peptic ulcers, for which an assortment of antacids have been used. As expected, the electrolyte levels are erratic however the phosphorus levels are consistent with normal levels (3.0 – 4.5mg/100ml).

- a. With levels between 3.0 and 4.5, is there cause for concern in this particular patient? If so, why and what's the diagnosis?
- b. What's the cause for the diagnosis?
- c. How is this condition treated?

QUESTION 3 [10 marks]

A known epileptic on Carbamazepine 200mg administered orally three times a day is diagnosed with an upper respiratory tract infection. The patient as a result is prescribed Erythromycin 500mg orally four times daily. Classify the type of drug-drug interaction this patient would expect have and offer explanations to support your answer?

SECTION B [30 marks]
INSTRUCTIONS: ANSWER ALL QUESTIONS

1. What are conditional essential amino acids and why are they said to be conditional?
[6]
2. What are conditions that can increase baseline fluid requirements in a patient on TPN?
[10]
3. What is normally done in trying to eliminate both patient bias and researcher bias in clinical trials?
[4]
4. What are the limitations of pre-clinical testing of drugs?
[8]
5. What do the acronyms IND and NDA stand for?
[2]

SECTION C [40 marks]
INSTRUCTIONS: ANSWER ALL QUESTIONS.

QUESTION 1 [10 marks]

Describe in detail the clinical management of the following conditions:

- A. Penicillin-induced anaphylaxis [5 marks]
- B. Acute paracetamol poisoning [5 marks]

QUESTION 2 [10 marks]

Describe the pharmacological interaction between the following drugs; for each pair of drugs, indicate when/in which patients the interaction is clinically significant and elaborate on the management of the possible interaction.

- A. Nifedipine and digoxin [5 marks]
- B. Furosemide and metformin [5 marks]

QUESTION 3 [10 marks]

Describe the aetiology, symptoms and clinical management of the following opportunistic infections in HIV-infected patients.

- A. Cytomegalovirus [5 marks]
- B. Cryptococcal meningitis [5 marks]

QUESTION 4 [10 marks]

Provide an overview of the mechanisms and patterns of resistance for each of the main classes of anti-retroviral drugs (NRTIs, NNRTIs and PIs); explain how this guides the choice of drugs used in triple combination anti-retroviral therapy [10 marks]