THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
THE ACADEMIC YEAR 2024/2025 – SEMESTER I

BACHELOR OF PHARMACY HONOURS
FMU5400 PHARMACOLOGY II LEVEL 5
FINAL EXAMINATION
DURATION: THREE (03) HOURS

DATE:22ND APRIL 2025 TIME: 01.30 P.M. – 04.30 P.M

Part B – Structured Essay Questions (60 Marks)

1.

1.1. List six (06) antiepileptic medicines which has known to produce teratogenic effects. (03 marks)

1.2 List three (03) medicine interactions of carbamazepine. (03 marks)

1.3 List four (04) side effects of carbamazepine therapy. (04 marks)

1.4 Describe the metabolism of carbamazepine. (05 marks)

2.

2.1 A 13-year-old schoolboy is diagnosed with type I diabetes mellitus (DM).

2.1.1 What is the preferred medicine for treating this patient's type I DM? (01 marks)

2.1.2 List four (04) adverse effects of medicine mentioned in question 2.1.1. (04 marks)

2.2 A 40-year-old obese male patient was recently diagnosed with type II diabetes mellitus.

2.2.1 What is the first line antidiabetic medicine suitable for this patient? (01 mark)

2.2.2 List four (04) adverse effects of medication mentioned in question number 2.2.1 (04 marks)

2.2.3 Briefly describe the mechanism of action of medicine mentioned in question 2.2.1. (05 marks)

3.

3.1 List three (03) types of cytotoxic antibiotics that are used as anticancer agents. (03 marks)

3.2 State four (04) characteristics that differentiate normal cells from cancer cells? (04 marks)

3.3 Briefly explain the reason for concurrent supplementation of folic acid when a patient is on methotrexate. (03 marks)

3.4 Describe the mechanism of action of cyclophosphamide in anticancer therapy. (05 marks)

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4.

A 65-year-old male with diabetes mellitus and chronic kidney disease (CKD) is admitted to the hospital with signs of sepsis. Blood cultures reveal an infection with *Pseudomonas aeruginosa*. He was started on a standard dose of gentamicin in combination with piperacillin-tazobactam.

Five days into the treatment, the patient's urine output was reduced. Laboratory tests reveal elevated serum creatinine levels. The physician suspects medication toxicity.

4.1 Name the medicine that caused the above toxic effects. (02 marks)

4.2 Briefly explain the mechanism of action of the medicine mentioned in question 4.1 (05 marks)

4.3 Describe one (01) other toxic effect produced by the medicine mentioned in question 4.1 (08 marks)