

Index number:

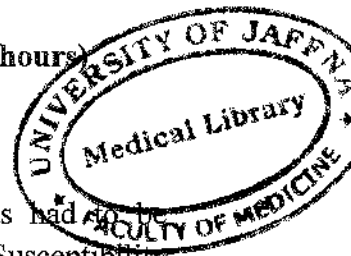


UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions



Write the answers in the given space below each question.

1. A 68-year-old patient with chronic kidney disease and diabetes mellitus had to be prescribed vancomycin for a moderate foot infection, based on Antibacterial Susceptibility Testing (ABST), which showed the causative bacteria is resistant to most other antibacterials available in the hospital. His serum creatinine is 1.9 mg/dL (normal range: 0.7 – 1.3 mg/dL). He was started on the adult vancomycin dosing regimen of 15-20 mg/kg every 12 hours as a slow (over 60 minutes) intravenous infusion.

1.1. Why vancomycin is administered as a slow intravenous infusion? (15 marks)

.....

.....

.....

.....

.....

.....

1.2. What pharmacokinetic factor determines that vancomycin to be administered every 12 hours in this patient? (05 marks)

.....

1.3. List four other clinical relevance of the pharmacokinetic factor that you have mentioned in Q 1.2. (20 marks)

.....

.....

.....

.....

.....

.....

After four doses, the patient reports mild tinnitus and general unsteadiness. A blood test shows an elevated trough level (measured just before the next dose) of vancomycin.

- 1.4. Briefly discuss the likely reason for the elevated vancomycin blood levels in this patient. (25 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

It was also noted that the volume of distribution for vancomycin in this patient was calculated as 0.9 L/Kg.

- 1.5. List five factors which can affect the volume of distribution of medicines. (15 marks)

.....

.....

.....

.....

.....

Index number:

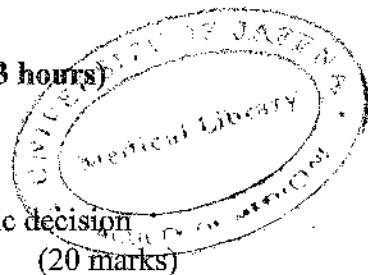


UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions



- 1.6. Briefly discuss four clinical uses of volume of distribution in therapeutic decision making. (20 marks)

.....

.....

.....

.....

.....

.....

.....

.....



UNIVERSITY OF JAFFNA
Medical Library
FACULTY OF MEDICINE

9.00 am to 12.00 pm (03 hours)

2.

- [illegible]

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

[illegible]

Index number:



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

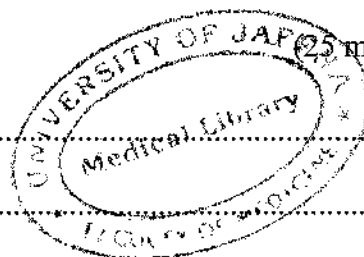
Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions

2.3. Discuss the therapeutic uses of SGLT2 inhibitors.

(25 marks)



2.4. Explain the benefits of low-dose aspirin therapy.

(25 marks)

[illegible]

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions

3. A 22-year-old mother comes to the gynecology clinic, six weeks after delivering her first baby. She wants to postpone her next pregnancy by five years

3.1. List three (03) suitable hormonal contraceptive methods for this mother. (15 marks)



3.2. Explain the mechanism of action of hormonal contraceptives that you have mentioned in 3.1. (15 marks)

3.3. List two hormonal contraceptive methods for short term contraception. (10 marks)

3.4. Discuss the advantages and disadvantages of different contraceptive methods mentioned in 3.1 and 3.3. (30 marks)

Page 10 of 24

Index number:

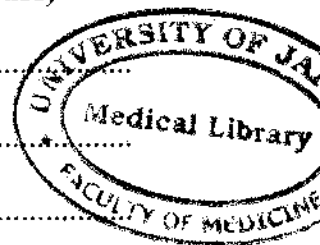


UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions



3.5. Discuss the drug interactions of hormonal contraceptives with examples. (30 marks)

Blank lined paper for writing.

UNIVERSITY OF JAFFNA
Medical Library
FACULTY OF MEDICINE

9.00 am to 12.00 pm (03 hours)

4.

4.1.1. List three (03) different groups of anaesthetic premedication and mention the rationale for using them. (30 marks)

[illegible]

4.1.2. Name one commonly used medication for the following.

4.1.2.1. Inhaled general anaesthesia (05 marks)

.....

4.1.2.2. Intravenous general anaesthesia (05 marks)

.....

4.1.2.3. Spinal anaesthesia (05 marks)

.....

4.1.2.4. Skeletal muscle relaxant for short surgical procedures (05 marks)

.....

4.1.2.5. Skeletal muscle relaxant for long surgical procedures (05 marks)

.....

4.2.

4.2.1. Outline the mechanism of action of opioids. (10 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Index number:



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions

4.2.2. Mention two (02) systemic effects of opioids in the following system;

4.2.2.1. Central nervous system

(05 marks)

.....

.....



4.2.2.2. Cardio vascular system

(05 marks)

.....

.....

4.2.2.3. Gastro intestinal system

(05 marks)

.....

.....

4.2.3. Give five (05) therapeutic uses of opioids with examples.

(20 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Index number:

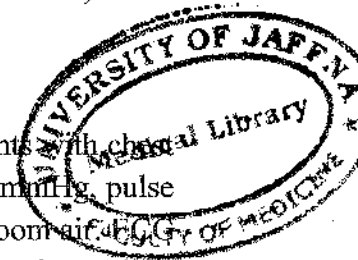


UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions



5. A 64-year-old man with a history of type 2 diabetes and hypertension presents with chest pain for 3 hours. On admission he is pain free. His blood pressure is 140/90 mmHg, pulse rate 98 beats per minutes and regular. Lungs are clear and SpO₂ is 98% on room air. ECG shows ST-segment depression in the lateral leads. High-sensitivity troponin is elevated.

5.1. What is the most likely diagnosis? (05 marks)

.....

5.2. Mention five (05) other investigations would you order in this patient? (25 marks)

.....

.....

.....

.....

.....

5.3. List four (04) medications that should be administered as soon as possible, including their route of administration. (20 marks)

.....

.....

.....

.....

5.4. Briefly describe the rationale for prescribing the **parenterally** administered medication listed above (question 5.3)? (15 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Index number:



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

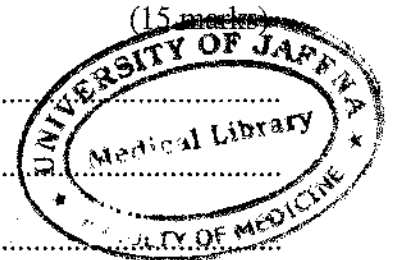
Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions

5.5. Explain the mechanism of action of the medication discussed in 5.4.

(15 marks)



.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

5.6. List two (02) additional groups of medications should be prescribed on discharge?
Mention one (01) example for each group.

(10 marks)

.....

.....

5.7. 2D echocardiogram shows an ejection fraction (EF) of 35%. List two (02) additional medications with proven prognostic benefit in this patient. (10 marks)

.....

.....

UNIVERSITY OF JAPAN
Medical Library
FACULTY OF MEDICINE

Page 21 of 24

6.2.2. After a few months, he has asthma symptoms almost every day. Discuss the management strategies and treatment options at this stage. (30 marks)

Page 22 of 24

.....

.....

.....

.....

.....

.....

6.2.2. After a few months, he has asthma symptoms almost every day. Discuss the management strategies and treatment options at this stage. (30 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Index number:

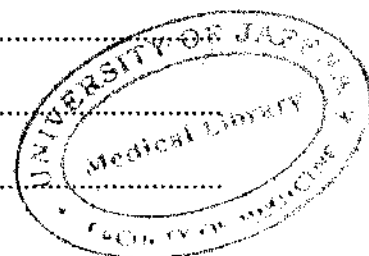


UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART 2- Sept 2025
Academic year 2020/ 2021
Clinical Pharmacology and Therapeutics-Paper II

Date: 17.09.2025

9.00 am to 12.00 pm (03 hours)

Answer all SIX questions



6.3. Describe the treatment of acute exacerbation of asthma in the following circumstances.

6.3.1. Immediate self-management at home. (10 marks)

6.3.2. Immediate treatment in the emergency unit.

(25 marks)

[illegible]