

- 1.2. List four (04) pharmacokinetic changes that could occur when there is a severe hepatic impairment giving examples. (20 marks)

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- 1.3. A 22 year old University student presents with symptoms of urinary tract infection (UTI). The urine culture report and antibacterial susceptibility test indicates that the causative organism is sensitive to antibacterial medicines A and B. Using the information given below, answer the questions 1.3.1 -1.3.4.

Medicine/Parameters	A	B
Bioavailability after oral administration	80%	40%
Desired effective concentration	1 mg/mL	5 mg/mL
Clearance	120 mL/min	90 mL/min
Plasma elimination half-life	7 hours	14 hours
Therapeutic index	5	1

- 1.3.1. Which antibacterial medicine is most suitable to treat the UTI in this patient? (05 marks)

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- 1.3.2. List two (02) reasons for the answer you have given in 1.3.1. (10 marks)

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Part II - January 2024 2018/2019
Clinical Pharmacology and therapeutics -Paper II

Date: 26.01.2024

9.00 am to 12.00 noon. (3 hours)

Answer all SIX questions

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1.3.3. Calculate the volume of distribution of medicines A and B. (15 marks)

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1.3.4. Calculate the desired dose of the antibacterial medicine you have selected
in 1.3.1. when it is given orally. (15 marks)

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1.4. List four (04) factors that affect the “volume of distribution” of medicines. (05 marks)

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This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines, providing a guide for letter height and placement. The lines are evenly spaced across the entire page, leaving ample room for practicing various letters and words. There is no text or other markings on the page.

Answer all SIX questions

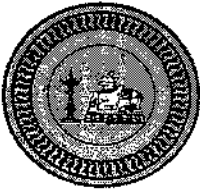
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2.4. Discuss the important problems with antibiotic therapy.

(25 marks)

[illegible]

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Answer all SIX questions

3.

3.1. Name the most appropriate diuretic for the following conditions and explain the pharmacological basis for using them.

3.1.1. Hypertension (10 marks)

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3.1.2. Acute left ventricular failure (10 marks)

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3.1.3. Decompensated chronic liver cell disease with oedema (10 marks)

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3.2. List five (05) adverse effects of each diuretic mentioned in 3.1.

(30 marks).

Diuretic :

- i.
- ii.
- iii.
- iv.
- v.

Diuretic :

- i.
- ii.
- iii.
- iv.
- v.

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Answer all SIX questions

- 3.3. List four (04) indications of Angiotensin converting enzyme inhibitors (ACEI) and discuss the beneficial effects of using ACEI in each of the indications. (40 marks).

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4.

- [illegible]

Handwriting practice lines consisting of 24 horizontal dotted lines.

9.00 am to 12.00 noon. (3 hours)

Answer all SIX questions

4.2. Name four (04) different dosage forms of NSAIDs other than oral preparations. Give one (01) example for each of them. (20 marks)

Dosage forms

Examples

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

4.3. Discuss the role of the following in the treatment of rheumatoid arthritis.

4.3.1. NSAIDs

(10 marks)

[illegible]

4.3.2. Methotrexate

(10 marks)

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4.3.3. Corticosteroids

(10 marks)

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Answer all SIX questions

5. A 55 year old male patient with bronchial asthma and diabetes mellitus has been admitted to the emergency unit with fever, productive cough, severe difficulty in breathing and wheezing for 4 days duration. He was on metformin 500 mg twice daily, atorvastatin 10 mg daily and combined preparation of fluticasone and salmeterol (250/25) metered dose inhaler twice daily. Few weeks back he developed supraventricular tachycardia and metoprolol 50 mg twice daily was added.

On examination, he found to have reduced breath sounds, crepitations and bronchial breathing on the right lower zone and diffuse polyphonic rhonchi in both lung fields. He was unable to complete a sentence in one breath. He was hemodynamically stable and random blood sugar was 170 mg/ dl.

5.1. Mention the most probable complete diagnosis.

(05 marks)

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5.2. List five (05) important investigations that you would order in this patient.(15 marks)

- i).....
ii).....
iii).....
iv).....
v).....

5.3. Give two (02) possible factors that could have precipitated the acute attack in this patient. (10 marks)

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5.4. List four (04) most important medicines that you would give to this patient in the immediate management other than oxygen, Indicating the dose and route of administration. (20 marks)

(20 marks)

Medicines

Dose

Route of administration

i).....

ii).....

iii).....

iv).

5.5. Briefly explain the rationale for giving each of the medicines and route of administration mentioned in 5.4 in this patient. (30 marks)

(30 marks)

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[illegible]

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[illegible]

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[illegible]

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- 5.7. Patient has been transferred to ward on the second day and discharged from the ward on the fourth day. List the medicines that you would prescribe to this patient on discharge.
(10 marks)

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Answer all SIX questions

6.

6.1. A 55-year-old woman is presented with the complain of persistent low mood, reduced sleep, lack of interest in doing household activities, hopeless in life, crying spells and suicidal ideas for the past two months. Her investigations were found to be normal.

6.1.1. Mention the most probable diagnosis in the above patient. (05 marks)

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6.1.2. Name three (03) different classes of medicines that are used to treat the condition mentioned in 6.1.1. Mention one example for each class. (20 marks)

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6.1.3. Briefly describe the mechanism of action of medicines mentioned in 6.1.2.

(20 marks)

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6.1.4. This patient is treated with one of the medicines mentioned in 6.1.2 for six weeks. If there is no improvement in symptoms, mention the next step in the treatment of this patient.

(10 marks)

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6.2. A 60-year-old man underwent a hernia repair under spinal anaesthesia. Soon after giving spinal anaesthesia his blood pressure dropped from 130/80 mmHg to 80/60 mmHg.

6.2.1. Mention the reason for the drop in blood pressure in this patient. (05 marks)

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6.2.2. Mention the medicine that is used to elevate the blood pressure in this patient and describe how it increases the blood pressure. (10 marks)

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6.3.

6.3.1. Describe the mechanism of action of lignocaine. (10 marks)

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6.3.2. List five (05) different preparations of lignocaine and mention the indication for each of them. (20 marks).

Preparation

- Indication

i).....

ii).....

iii)

iv).....

v).....