FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA

FINAL EXAMINATION FOR MEDICAL DEGREES – September 2025

MEDICINE PAPER 1

22nd September 2025 ***(1.00 – 4.00pm) 3 hours***

Index Number: .....

Library copy

Instructions:

1. Write your index number in all pages.
2. Answer all questions.
3. Write your answers in the space given after each part of the question.
4. The space given is adequate for the expected answer.
5. Normal values are given within brackets.
6. Please return the question book at the end of the examination.

Question number	Marks %
1.	
2.	
3.	
4.	
5.	
Total	

1) A 32-old-year married male is referred to the medical clinic for management of hypertension. He has been asymptomatic and was detected to have hypertension at a routine medical examination. There are no significant past illnesses or hospital admissions. There are no significant family illnesses too. His height is 160 cm and he weighs 85 kg. His blood pressure, measured in both arms after a 10 min rest, is 155 / 90 mmHg.

The patient has read on the internet about "white-coat hypertension" and wants to know whether what he has is white-coat hypertension.

A. State what is meant by white-coat hypertension. (5 marks)

B. What procedure would differentiate white-coat hypertension from hypertension requiring treatment. (5 marks)

C. List **four (4)** clinical features you would elicit, stating reasons, to look for an underlying cause for the high blood pressure. (20 marks)

1) ---

2) ---

3)---

4)---

D. List **six (6)** investigations you will arrange, to identify an underlying cause for hypertension giving reasons. (30 marks)

1) ----------

2) ----------

3) ----------

4) ----------

5) ----------

6) ----------

E. State the medication/medications you will prescribe for this patient for hypertension stating mechanisms of action of each. (10 marks)

Patient attends clinic two months later having not taken the anti-hypertensive medications. He has no symptoms other than a mild headache with normal clinical examination except, his blood pressure of 190/110 mmHg.

F. State the name used to define this clinical condition. (5 marks)

G. State how you will treat the clinical condition mentioned in (F). (5 marks)

H. State **two (2)** investigations you will arrange to assess the hypertension related complications in this patient. (10 marks)

1) ----------

2) ----------

I. List **four (4)** measures which you would employ to improve medication adherence in the future. (10 marks)

1) ----------

2) ----------

3) ----------

4) ----------

2) A 32-year-old previously healthy man presents 60 minutes after sudden onset of right facial droop, right arm and leg weakness, and speech difficulty. He smokes 5-6 cigarettes per day. He is alert, afebrile, saturating 98% on room air. Patient was conscious but was unable to answer simple questions, only responding with head and hand movements. Neurological examination reveals dense right-sided hemiparesis. In addition, he has mucosal plethora. His pulse rate is 88 bpm and blood pressure is 168/90 mmHg.

His random blood sugar is 104 mg/dL. A non-contrast CT brain at 90 minutes shows no evidence of hemorrhage or infarct.

A. State the immediate therapeutic intervention you would consider in this patient. (5 marks)

B. List **two (2)** absolute contraindications for the above therapeutic intervention. (10 marks)

1) ---

2) ---

C. What is the most likely vascular territory involved? (5 marks)

D. State **two (2)** other important measures/interventions that you would consider in the management during the first 24 hours. (10 marks)

1) ---

2) ---

E. List **two (2)** supportive management strategies you would consider in this patient after 24 hours. (10 marks)

1)---

2) ---

The results of the full blood count (FBC) on admission are given below.

Hemoglobin	18.5g/dL	(12-14)
Hematocrit	58	(40-50)
RBC	6.5×10^{12}/L	(4.2-5.4)
MCV	90 fL	(80-95)
MCHC	33g/dL	(32-36)
RDW	12.5%	(11-15)
WBC	13×10^{9}/L	(4-11)
Platelet count	550×10^{9}/L	(150-450)

F. State abnormal findings relevant to the clinical presentation in FBC. (5 marks)

G. List **five (5)** other clinical features you would look for in this patient to find out the cause for the above abnormalities in the FBC. (15 marks)

1) ---

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2) ---

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3) ---

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4) ---

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5) ---

H. List **two (2)** other investigations that you would perform to arrive at the hematological diagnosis and give reasons. (10 marks)

1) ----------

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2) ----------

I. What initial therapeutic measure is indicated in order to manage the hematological abnormality in this patient? (5 marks)

J. List **two (2)** lifestyle modification advice that you would give to this patient. (10 marks)

1) ----------

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2) ----------

K. List **five (5)** parameters (clinical and investigations) that you would monitor in the follow-up visit at three months in this patient. (15 marks)

1) ----------

2) ----------

3) ----------

4) ----------

5) ----------

3) A 35-year-old female with type 1 diabetes on insulin admits to the hospital for a routine surgery and referred to the medical team with repeated episodes of palpitations, tremulousness, sweating and shortness of breath for the last three months.

A. State **three (3)** differential diagnoses for the above presentation. (15 marks)

1) ----------

2) ----------

3) ----------

On further inquiry this patient mentions a weight loss and intermittent diarrhea.

B. State the most likely diagnosis? (5 marks)

C. State **three (3)** additional features in history and **three (3)** features in the examination that are supportive for the most likely diagnosis you mentioned in question (B). (20 marks)

History

1) ----------

2) ----------

3) ----------

Examination

1) ----------

2) ----------

3) ----------

D. State **one (1)** investigation that you would perform to confirm the diagnosis mentioned in C.

(5 marks)

E. State **two (2)** investigations to identify the aetiology for the most likely diagnosis mentioned in (B), with the expected findings for each investigation. (5 marks)

1) ---

2) ---

While waiting for the surgery the patient develops agitation, restlessness with profuse sweating. The nurse detected that she has low grade fever. Her pulse rate is 130 bpm and a blood pressure of 150/100 mmHg. Electrocardiogram revealed a sinus tachycardia.

F. State the likely complication she had developed. (5 marks)

G. Mention **three (3)** treatment modalities that are used to treat this complication and the mechanism of action of the respective treatment. (10 marks)

1) ---

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2) ---

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3) ---

H. Mention **two (2)** long-term medications that you would initiate at discharge and important advices that you would give with regard to the adverse reactions of each medication.

(15 marks)

1) ----------

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2) ----------

The patient expects a complete cure from this condition and does not prefer frequent clinic visits and monitoring.

I. State **two (2)** therapeutic options that give a definitive remission to this condition mentioning **one (1)** disadvantage of each modality. (20 marks)

1) ----------

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2) ----------

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4) A 25-year-old female presented to the emergency department with dry cough, wheezing and shortness of breath for three days. She had asthma since childhood and uses salbutamol inhaler as needed for wheezing episodes once or twice a month.

She had fever, runny nose and dry cough for 3 days preceding the wheezing episode. At the emergency department, she was managed as an acute exacerbation of asthma.

A. What is the most likely trigger of the acute asthma episode. (5 marks)

B. Mention **three (3)** clinical features that you would immediately assess to decide on the severity of the asthma episode. (15 marks)

1)---

2)---

3)---

The patient's SpO2 was 88% on room air, respiratory rate was 35 cycles per minute, pulse rate was 120 bpm and blood pressure was 100/60 mmHg.

C. Write **five (5)** important steps in the management of this patient at the emergency unit. (30 marks)

1)---

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4)----------

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5)----------

After initial improvement, the patient deteriorated with worsening breathlessness.

D. State **two (2)** reasons for the deterioration (5 marks)

1)----------

2)----------

Followings are the blood gas analysis on admission and after deterioration.

On admission (table a)	After deterioration (table b)
PH 7.38 (7.35-7.45)	PH 7.2
PO2 65mmHg (80-100)	PO2 55mmHg
PaCO2 30mgHg (35-45)	PaCO2 50mgHg
HCO3 22 mmol/L (22-26)	HCO3 26 mmol/L

E. State the blood gas abnormality detected in table a and b. (10 marks)

a) ----------

b) ----------

F. State the most likely reason for the deterioration from a to b. (5 marks)

G. State the urgent treatment that should be considered after deterioration. (5 marks)

With treatment, the patient improved.

H. State **three (3)** pharmacological treatments that you would consider in the long-term management of this patient. (15 marks)

1)---

2)---

3)---

I. State the advice that you would give her on discharge to self-monitor her illness. (5 marks)

J. Mention **two (2)** main advice you would give her to prevent further episodes of asthma. (5 marks)

1)---

2)---

5) A 54-year-old man presented with diarrhea for two weeks duration. He also noticed stools with blood and mucous at times. There was no history of fever, vomiting or abdominal pain. He was treated for a lower limb cellulitis one month ago with a course of intravenous clindamycin and flucloxacillin. He has type 2 diabetes mellitus and hypertension.

A. List **four (4)** medical problems you identify in this patient. (10 marks)

1) ----------

2) ----------

3) ----------

4) ----------

B. Mention **three (3)** differential diagnoses for diarrhea. (10 marks)

1) ----------

2) ----------

3) ----------

C. Outline **five (5)** investigations you would perform mentioning the expected results.

(20 marks)

1)----------

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2)----------

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3)----------

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4)----------

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5)----------

D. Outline **five (5)** steps in the management of this patient. (20 marks)

1)----------

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2)----------

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3)----------

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4)----------

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5)----------

While in the ward, patient developed worsening of abdominal pain and fever. On examination, he was unwell, pulse- 120 bpm, blood pressure 100/60 mmHg. Abdominal examination revealed diffuse tenderness, guarding and absent bowel sounds.

E. What is the most likely complication he had developed? (5 marks)

F. Outline **four (4)** steps in the management of this complication. (20 marks)

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2)---

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3)---

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4)---

While the patient is being managed for the above complication he becomes anuric for six hours.

G. State **three (3)** likely reasons for the anuria. (15 marks)

1)---

2)---

3)---