



0991-1

FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
FINAL EXAMINATION FOR MEDICAL DEGREE – NOVEMBER 2018
MEDICINE PAPER 1

26th November, 2018

(1.00 – 4.00pm) 3 hours

Index Number:

Instructions:

1. Write your index number in all the 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. Please return the question book at the end of the examination.
6. Required normal values are given within brackets.

1. A 22-year-old girl is admitted to the hospital with a four-day history of fever, myalgia, headache and vomiting. On admission she was febrile, pulse is 100/bpm and blood pressure is 100/75 mmHg. Breath sounds were absent at the mid and lower zones of lung on the right side. The right hypochondrium was tender.

Investigations:

Full blood count: Hb-16.5 g/dL, PCV-52, white blood cells-1400/mm³,

Platelets-17,000/mm³

1.1 What is the most likely diagnosis? (10 marks)

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1.2 Explain the abnormal physical signs recorded on chest and abdomen on admission to the hospital. (20 marks)

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1.3 Briefly outline the management of this patient. (40 marks)

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Three hours after admission, the patient deteriorated. Examination revealed cold peripheries with a blood pressure of 80/60 mmHg.

- 1.4 List **two (02)** possible reasons for his deterioration. (10 marks)

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- 1.5 How would you differentiate between the above two reasons clinically and by investigations? (20 marks)

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2. A 35-year-old female presented with sudden onset shortness of breath and left sided chest pain on breathing for three hours duration. She had no cough, wheezing or fever. On examination, pulse rate 110/bpm regular, blood pressure: 110/70 mmHg, jugular venous pressure: 5cm elevated, cardiac apex was not displaced. The respiratory rate was 25 cycles/minute, pulmonary auscultation revealed normal vesicular breath sound. General examination revealed oedema of right lower limb.

2.1 State the complete clinical diagnosis.

(20 marks)

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2.2 Give **four (04)** additional questions in the history that you would ask, to support the diagnosis.

(20 marks)

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2.3 List five (05) investigations to support the diagnosis and state the expected findings.

(40 marks)

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2.4 List **two (02)** pharmacological therapies that are immediately indicated to treat this patient. (10 marks)

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2.5 List two other therapeutic options available to treat this condition. (10 marks)

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3. A 30-year-old male was admitted to the casualty with an overdose of Paracetamol following an argument with his wife. He was brought to the hospital within one hour of ingestion of the tablets. On admission the GCS was 15/15.

3.1 List **three (03)** important features in the history/examination which determines that the ingestion was life threatening (15 marks)

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3.2 List **three (03)** immediate steps in the management of a life threatening paracetamol overdose. (30 marks)

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3.3 List **three (03)** clinical parameters you would continue to monitor in the next 48 hours. (15 marks)

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3.4 List **three (03)** relevant investigations that you would arrange and indicate the optimal time of sample collection. (15 marks)

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3.4 List **five (05)** clinical parameters that you would assess to decide the fitness for discharge. (15 marks)

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3.5 Briefly state the follow up plan for this patient. (10 marks)

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4. A 60-year-old male presented with loss of appetite, lethargy, nausea and breathlessness for one month duration. He has hypertension for 3 years. On examination mucosal pallor and bilateral pedal oedema was present. The blood pressure and heart rate were

190/100 mmHg, and 80/bpm respectively. The rest of the physical examination is normal.

Investigations:

Hb – 8 g/dL, WBC – 6000/mm³, platelets – 200,000/mm³

FBS – 119 mg/dL

ESR – 50mm 1st hour

ECG – left ventricular hypertrophy

Serum creatinine – 4.5 mg/dL (normal 1.1mg/dL)

- 4.1 List **five (05)** main problems identified in the given scenario. (5 marks)

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- 4.2 What is the most likely diagnosis? (10 marks)

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- 4.3 List **six (06)** questions that you would ask from this patient to find the possible aetiology of this patient's illness. (30 marks)

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4.4 List **five (05)** further investigations that are indicated in management of this patient. Give the expected results of the investigations requested. (25 marks)

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4.5 Briefly discuss how you would treat **three (03)** of the major problems identified in 4.1. (30 marks)

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5. A 30-year-old female presented with acute shortness of breath, cough and wheezing. She had episodic asthma from her childhood. The patient was on inhaled beclomethazone dipropionate 400 micrograms twice a day for the past two years. Her general practitioner diagnosed acute asthma and directed her to the emergency treatment unit.

5.1 List **five (05)** clinical features that would help in determining the severity of her acute episode of asthma. (15 marks)

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5.2 List **three (03)** reasons for the acute exacerbation of asthma. (15 marks)

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5.3 List five (05) different pharmacological agents that can be used to treat her acute illness indicating the mode of delivery and mechanism of action. (40 marks)

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5.4 List three (03) bedside measurements to assess the response to treatment in the emergency treatment unit. (15 marks)

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5.5 Despite receiving optimal therapy the patient's response was poor. List **three (03)** possible causes for the poor response to treatment. (15 marks)

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6. A 35-year-old man presented with left face, arm and leg weakness. He has no history of head injury.

6.1 List **four (04)** cerebral pathologies that can cause this disability. (exclude trauma) (20 marks)

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6.2 Briefly discuss how you differentiate each of the pathologies that you mention in 6.1 based on the clinical history. (40 marks)

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6.3 Give the characteristic findings in the CT scan of the brain in each of the pathologies mentioned in 6.1. (40 marks)

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7. A 43-year-old female was admitted with fatigue, lethargy and feeling unwell for three weeks duration. She denied having fever, cough and significant weight loss. She is a mother of two children and had amenorrhea for last seven years. Physical examination revealed pallor, but no jaundice, lymphadenopathy or hepato-splenomegaly. On admission, her blood pressure was 86/62 mmHg, pulse 104/bpm, temperature 37.4°C and respiratory rate was 14cycles /min. Investigations: FBS 70mg/dL, ESR 30mm 1st hour, Hb10.2 g/dL. Thyroid function tests showed: Serum T₃ of 0.063ng/dL (0.2 – 0.5), serum free T₄ of 0.2 ng/dL (0.8 – 1.8) and TSH of 0.02 mU/L (0.5 – 5.5).

7.1 What is the most likely diagnosis? (20 marks)

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7.2 List **three (03)** features in the history that you would ask to identify the underlying cause for the diagnosis mentioned in 7.1 (30 marks)

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7.3 List **four (04)** investigations that should be carried out in order to support the diagnosis mentioned in 7.1 (20 marks)

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7.4 Describe in brief how you would manage this patient within the first 24 hours of hospital admission. (30 marks)

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8. A 65-year-old previously healthy female presented with exertional dyspnea for 04 weeks duration. The following investigations were available on admission. (Normal values are given with brackets)

Hemoglobin	6.4 g/dL	(normal 14 – 17 g/dL)
MCV	82.4 fL	(normal 76 – 96 fL)
WBC	$1.0 \times 10^9/L$	(normal 4 – $11 \times 10^9/L$)
Platelets	$76 \times 10^9/L$	(normal 150 – $400 \times 10^9/L$)

8.1 What is the hematological diagnosis? (10 marks)

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8.2 List **three** possible causes for the diagnosis mentioned in 8.1. (15 marks)

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8.3 List **two** features either in the history or in the examination that would support each of the conditions mentioned in 8.2. (30 marks)

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8.4 List **five** investigations you would arrange for this patient mentioning the expected findings. (25 marks)

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8.5 List **four** precautions you would take on admission to prevent possible complications. (20 marks)

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