

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY – MAY 2023

PAPER I – ESSAY

Date:- 22nd May 2023

Time:- 1.00 p.m. - 4.00 p.m.

Answer **all four (04)** questions.

Answer each question in a **separate book**.

All questions carry equal marks.

1.

1.1. Discuss the pathogenesis of autoimmune haemolytic anaemia (AIHA) in relation to its clinical features. (60 marks)

1.2. Outline how you would diagnose different types of AIHA using serological investigations. (40 marks)

2. Discuss the pathogenesis, diagnosis and principles of management of haemophagocytic lymphohistiocytosis (HLH) in a 4-year-old girl presenting with prolonged fever and pancytopenia. (100 marks)

3. Write notes on:

3.1. Prognostic indicators in childhood acute lymphoblastic leukaemia (30 marks)

3.2. Measurable (minimal) residual disease (MRD) detection in acute leukaemia. (30 marks)

3.3. Myeloid proliferations associated with Down syndrome. (40 marks)

4.

4.1. Describe the haemostatic abnormalities in liver disease. (50 marks)

4.2. Compare thromboelastometry with conventional haemostatic investigations in liver disease and liver surgery. (50 marks)

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PAPER II
STRUCTURED ESSAY QUESTIONS (SEQ)

Date:- 23rd May 2023

Time:- 9.00 a.m. – 12.00 noon

Answer all **six (06)** questions.

Answer each question in a separate book.

All questions carry equal marks.

1. A 21-year-old woman with a history of homozygous sickle cell disease and recurrent backache is referred to the haematology clinic at 8 weeks of gestation in her first pregnancy.
 - 1.1. State the investigations required to assess her haemoglobinopathy state and expected results. (40 marks)
 - 1.2. Briefly describe the pathophysiology of recurrent backache in sickle cell disease. (30 marks)
 - 1.3. Outline the principles of management during her pregnancy. (30 marks)

2.
 - 2.1. List the myeloproliferative neoplasms associated with thrombocytosis. (10 marks)
 - 2.2. Discuss the use of laboratory investigations to differentiate the myeloproliferative neoplasms listed in 2.1. (50 marks)
 - 2.3. Discuss the management of two (02) of the conditions listed in 2.1. (40 marks)

3. A 65-year-old woman is noted to have persistent lymphocytosis with an enlarged spleen.

Her full blood count shows:

Hb	10 g/dL	(12 - 15)
WBC	$48 \times 10^9/L$	(4 - 11)
Neutrophils	$2.95 \times 10^9/L$	
Lymphocytes	$43 \times 10^9/L$	
Platelet count	$212 \times 10^9/L$	(150 - 450)

- 3.1. State the differential diagnoses. (30 marks)
- 3.2. Briefly describe the investigations required to arrive at a diagnosis. (50 marks)
- 3.3. She later presents with a rapidly enlarging lymph node and pancytopenia. Outline the investigations you would perform at this stage. (20 marks)
4. A 60-year-old woman presents with an unprovoked pulmonary embolism.
- 4.1. Discuss how you would investigate her. (40 marks)
- 4.2. Outline the principles of her treatment. (30 marks)
- 4.3. Briefly describe the pathophysiology of cancer associated venous thrombosis. (30 marks)
5. Assuring quality of a haematology laboratory addresses safety of patients, employees and environment. Ensuring these in a haematology laboratory is the responsibility of a haematologist.
- Outline how you would ensure the following in a haematology laboratory.
- 5.1. Patient safety in relation to test results. (40 marks)
- 5.2. Employee safety. (30 marks)
- 5.3. Sample preparation quality in coagulation testing. (30 marks)

6. A 43-year-old woman with acute myeloid leukaemia is admitted for the second cycle of chemotherapy. Her weight is 58 kg.

Her full blood count shows:

Hb	9.5 g/dL	(12 - 15)
WBC	$4.1 \times 10^9/L$	(4 - 11)
Platelet count	$5 \times 10^9/L$	(150 - 450)

She is transfused 6 packs of random donor platelets. Her post transfusion platelet count is $6 \times 10^9/L$.

- 6.1. List the likely causes for thrombocytopenia despite platelet transfusion. (30 marks)
- 6.2. Outline the investigation (clinical and laboratory) of this patient to determine the cause of thrombocytopenia. (40 marks)
- 6.3. The platelet count did not rise one hour after transfusion of a further 6 packs of random donor platelets. Outline the management of this patient. (30 marks)