POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
EXAMINATION – MAY 2022

Date :- 31st May 2022 **Time:-** 1.00 p.m. – 4.00 p.m.

Answer **four (04)** questions only.
Answer each question **in a separate book.**
All questions carry equal marks.

PAPER I - ESSAY

1. Discuss the causes, their natural history and relevant diagnostic investigations of neutropaenia in infancy and childhood. (100 marks)

2.

2.1. Describe the WHO 2016 Classification of Myelodysplastic Syndromes (MDS). (40 marks)

2.2. Discuss the pitfalls in the diagnosis of MDS and how they can be overcome. (60 marks)

3.

3.1. Discuss the diagnostic approach to a 25-year-old woman with long standing menorrhagia who is suspected to have von Willebrand disease (vWD). (60 marks)

3.2. List, giving reasons the factors which will affect the von Willebrand factor level. (40 marks)

4. Write short notes on the following:

4.1. Factor V Leiden mutation. (30 marks)

4.2. Acquired factor VIII inhibitors. (40 marks)

4.3. Acquired disorders of platelet function. (30 marks)

5.

5.1. Describe the pathogenesis of haemolysis in paroxysmal nocturnal haemoglobinuria (PNH). (30 marks)

5.2. Discuss the diagnostic approach to PNH and outline the management. (70 marks)

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POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
EXAMINATION – MAY 2022

Date :- 1st June 2022 **Time:-** 9.00 a.m. - 12.00 noon

Answer **six (06)** questions only.
Answer each question **in a separate book.**
All questions carry equal marks.

PAPER II
STRUCTURED ESSAY QUESTIONS (SEQ)

1.

1.1. List the inherited and acquired causes of ring sideroblasts in the bone marrow. (30 marks)

1.2. Describe the molecular basis and pathophysiology of one (01) of the inherited causes that you listed in 1.1. (30 marks)

1.3. Outline the clinical and laboratory findings in the condition described in 1.2. (20 marks)

1.4. Briefly outline the management of the condition mentioned in 1.2. (20 marks)

2. A previously healthy 25-year-old woman presented to the emergency unit with fever of two days, a purpuric rash over both lower limbs and confusion.

Investigations revealed:

Haemoglobin	10 g/dL	
Platelet count	2 x 10^9/L	
Serum creatinine	1.0 mg/dL	(0.9-1.2)
Coagulation profile	Normal	
Urine pregnancy test	Negative	

The blood film confirmed thrombocytopaenia and marked red cell fragmentation.

2.1. State the most likely diagnosis. (10 marks)

2.2. Describe the pathophysiology of the condition mentioned in 2.1 (40 marks)

2.3. Outline further investigations on this patient. (30 marks)

2.4. Outline the management of this patient. (20 marks)

Contd..../2-

3. A 35-year-old man presented with tiredness and easy bruising of one month's duration.

   His full blood count revealed:

Haemoglobin	5.6 g/dL
WBC count	16.7 x 10^9/L
Platelet count	23 x 10^9/L
Blood film	Blasts cells were noted

3.1. Briefly outline the investigations to confirm an **acute myeloid leukaemia (AML)** in this patient. (40 marks)

3.2. How would you subclassify AML in this patient according to the 2016 WHO classification of AML. (40 marks)

3.3. Outline the prognostic factors of AML. (20 marks)

4. A 72-year-old woman was found to have a paraproteinaemia of 17g/L.

   The full blood count revealed:

Haemoglobin	9.8 g/dL
MCV	107 fL
WBC total count	21 x 10^9/L
Neutrophils	1.5 x 10^9/L
Lymphocytes	18 x 10^9/L
Platelet count	212 x 10^9/L

The patient was suspected to have Waldenstrom macroglobulinaemia.

4.1. Outline the important further investigations. (45 marks)

4.2. Briefly describe how you would differentiate monoclonal gammopathy of undetermined significance (MGUS) from Waldenstrom macroglobulinaemia. (30 marks)

4.3. Discuss the principles of management of Waldenstrom macroglobulinaemia (25 marks)

Contd...../3-

5. A 3-day-old term neonate was admitted with an episode of convulsions. The baby was afebrile and had bruises over the legs and abdomen.

The full blood count revealed:

Haemoglobin	18 g/dL
WBC count	9 x 10^9/L
Platelet count	12 x 10^9/L

5.1. List the five (05) most likely causes for this clinical presentation. (20 marks)

5.2. Describe the investigations you would do to arrive at a diagnosis. (40 marks)

5.3. Outline the management of this baby. (20 marks)

5.4. The parents wish to know the possibility of thrombocytopaenia in the next baby. What is your answer? (20 marks)

6.

6.1. Describe how **patients' results** are used for quality control of a full blood count analyzer. (30 marks)

6.2. Outline the process of verifying the performance of a newly installed coagulometer in your laboratory for basic coagulation tests (PT,APTT,TT, Fibrinogen). (40 marks)

6.3. List the sources of error in automated coagulation based FVIII assay following sample acceptance in the laboratory. (30 marks)

7.

7.1. What are the definitions of "leucodepletion" and "leucoreduction" of blood components. (10 marks)

7.2. Discuss indications for "leucodepleted and leucoreduced" blood components. (50 marks)

7.3. Briefly discuss the methods available for "leucodepletion and leucoreduction" giving their advantages and disadvantages. (40 marks)