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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
(2013 PROSPECTUS) EXAMINATION – JUNE 2017

Date :- 15th June 2017 **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. A 32-year-old man is referred with persistent eosinophilia.
(eosinophils 5 x 10^9/L - Reference range 0.05 – 0.5 x10^9/L)
Outline the potential causes of the eosinophilia and your approach to diagnosis including clinical features and laboratory investigations.
(100 marks)

2.
   2.1. Discuss the changes that occur in iron regulatory mechanisms in iron deficiency. (60 marks)

   2.2. Briefly discuss the presentation, genetic basis and approach to the management of genetic iron refractory iron deficiency anaemia (IRIDA). (40 marks)

3. A 28-year-old Rh negative woman with a previous miscarriage, presents with a period of amenorrhoea (POA) of 6 weeks to the antenatal clinic. Discuss the immunohaematological assessment during this pregnancy and the management of possible complications to the fetus and newborn.
(100 marks)

4. Discuss causes and the diagnostic approach to a 45-year-old woman with suspected autoimmune haemolytic anaemia. (100 marks)

5. Discuss the current classification, pathogenesis, molecular basis and indicators of prognosis of myelodysplastic syndrome. (100 marks)

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(2013 PROSPECTUS) EXAMINATION – JUNE 2017

Date :- 16th June 2017 **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. A 2-year-old boy was brought to the emergency department with a left sided stroke (hemiplegia).
   His father is a known sickle carrier. Brother has sickle cell disease (HbSS).
   The boy is suspected to have sickle cell disease but has not been investigated.

   1.1. Explain how you would investigate this boy? (30 marks)

   1.2. Describe the pathogenesis of stroke in sickle cell disease. (40 marks)

   1.3. Outline the acute and long term management of this child. (30 marks)

2. A 35-year-old man presents with malaise and ecchymotic patches. His blood picture reveals blast cells and is suspected of having an acute myeloid leukaemia.

   2.1. How would you confirm his diagnosis? (40 marks)

   2.2. What are the prognostic markers of acute myeloid leukaemia? (35 marks)

   2.3. List five (05) emergencies that may occur in a patient undergoing treatment with acute myeloid leukaemia. (25 marks)

Contd...../2-

3.

3.1. Briefly describe the principles of an automated haematology analyser. (30 marks)

3.2. Describe the clinical uses of three (03) novel automated haematological parameters. (30 marks)

3.3. Briefly discuss how the internal quality control is maintained in the laboratory for an automated full blood count. (40 marks)

4. A 45-day-old baby in the neonatal intensive care unit requires weekly blood transfusions.

4.1. List the causes for anaemia in this baby. (30 marks)

4.2. Explain the pathophysiology of anaemia of prematurity (30 marks)

4.3. What factors are taken into consideration when transfusing blood to a neonate. (40 marks)

5. A 67-year-old non smoker was referred to the haematology unit with a Hb of 18 g/dL. He gives a history of headache not responding to analgesics. He complains of pain and red discolouration in his hands and feet.
A non tourniquet full blood count done reveals,

Hb	17.5 g/dL
HCT	51%
WBC	15 x 10^9/L
Neutrophils	10.5 x 10^9/L
Lymphocytes	2.5 x 10^9/L
Monocytes	0.2 x 10^9/L
Eosinophils	1.3 x 10^9/L
Basophils	0.5 x 10^9/L
Platelets	800 x 10^9/L
CRP	<6 mg/L

5.1. What is the most likely diagnosis and how would you confirm it? (35 marks)

5.2. Describe the genetic mutations associated with the condition you mentioned in 5.1. (25 marks)

5.3. Briefly explain three (03) important complications that can arise in this condition. (15 marks)

5.4. Briefly outline the management of this patient. (25 marks)

Contd...../3-

6. A 28-year-old primi gravida was found to have the following full blood count at 20 weeks of gestation.

Hb	12.1 g/dL
WBC	8.1 x 10^9/L
Neutrophil	72 %
Lymphocytes	20%
Monocyte	5%
Eosinophil	3%
Platelets	72 x 10^9/L

6.1. List the possible causes for thrombocytopenia in this patient. (30 marks)

6.2. How would you investigate her? (35 marks)

6.3. She was found to be clinically normal and her investigations revealed an isolated thrombocytopenia. Briefly discuss her management in respect of her pregnancy and delivery. (35 marks)

7. A 50-year-old man presents with a WBC count of 40 x 10^9/L.

7.1. What are the morphological features in the peripheral blood that are used to differentiate chronic myeloid leukaemia (CML) from a leukaemoid response? (40 marks)

7.2. How would you confirm the diagnosis of CML in this patient? (40 marks)

7.3. Briefly outline how you would monitor molecular response to treatment in CML. (20 marks)