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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
EXAMINATION – JULY 2015

Date :- 2nd July 2015 **Time :-** 1.00 p.m. – 4.00 p.m.

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

PAPER I – ESSAY

1. Discuss the pathophysiological basis of disorders of iron metabolism. (100 marks)

2. Describe the mechanisms of drug related quantitative and qualitative changes that occur in red cells. (100 marks)

3. Describe the different bleeding manifestations that you may see in a term neonate and briefly outline how you would investigate to arrive at a diagnosis. (100 marks)

4. Describe the genetic basis of acute lymphoblastic leukaemia (ALL) and its effect on clonal evolution during disease progression, relapse and resistance to therapeutic agents. (100 marks)

5. Write short notes on the following :

   5.1. Triggers for red cell transfusion. (30 marks)

   5.2. Measures to reduce the risk of bacterial transmission by transfusion. (35 marks)

   5.3. Prevention of transfusion complications associated with leukocytes in blood components. (35 marks)

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POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
EXAMINATION – JULY 2015

Date :- 3rd July 2015 **Time :-** 9.00 a.m. – 12.00 noon

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

PAPER II
(STRUCTURED ESSAY QUESTIONS (SEQ)

1.

1.1. Outline five (05) causes with different mechanisms of a positive direct antiglobulin test. (30 marks)

1.2. What further serological investigations would you do in a transfusion laboratory to arrive at a diagnosis, in a 50 year old man who presents with anaemia, and a positive direct antiglobulin test? (30 marks)

1.3. Discuss pre transfusion testing and selection of blood for a patient with longstanding warm auto immune haemolytic anaemia. (40 marks)

2.

2.1. Briefly describe the structure of a platelet indicating its significance in the formation of a thrombus. (40 marks)

2.2. Discuss the diagnostic value of investigations used to evaluate platelet function defects. (40 marks)

2.3. Describe briefly the storage conditions required to maintain the quality of platelet concentrates? Give reasons. (20 marks)

Contd...../2-

3. Your laboratory has purchased a fully automated haematology analyzer. You are responsible to assure the quality of the machine before accepting it and utilizing it for routine testing.

   3.1. Mention three (03) documents that you will request from the manufacturer/local agent at the time of installation to assure quality. (10 marks)

   3.2. How will you ensure the quality of the instrument upon installation? (30 marks)

   3.3. The machine was accepted and routine testing was commenced. How will you ensure the quality of the results generated from the analyzer? (30 marks)

   3.4. The laboratory technologist brings a full blood count report generated from the machine with a platelet count of $30x10^9$/L. What action/s would you take before issuing your results to the ward? (30 marks)

4.

   4.1. Describe the changes in coagulation in normal pregnancy. (40 marks)

   4.2. List three (03) pregnancy related coagulation disorders with different mechanisms. (15 marks)

   4.3. A previously well 28 year old female in her second pregnancy presents with symptoms of anaemia at a gestational period of 32 week. On investigations she is found to have deranged coagulation tests. How would you investigate this patient to arrive at a diagnosis? (45 marks)

5.

   5.1. Discuss the aetiopathogenesis of primary myelofibrosis. (40 marks)

   5.2. List the diagnostic criteria of primary myelofibrosis. (20 marks)

   5.3. What bone marrow features would help to differentiate primary myelofibrosis from other myeloproliferative neoplasms? (40 marks)

Contd..../3-

6. A 35 year old man presents with an acute proximal lower limb deep vein thrombosis.

   6.1. How would you investigate him? (40 marks)

   6.2. Briefly outline his management. (40 marks)

   6.3 A month after appropriate treatment is initiated he refused regular monitoring.
   What other treatment options would you consider? (20 marks)

7.

   7.1. Describe the mechanisms causing anaemia in human immuno deficiency virus (HIV) infection. (40 marks)

   7.2. Compare the morphological changes in the bone marrow between HIV infection and megaloblastic anaemia. (40 marks)

   7.3. List five (05) HIV related neoplasms. (20 marks)