MASTER COPY

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY EXAMINATION – JUNE 2014

Date :- 23rd June 2014 **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 pathogenesis, diagnosis and management of anaemia of chronic disease. (100 marks)

2. Describe the important changes that occur in erythropoiesis from embryo upto 1 year of age; highlighting the changes in morphology, immunophenotype and composition of red cells. (100 marks)

3. Discuss the pathophysiology, diagnosis and different management options available for a young female diagnosed with Idiopathic Thrombocytopaenic Purpura (ITP). (100 marks)

4. Write short notes on –

   4.1. prognostic factors in Acute Myeloid Leukaemia (AML). (35 marks)

   4.2. lymphoma associated with Human Immunodeficiency Virus (HIV) infection. (35 marks)

   4.3. selection of a donor for platelet apheresis. (30 marks)

5. Describe the classification, diagnosis and principles of management of an adult with erythrocytosis. Critically evaluate the investigations required to diagnose Polycythaemia Vera. (100 marks)

MASTER COPY.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY
EXAMINATION – JUNE 2014

Date :- 24th June 2014 **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. Describe the structure of von Willebrand factor. (15 marks)

1.2. Classify von Willebrand disease (vWD). (20 marks)

1.3. How would you diagnose vWD and its subtypes ? (35 marks)

1.4. Briefly outline the principles of management in a patient with vWD awaiting an elective repair of abdominal hernia. (30 marks)

2.

2.1. List five (05) important conditions in which therapeutic plasma exchange (TPE) is considered as a treatment option. (15 marks)

2.2. Briefly discuss the appropriate replacement fluids which can be used for TPE in different conditions. (15 marks)

2.3. Briefly discuss the procedure of TPE in one (01) of the haematological conditions you mentioned in 2.1. (40 marks)

2.4. Outline the complications of TPE. (30 marks)

Contd.../2-

3. Your laboratory performs Prothrombin Time (PT)/Activated Partial Thromboplastin Time (APTT) using the manual tilt tube method. You receive a complaint from a physician that the results of PT/APTT in your laboratory are incorrect.

   3.1. Outline the most important steps in PT/APTT testing which can generate errors. (35 marks)

   3.2. You purchase a semi-automated coagulometer. Describe briefly how you would verify its performance upon installation. (25 marks)

   3.3. Describe how you would implement an internal quality control programme for PT/APTT in your laboratory. (25 marks)

   3.4. Discuss briefly how you would verify whether you have achieved intended quality. (15 marks)

4. A 35 year old woman presents with gum bleeding and menorrhagia. Her full blood count is as follows :

Hb	8.0 g/dL
WBC	12,000/mm^3
Platelets	12,000/mm^3

   Blood picture shows abnormal promyelocytes. She is suspected to have Acute Promyelocytic Leukaemia (APML).

   4.1. How would you diagnose APML? (15 marks)

   4.2. Describe the molecular pathogenesis of APML. (35 marks)

   4.3. What complications may occur in this patient at the time of diagnosis as well as during treatment? Briefly explain how you would manage the conditions that you mentioned. (30 marks)

   4.4. What are the principles of management of APML? (20 marks)

Contd...../3-

3. Your laboratory performs Prothrombin Time (PT)/Activated Partial Thromboplastin Time (APTT) using the manual tilt tube method. You receive a complaint from a physician that the results of PT/APTT in your laboratory are incorrect.

   3.1. Outline the most important steps in PT/APTT testing which can generate errors. (35 marks)

   3.2. You purchase a semi-automated coagulometer. Describe briefly how you would verify its performance upon installation. (25 marks)

   3.3. Describe how you would implement an internal quality control programme for PT/APTT in your laboratory. (25 marks)

   3.4. Discuss briefly how you would verify whether you have achieved intended quality. (15 marks)

4. A 35 year old woman presents with gum bleeding and menorrhagia. Her full blood count is as follows :

Hb	8.0 g/dL
WBC	12,000/mm^3
Platelets	12,000/mm^3

   Blood picture shows abnormal promyelocytes. She is suspected to have Acute Promyelocytic Leukaemia (APML).

   4.1. How would you diagnose APML? (15 marks)

   4.2. Describe the molecular pathogenesis of APML. (35 marks)

   4.3. What complications may occur in this patient at the time of diagnosis as well as during treatment? Briefly explain how you would manage the conditions that you mentioned. (30 marks)

   4.4. What are the principles of management of APML? (20 marks)

Contd...../3-

5. A 30 year old primi with a period of amenorrhoea (POA) of 14 weeks attended the antenatal clinic for the first time. Her blood group is O Rh D negative.

   5.1. As the Haematologist what further relevant clinical details would you ask her? (10 marks)

   5.2. What further tests would you do at this booking visit and in follow up visits? (25 marks)

   5.3. She had a mild vaginal bleed at 27 weeks of pregnancy. What advice would you give the Obstetrician for her immediate management and for the rest of the pregnancy? (20 marks)

   5.4. Pregnancy was uneventful and she had a normal term delivery. Briefly outline the haematological management at delivery. (20 marks)

   5.5. She needed urgent blood transfusion following delivery. A group O Rh positive blood pack was mistakenly started and later stopped. How you would manage this situation? (25 marks)

6.

   6.1. Describe the pathogenesis of haemolysis and thrombosis in Paroxysmal Nocturnal Haemoglobinuria (PNH). (40 marks)

   6.2. What are the principles underlying the diagnosis of PNH by flowcytometry? (35 marks)

   6.3. Briefly outline the management of PNH and its complications. (25 marks)

7.

   7.1. Discuss the principles of five part haematology auto analyzers. (20 marks)

   7.2. Discuss the erroneous results that you would encounter in automated analyzers in estimation of -

      (a) red cells

      (b) white cells

      (c) platelets (40 marks)

   7.3. Discuss how you would verify these errors and the steps you would take to issue a correct report. (40 marks)