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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY EXAMINATION – JULY 2020

Date :- 1st July 2020 **Time:-** 100 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 mechanisms of iron absorption, transport and storage, explaining how these mechanisms are affected in iron deficiency and iron overload. (100 marks)

2. Write short notes on

2.1. mechanisms of red cell destruction in autoimmune haemolytic anaemia. (40 marks)

2.2. laboratory diagnosis of G6PD deficiency. (30 marks)

2.3. pathogenesis of thrombotic thrombocytopenic purpura. (30 marks)

3. Briefly outline the 2016 revised WHO classification of acute myeloid leukaemia (AML) and related precursor neoplasms. Discuss the prognostic factors of AML. (100 marks)

4. Discuss the pathophysiology, clinical features, differential diagnosis, laboratory diagnosis and principles of management of neonatal alloimmune thrombocytopenia (NAIT). (100 marks)

5. Discuss the pathogenesis and diagnosis of antiphospholipid syndrome. (100 marks)

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POSTGRADUATE DIPLOMA IN CLINICAL HAEMATOLOGY EXAMINATION – JULY 2020

Date :- 02nd July 2020 **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 indications for the use of irradiated blood and blood components. (20 marks)

1.2. Briefly explain the scientific basis for the use of irradiated blood and blood components. (30 marks)

1.3. State the disadvantages of irradiation of blood and blood components. (20 marks)

1.4. State the potential hazards of irradiation of blood components. (15 marks)

1.5. State the recommended period a blood or blood component is used for irradiation since collection, and the shelf life of each irradiated product. (15 marks)

2. A 45-year-old man presents to his general practitioner with night sweats, weight loss and a rapidly enlarging lymph node in his neck. A biopsy is taken and on the initial histology an aggressive B cell lymphoma is suspected.

2.1. List the main diagnostic possibilities. (20 marks)

2.2. Explain what additional investigations on the biopsy specimen should be considered and how they would help to determine the lymphoma subtype. (30 marks)

2.3. What staging investigations would you undertake? (20 marks)

2.4. Describe the clinical and laboratory parameters that determine prognosis. (30 marks)

Contd...../2-

3. Assuring quality of laboratory tests is important to generate reliable results. Coagulation tests are different in many aspects compared to the other tests in haematology.

3.1. What do you understand by "the best quality sample for PT/APTT" which should be received at the laboratory? (30 marks)

3.2. Outline the most important aspects of sample preparation for coagulation testing (PT/APTT) in the laboratory. (20 marks)

3.3. Outline the principles of manual and automated coagulation testing (PT/APTT) and their limitations. (30 marks)

3.4. Describe what ISI value is and its implications. (20 marks)

4. A 35-year-old man presents with a white cell count of $35x10^9$/L. He is suspected of having chronic myeloid leukaemia (CML).

4.1. How would you arrive at a diagnosis of CML? (30 marks)

4.2. Outline the molecular pathogenesis of CML? (20 marks)

4.3. Describe the risk stratification of CML. (20 marks)

4.4. How would you follow up this patient and monitor his disease? (30 marks)

5. A 28-year-old woman with a history of sickle cell disease presents with severe shortness of breath.
Her initial full blood count shows Hb 7 g/dL, WBC $18x10^9$/L and platelet count $200x10^9$/L

5.1. List the differential diagnoses for this presentation. (10 marks)

5.2. Outline the pathophysiology of vaso-occlusion in sickle cell disease. (30 marks)

5.3. What are the chronic complications of sickle cell disease and their preventive measures ? (40 marks)

5.4. Outline the principles of treatment in sickle cell disease. (20 marks)

Contd...../3-

6.

6.1. What is myelodysplastic syndrome (MDS)? (20 marks)

6.2. Briefly outline the key molecular pathogenetic mechanisms of MDS. (30 marks)

6.3. Describe the risk stratification for prognosis of MDS. (20 marks)

6.4. How would you differentiate hypoplastic myelodysplastic syndrome from acquired aplastic anaemia? (30 marks)

7.

7.1. Describe the basic principles and recent advances of automated full blood count analyzers. (30 marks)

7.2. Describe the clinical uses of novel automated red cell parameters. (40 marks)

7.3. Outline how you would assure generation of reliable results of a newly installed automated full blood count analyzer. (30 marks)