



FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF RUHUNA
 Department of Medical Laboratory Science
 Year End Examination, Year 2 – 2016/2017 (10th) Batch
 MLS 2103 - Haematology – SEQ

file

Date: 17th November 2020

Time: 10.15 a.m. – 11.15 a.m.

Duration: 1 hour

Answer all questions

Index Number:

1. von Willebrand factor plays a major role in haemostasis.
 - 1.1 Discuss the functions of the von Willebrand factor in relation to haemostasis (40 marks)
 - 1.2 Discuss quantitative deficiencies of the von Willebrand factor (20 marks)
 - 1.3 Discuss qualitative deficiencies of the von Willebrand factor (40 marks)

2. A 3 year-old boy presented with right knee joint swelling and pain of one day duration. There is no history of trauma. He has similar episode of swelling 3 months back. His maternal uncle died recently due to an intracranial bleeding. On admission his basic coagulation tests revealed following results.

Test	Value	Reference
Platelet count	462x10 ⁹ /L	150 – 450 x10 ⁹ /L
P.T.	12 sec	11 – 16 sec
A.P.T.T.	79 sec	30 – 40 sec
B.T.	2 sec	2 – 7 min

- 2.1 Comment on the above investigation findings (20 marks)
 - 2.2 What are the possible diagnoses? (20 marks)
 - 2.3 Discuss the other investigations you would perform to arrive at a definitive diagnosis. (50 marks)
 - 2.4 List sample rejection criteria in coagulation studies. (10 marks)
3. Myeloid disorders are uncommon haematological disorders.
 - 3.1 List cells which are derived from myeloid stem cells (10 marks)
 - 3.2 State the key properties of stem cells (10 marks)
 - 3.3 Outline the changes occur in the above mentioned key properties in different types of myeloid disorders (20 marks)
 - 3.4 Outline molecular basis of leukemogenesis (20 marks)
 - 3.5 Outline the scientific basis for anaemia in leukemia (20 marks)
 - 3.6 Discuss how to confirm the myeloid origin of malignant cells using laboratory testing (20 marks)



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Department of Medical Laboratory Science
Year End Examination, Year 2 – 2016/2017 (10th) Batch
MLS 2103 - Haematology – ESSAY

Date: 17th November 2020

Time: 11.30 a.m. – 12.30 p.m.

Duration: 1 hour

Answer all questions

Index Number:

1. Automated haematology analyzers play a major role in generating Full Blood Count reports over manual methods in Sri Lankan hospital set-up.

1.1 Discuss the principle of automated haematology analyzers. (40 marks)

1.2 Discuss the reasons for discrepancies in counts of RBC, WBC, Platelets, Differential count, Haemoglobin and PCV/MCV between automated haematology analyzers and manual methods. (60 marks)

2. A 60 years old female patient admitted to ICU with a history of severe sepsis following left lower limb cellulitis. While in the ICU she developed haematuria and bleeding from venepuncture sites. Her basic investigations revealed the following results.

FBC		BT	8 sec
Hb	8.5 g/dl	PT	29 sec
WBC	$16 \times 10^9/L$	APTT	76 sec
Neu %	85%	TT	25 sec
Lym	12%		
Mon	1%		
Eos	2%		
Plt	$40 \times 10^9/L$		

2.1 Comment on above investigations. (20 marks)

2.2 What is the most likely diagnosis? (20 marks)

2.3 State further investigations you would perform to confirm the above diagnosis and discuss their expected results. (60 marks)

3.

3.1 Discuss how automated full blood count parameters and blood smear findings are used to classify anaemia. (Consider novel parameters as well in automated FBC) (50 marks)

3.2 Discuss how serum and urine biochemistry would help in the diagnosis of haemolytic anaemias. (50 marks)