



UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
THIRD YEAR FIRST SEMESTER EXAMINATION- JULY 2013

MLSHE 3104 HAEMATOLOGY II

PAPER II

Date: 07.08.2013

Time: 2 Hours

ANSWER ALL EIGHT QUESTIONS.

1. Normal haemostasis mechanism constitutes a delicate balance between anticoagulation, coagulation and fibrynolysis.
 - 1.1. List 5 different components involved in normal haemostatic mechanism. (25 marks)
 - 1.2. Briefly describe the role of platelets in the normal haemostatic process. (50 marks)
 - 1.3. List 5 basic tests (first line investigations) performed to a person with suspected bleeding tendency. (25 marks)

2.
 - 2.1. Describe the principle behind Activated Partial Thromboplastin Time (APTT) (30 marks)
 - 2.2. Mention 4 causes for isolated APTT prolongation. (20 marks)
 - 2.3. Briefly describe the principle of parallel line bioassay of factor VIII based on APTT (50 arks)

3. A diagnosis of Von Willebrand's Disease (VWD) should be considered in a patient with spontaneous mucocutaneous bleeding.
 - 3.1. List the relevant investigations that would confirm the diagnosis and useful in the classification of VWD. (40 marks)
 - 3.2. Describe the principle behind one of the test you mentioned in 3.1. (40 marks)
 - 3.3. Briefly describe the role of Von Willebrand's Factor in normal haemostasis. (20 marks)

4. Write short notes on
 - 4.1. Clot solubility test. (30 marks)
 - 4.2. Dilute Russell's Viper Venom Test (DRVVT) (40 marks)
 - 4.3. Activated Protein C resistance. (30 marks)

5. 1. List 5 investigations that would recognize the existence of increased haemolysis. (20 marks)
- 5.2. Mention 5 causes for hereditary haemolytic anaemia. (20 marks)
- 5.3. List 4 common causes for intravascular haemolysis. (20 marks)
- 5.4. Mention 2 methods available for estimation of plasma haemoglobin in intravascular haemolysis. (20 marks)
- 5.5. Describe the significance of haemosiderinuria in haemolytic anaemia. (20 marks)

- 6.
- 6.1. Discuss the advantages of cryohaemolysis test over osmotic fragility test in the diagnosis of hereditary spherocytosis. (50 marks)
- 6.2. Describe the principle behind Methaemoglobin reduction test in the diagnosis of hereditary red cell enzyme defect. (50 marks)

7. Haemoglobin electrophoresis is useful in the diagnosis of haemoglobinopathies.

- 7.1. Describe the principle behind cellulose acetate electrophoresis at alkaline pH. (40 marks)
- 7.2. Draw a schematic representation of relative mobilities of various haemoglobin variants in cellulose acetate electrophoresis at pH 8.5. (40 marks)
- 7.3. List 4 techniques that are useful in differentiating haemoglobin variants with similar mobilities on cellulose acetate electrophoresis at pH 8.5. (20 marks)

- 8.
- 8.1. Describe the features that could be observed on a blood film of a patient with chronic myeloid leukaemia (CML) in chronic phase. (40 marks)
- 8.2. Mention one investigation that would confirm the diagnosis of CML. (30 marks)
- 8.3. List 3 other entities that are included in chronic myeloproliferative disorder. (30 marks)