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UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
SECOND YEAR SECOND SEMESTER EXAMINATION- JANUARY 2016

MLSHE 2203-HAEMATOLOGY II

PAPER II

Date: 22.01.2016

Time: 02 hours

ANSWER ALL THE EIGHT QUESTIONS

1. Haemoglobinopathy screening encompasses the confirmation or exclusion of the presence of structural variant, thalassaemia trait or both.
 - 1.1 Briefly describe the principle behind the cellulose acetate electrophoresis at alkaline pH. (30 Marks)
 - 1.2 Enumerate the methods available to differentiate the haemoglobin variants that migrate closely together in the above method. (20Marks)
 - 1.3 Briefly describe the principle of High performance Liquid Chromatography (HPLC). (30 Marks)
 - 1.4 List 4 advantages of HPLC in comparison with Haemoglobin electrophoresis. (20 Marks)

2. Normal physiology of Haemostatic mechanism constitutes a delicate balance between the conflicting tendencies.
 - 2.1 List 3 important functions of haemostatic mechanism. (15Marks)
 - 2.2 Briefly describe the role of platelets in the haemostasis. (30Marks)
 - 2.3 Describe the mechanism that exists to ensure that the production of fibrin clot is limited to the site of injury and it is not allowed to propagate indefinitely. (30 Marks)
 - 2.4 Enumerate the components of fibrinolytic system. (25 Marks)

3. Prothrombin time (PT) and Activated Partial Thromboplastin Time (APTT) are 2 of the basic coagulation investigations.
 - 3.1 Briefly describe the principle behind the test APTT. (30 marks)
 - 3.2 List 4 causes of Isolated APTT prolongation. (20 marks)
 - 3.3 Describe the principle of parallel line bioassay of Factor VII. (50 Marks)

4. Write short notes on
 - 4.1 Bleeding time by standardized template method (30 Marks)
 - 4.2 Quantitative measurement of Factor VIII:C inhibitors (40 marks)
 - 4.3 Fibrinogen Assay by Clauss technique (30 marks)

5. Red cell morphological abnormalities have diagnostic importance.
 - 5.1 List 5 causes of red cell macrocytosis. (25 Marks)
 - 5.2 List 3 causes of microcytosis. (15 Marks)
 - 5.3 List 5 causes of basophilic stippling. (25Marks)
 - 5.4 Mention 4 causes for red cells schistocytosis (fragmentation). (20 Marks)
 - 5.5 Mention 3 conditions where Howell-Jolly bodies can be seen in the blood film. (15 Marks)

6. Paroxysmal Nocturnal Haemoglobinuria (PNH) is one of the acquired condition that can predispose venous thrombosis.
 - 6.1 Briefly describe the principle behind Ham test (Acidified serum lysis test). (50 Marks)
 - 6.2 Describe the significance of Haemosiderinuria in PNH. (20 Marks)
 - 6.3 Briefly discuss the role of flowcytometry in the diagnosis of PNH. (30 Marks)

7. Chronic Myelo Proliferative Disorders are a group of conditions arising from bone marrow stem cells
 - 7.1 Describe the abnormalities you can observe in the peripheral blood film of a patient with idiopathic myelofibrosis. (40 marks)

- 7.2 Briefly describe the changes you can observe in the bone marrow biopsy of the same patient with idiopathic myelofibrosis. (30 marks)
- 7.3 List 3 other conditions that are included in Chronic Myelo Proliferative Disorders other than idiopathic myelofibrosis. (30 Marks)
8. Write short notes on
- 8.1 Osmotic fragility test (40 Marks)
- 8.2 Sickling test in whole blood (30 Marks)
- 8.3 Methaemoglobin reduction test (30 Marks)