C.C

UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
THIRD YEAR SECOND SEMESTER EXAMINATION – MARCH 2019
MLSTM 3226 TRANSFUSION MEDICINE

PAPER II

Date: 14.03.2019 **Time: 2 1/2 Hours**

ANSWER ALL EIGHT QUESTIONS

1.

1.1. List the controls you would use for routine ABO grouping and their expected reactions. (20 Marks)

1.2. Give the possible ABO genotypes of the offspring from the following mating. (20Marks)

1.2.1. Group B x Group AB

1.2.2. Group B x Group A_1

1.2.3. Group B x Group A_2

1.2.4. Group AB x Group O

1.3. Define mixed field reaction and give three (3) examples. (20 Marks)

1.4. State the controls required for Rh D grouping. (20 Marks)

1.5. Name the chemical structures which comprise the ABO antigens. (20 Marks)

2.

2.1. Give the main steps in an Indirect (Tube) Antiglobulin Test (IAT). (20 Marks)

2.2. List five (5) reasons for false positive results in an IAT. (20 Marks)

2.3. What are the differences between Indirect Antiglobulin Test (IAT) and Direct Antiglobulin Test (DAT). (20 Marks)

2.4. Give the primary difference in the use of serum or plasma samples for the Anti Human Globulin (AHG) test. (20 Marks)

2.5. List the clinical applications of IAT. (20 Marks)

3.

3.1. Mention the major cause of severe immediate haemolytic transfusion reaction. (20 Marks)

3.2. Explain the mechanism of delayed transfusion reaction. (30 Marks)

3.3. List three (3) main processes to reduce Transfusion Transmitted Infections (TTI). (20 Marks)

3.4. What is TRALI (Transfusion related acute lung Injury) and mention the causes. (30 Marks)

4.

4.1. List the recommended pre transfusion laboratory procedures. (30 Marks)

4.2. Mention how would you ensure the quality of a blood pack by visible inspection (prior to issue). (20 Marks)

4.3. How would you issue blood in emergency blood transfusion? (20 Marks)

4.4. Explain the differences between an '"alloantibody and an autoantibody". (30 Marks)

5.

5.1. List the advantages of producing Saline-Adenine-Glucose-Manitol (SAGM) red cells. (20 Marks)

5.2. Mention the product storage criteria (Temperature and Life time) for the following products.

5.2.1. Red cell concentrate. (06 Marks)

5.2.2. Single donor Platelet. (06 Marks)

5.2.3. Fresh frozen Plasma. (06 Marks)

5.2.4. Cryoprecipitate. (06 Marks)

5.2.5. Frozen red cells. (06 Marks)

5.3. List five (5) special red cell preparations. (20 Marks)

5.4. List the indications for frozen red cells. (10 Marks)

5.5. List the methods in preparation of leukoreduced Red Cell Concentrate (RCC). (20 Marks)

6.

6.1.List five (5) causes of fetomaternal haemorrage. (20 Marks)

6.2.Describe the test used to identify the amount of fetomaternal bleed. (20 Marks)

6.3.List the options available to treat severe haemolytic disease of the newborn (HDN).(30 Marks)

6.4.Explain how Anti K causes HDN. (30 Marks)

7.

7.1. List the infectious agents transmitted through blood and blood products. (20 Marks)

7.2. Mention the tests available for screening of Transfusion Transmitted Infections (TTI) in blood donors. (30 Marks)

7.3. Describe the measures taken to reduce the risk of bacterial contamination in transfusion chain. (50 Marks)

8.

8.1. State which DCcEe antigens are represented by the following haplotypes. (20 Marks)

8.1.1. R1

8.1.2. R2

8.1.3. r

8.1.4. R^{o}

8.1.5. r"

8.2. What is meant by autologous control and give its purpose. (30 Marks)

8.3. Define the term "immediate spin cross match" and what is it primarily designed to detect. (20 Marks)

8.4. Briefly describe electronic issue of red cells. (30 Marks)