UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
FOURTH YEAR SECOND SEMESTER EXAMINATION – APRIL 2020
MLSIH 4225 IMMUNOHAEMATOLOGY
PAPER II

Time: 2 ½ Hours

Date: 20.07.2020

ANSWER ALL EIGHT QUESTIONS

1.

1.1. What are the blood components prepared from whole blood in triple bag system and write their definitions. (30 Marks)

1.2. Explain how the above mentioned components are prepared from whole blood in Triple Bag system. (30 Marks)

1.3. List the quality parameters of Red cell concentrate (RCC) and how do you check the quality of Platelet product as MLT in blood bank. (40 Marks)

2.

2.1. Define Quality Assurance in the Blood banks. (10 Marks)

2.2. What are the important factors in comprehensive Quality Assurance programme in the blood bank settings? (30 Marks)

2.3. List the reagents antisera should be tested for daily quality control and how do you performed daily quality control of Antisera reagents? (40 Marks)

2.4. List the reagent red blood cells use for immunohaematalogical investigations doing in the blood bank. (20 Marks)

3.

3.1. What are the important fields on standardized test requisition form? (20 Marks)

3.2. What are the non-conformities when receiving blood samples at blood bank for immunohaematalogical tests? (20 Marks)

3.3. List out important field (information) in blood component label. (20 Marks)

3.4. What type of blood samples require for the following tests performed in blood banks?

3.4.1 Donor pack grouping (10 Marks)

3.4.2 Microbiological test (TTI) for donor blood (10 Marks)

3.4.3 Pre transfusion compatibility tests (10 Marks)

3.4.4 Direct antiglobulin test (10 Marks)

4. Write short notes on

4.1 Antiglobulin test (40 Marks)

4.2 Errors encountered in ABO grouping (30 Marks)

4.3 Frozen Red cells (30 Marks)

5.

5.1 What are the different categories of blood donors? (30 Marks)

5.2 State the eligibility criteria for selection of donor in Sri Lankan blood service. (30 Marks)

5.3 Discuss the steps that the blood bank has to take when donor unit is tested for TTI. (40 Marks)

6. An 8 year old girl who is on regular transfusion for thalassemia Major developed rigors and fever 10 minutes after starting a blood transfusion. She passed dark colored urine shortly afterwards.

6.1 What is the probable diagnosis? (10 Marks)

6.2 What is the immediate management of this child? (50 Marks)

6.3 State briefly the steps taken in the blood bank to prevent such an event. (40 Marks)

7. Use of anticoagulants and antiplatelet therapy in patient care is supported by laboratory tests for the optimization of patient outcomes.

7.1 State the sample which is collected from the patient for monitoring of anticoagulant therapy. (20 Marks)

7.2 State four rejection criteria for the sample mentioned in 7.1. (12 Marks)

7.3 State the sample used for testing to monitor anticoagulant therapy stating critical aspects of its preparation and how you would assure quality of the sample prepared for testing. (28 Marks)

7.4 Outline principles of platelet function assays. (20 Marks)

7.5 Outline key issues related to "standardization" of platelet function assays. (20 Marks)

8. Immunophenotyping and molecular diagnostics are very important for the diagnosis and management of haematological neoplasia. Immunophenotyping include flowcytometry and it plays a key role in classification of neoplasia. From conventional PCR to sequencing, genetic testing has evolved and required for characterization of heamatological disorders .

8.1 Describe how a single file of cells is achieved in flowcytometry. (15 Marks)

8.2 Outline principles of cell identification in flowcytometry. (20 Marks)

8.3 State briefly how different colour signals are separately captured/identified in flowcytometry. (20 Marks)

8.4 Compare and contrast conventional PCR and sequencing. (25 Marks)

8.5 Outline why flowcytometry and molecular genetics are useful in monitoring treatment response. (20 Marks)