



UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FOURTH YEAR SECOND SEMESTER EXAMINATION IN BScHons(MLS)-2020
MLSIH 4225 IMMUNOHAEMATOLOGY

PAPER II

Date 21.09.2022

Time: 2 ½ Hours

ANSWER ALL EIGHT QUESTIONS

ANSWER EACH PART IN SEPEARTE ANSWER BOOKS

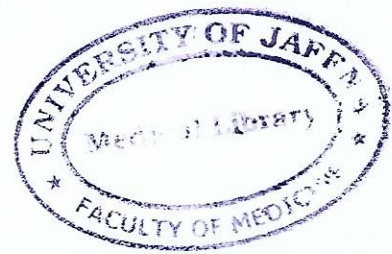
PART A

1. 1.1 Define Haemolytic disease of the new born (HDN) (10 Marks)
- 1.2 Name Three (03) antibodies causing HDN (20 Marks)
- 1.3 What are the preliminary tests to be done in an antenatal mother in order to screen for HDN (20 Marks)
- 1.4 An antenatal mother had positive results for antibody screening (Coomb's test positive) at 28th week of pregnancy. Describe the steps in the order to perform D-titre (40 Marks)
- 1.5 List the causes for obtaining false negative results when performing D-titre (10 Marks)

2. 2.1 State the types of blood components that can be prepared from a unit of whole blood donation (30 Marks)
- 2.2 List the main steps involving in preparation of platelets from a triple bag (30 Marks)
- 2.3 What are the quality parameters that should be considered when preparing platelets (20 Marks)
- 2.4 Briefly explain the importance of quality check in the preparation of platelets (20 Marks)

3. A 45 year old female, presented with severe anaemia with haemoglobin level 3g/dL. Her urine is dark coca cola colour, she also has a distended abdomen. Visible agglutination was observed in her blood sample.
- 3.1 What are the probable differential diagnosis in this patient (15 Marks)
- 3.2 How do you perform blood grouping in this patient (25 Marks)
- 3.3 What are the important laboratory tests needed to confirm the diagnosis in this patient (10 Marks)
- 3.4 Briefly explain the principle and the procedures of the tests mentioned in 3.3 (50 Marks)
4. 4.1 List the mandatory Transfusion Transmitted Infection (TTI) tests carried out on all blood donations in Sri Lanka (20 Marks)
- 4.2 What are the steps to be taken to minimize the risks of TTI in donated blood (20 Marks)
- 4.3 What are the steps to be taken to minimize the possibilities of bacterial contamination of platelets (20 Marks)
- 4.4 Tabulate the screening & confirmatory methods available to identify the TTI mentioned in 4.1 (40 Marks)
5. 5.1 Define the term transfusion reactions (15 Marks)
- 5.2 List the blood samples needed for the investigation of transfusion reactions at blood bank (15 Marks)
- 5.3 Briefly explain the tests done in each blood samples mentioned in 5.2 (50 Marks)
- 5.4 What are the steps you would adhere in transfusion service to prevent transfusion reactions (20 Marks)
6. Write short notes on
- 6.1 Importance of donor deferral criteria based on donor and patient safety in blood donation (30 Marks)
- 6.2 Red cell exchange transfusion in neonates (30 Marks)
- 6.3 ABO blood group antibodies (40 Marks)

PART B



7. Flowcytometry is an important diagnostic tool in haematology
- 7.1 Describe briefly the following principles used in flowcytometry
 - 7.1.1 Hydrodynamic focusing (15 Marks)
 - 7.1.2 Use of chromatic glass (15 Marks)
 - 7.1.3 Light scatter (15 Marks)
 - 7.2 Draw a scatter plot graph of two antigens/antibodies indicating positive negative areas (30 Marks)
 - 7.3 Outline how internal quality control is established without using commercial IQC material. (25 Marks)
8. Platelet function assays are important to diagnose many inherited and acquired defects of platelets.
- 8.1 Outline the principle of platelet aggregometry. (30 Marks)
 - 8.2 Outline major issues related to sample quality in platelet function assays (30 Marks)
 - 8.3 Outline why standardization is difficult for platelet function assays (40 Marks)