



**UNIVERSITY OF JAFFNA, SRI LANKA**  
**FACULTY OF ALLIED HEALTH SCIENCES**  
**FOURTH YEAR SECOND SEMESTER EXAMINATION IN BSc.Hons(MLS)-2021**  
**MLSIH 4225 IMMUNOHAEMATOLOGY**

**PAPER II**

**Date: 26.07.2023**

**Time: 2 ½ Hours**

**ANSWER ALL EIGHT QUESTIONS**

**ANSWER PART A AND B IN SEPARATE ANSWER BOOKS**

**PART A**

1.
  - 1.1 List the main constituents of Fresh Frozen Plasma (FFP). (20 Marks)
  - 1.2 Write the shelf life of FFP and give the method of transfusion of FFP to patients. (20 Marks)
  - 1.3 Mention the quality parameters checked in a unit of FFP. (30 Marks)
  - 1.4 Briefly describe the clinical indications of FFP transfusion. (30 Marks)
  
2.
  - 2.1 Mention two acute haemolytic transfusion reactions. (10 Marks)
  - 2.2 Describe the pathophysiology of one of the above reactions. (40 Marks)
  - 2.3 List the transfusion laboratory tests to investigate the transfusion reaction. (20 Marks)
  - 2.4 Briefly describe the precautions you would carry out to minimize the laboratory errors of ABO incompatible transfusion reactions. (30 Marks)
  
3.
  - 3.1 Name the Transfusion Transmitted Infections (TTI) that are screened in the blood donor units in Sri Lanka. (20 Marks)
  - 3.2 Tabulate the screening tests and confirmatory tests carried out in the blood donor screening of the TTI's mentioned in 3.1. (40 Marks)
  - 3.3 Define the "window period" of a TTI. (15 Marks)
  - 3.4. Briefly explain the significance of the window period in blood donor screening(25 Marks)
  
4.
  - 4.1 Name 5 clinical conditions which will result with a positive **direct anti-globulin test (DAT)**. (25 Marks)
  - 4.2 Write the correct sample required for a DAT test. (10 Marks)
  - 4.3 Write down the steps in performing the DAT. (25 Marks)
  - 4.4 Mention 4 instances where a false positive DAT result could occur. (20 Marks)
  - 4.5 Mention 4 instances where a false negative DAT could occur. (20 Marks)

- 5.
- 5.1 List the methods available to perform the antibody screening test. (30 Marks)
- 5.2 Name 4 pre transfusion tests done in the transfusion Lab excluding the one in 5.1 (20 Marks)
- 5.3 Briefly mention the steps in performing the IAT (Indirect anti globulin test) (30 Marks)
- 5.4 Describe 4 occasions where a false positive IAT could occur. (20 Marks)

6. Write short notes on
- 6.1 Clinically significant alloantibodies (30 Marks)
- 6.2 Quality parameters of platelet concentrates (40 Marks)
- 6.3 Coombs reagent (30 Marks)

### **PART B**

7. Diagnosis of bleeding disorders and treatment with anticoagulants and antiplatelet drugs need laboratory support.

- 7.1 Critically discuss why conventional bleeding time is not a reliable test to predict platelet function (20 Marks)
- 7.2 Critically discuss sample related issues when perform platelet function assays. (20 Marks)
- 7.3 Outline the principle of the light transmission platelet aggregometry (20 Marks)
- 7.4 Outline how to standardize APTT test for the monitoring of heparin therapy. (20 Marks)
- 7.5 Outline how error results are generated in prothrombin time (PT) due to issues in pre analytical phase. (20 Marks)

8. Immunophenotyping is an important tool in diagnostics.

- 8.1. List four different tests which apply immunophenotyping technique (10 Marks)
- 8.2 Outline the principle of immunophenotyping techniques (20 Marks)
- 8.3 List the different properties which can be assessed in flowcytometry technique (15 Marks)
- 8.4 Describe the following in flowcytometry
- 8.4.1 Hydrodynamic focusing (20 Marks)
- 8.4.2 Use of mono chromic prisms (20 Marks)
- 8.4.3 Fluorescent intensity (15 Marks)