

UNIVERSITY OF JAFFNA, SRI LANKA  
 FACULTY OF ALLIED HEALTH SCIENCES  
 THIRD YEAR SECOND SEMESTER EXAMINATION IN BSc. HONS (MLS)-2022  
 MLSTM 3234 TRANSFUSION MEDICINE

PAPER II

Date: 22.07.2024

Time: 2 Hours

ANSWER ALL SIX QUESTIONS

ANSWER EACH QUESTIONS IN SEPARATE ANSWER BOOK

1. You are the newly appointed technologist for the component production laboratory
  - 1.1. Name **three (03)** parameters you can adjust in a refrigerated centrifuge machine to separate whole blood into components. (30 marks)
  - 1.2. Name the equipment required for pooling buffy coats to obtain buffy coat-derived pooled platelets. (10 marks)
  - 1.3. Name **four (04)** quality parameters you check in a pack of leucocyte-reduced red cell concentrates. (20 marks)
  - 1.4. Name **one (01)** situation where washed red cell transfusion will be indicated. (20 marks)
  - 1.5. Name **two (02)** methods used for leucocyte depletion. (20 marks)
  
2. Providing safe and adequate blood should be an integral part of every country's national health care policy and infrastructure.
  - 2.1. What do you understand by "safe blood"? (20 marks)
  - 2.2. Name three strategies used to educate blood donors on "Blood Safety" prior to donating blood? (15 marks)
  - 2.3. List **four (04)** steps taken to screen donors in order to ensure blood safety. (20 marks)
  - 2.4. You are invited to deliver a speech on an international conference on "Overview of Safe Blood Transfusion in Sri Lanka". List the points you are planning to discuss. Your answer should include current situation as well as future scope of transfusion safety. (45 marks)

3. Serological finding of ABO blood group testing of a 27 year old male is given below

Anti A	Anti AB	Anti B	Anti D		A1 cell	B cell	O cell
3+	4+	0	3+		1+	3+	0

- 3.1 Describe the finding and explain how you resolve the ABO blood group discrepancy. (40 marks)
- 3.2 Will you accept this person as a blood donor? Give reasons for your answer. (20 marks)
- 3.3 How will you provide transfusion support if this is a patient with massive bleeding following a road traffic accident? (40 marks)

4. A 45-year-old sickle cell disease patient received a blood transfusion 10 days ago due to severe anaemia. He now presents with pallor, fatigue, dark urine, and jaundice. He has a history of several previous blood transfusions.
- 4.1 Why is this case more likely to be a Delayed Haemolytic Transfusion Reaction (DHTR)? (20 marks)
- 4.2 Describe the pathophysiology of DHTR. (40 marks)
- 4.3 What are the investigations and expected findings to confirm a diagnosis of DHTR? (20 marks)
- 4.4 Discuss the management strategies for DHTR. (20 marks)
5. The Direct Antiglobulin Test (DAT) is used to determine whether red blood cells (RBCs) have been coated in vivo with immunoglobulin, complement, or both
- 5.1 Describe the how you perform Direct Antiglobulin Test. (40 marks)
- 5.2 What is the ideal sample requirement to perform a DAT test? (10 marks)
- 5.3 Give **four (04)** examples for a false positive DAT and how will you overcome this problem? (35 marks)
- 5.4 State **three (03)** clinical conditions that the DAT is very helpful in the diagnosis and the treatment of the disease. (15 marks)
- 6.
- 6.1 What do you understand by the term, Transfusion Transmitted Infections? (10 marks)
- 6.2 List **five (05)** strategies to prevent Transfusion Transmitted infections? (10 marks)
- 6.3 Mention **four (04)** different method of screening tests available to screen infection with examples? (30 Marks)
- 6.4 Discuss on Enzyme linked immunoassay including basic principles, advantages and limitations? (50 Marks)