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**THE OPEN UNIVERSITY OF SRI LANKA**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF MEDICAL LABORATORY SCIENCES**  
**ACADEMIC YEAR 2018/2019 – SEMSETER I**

**BACHELOR OF MEDICAL LABORATORY SCIENCE HONOURS**

**MLU4242 – TRANSFUSION & TRANSPLANTATION SCIENCE**

**FINAL EXAMINATION**

**DURATION: THREE HOURS**

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**DATE: 19<sup>th</sup> MARCH 2019**

**TIME: 09.30 AM – 12.30 PM**

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**Part B: Structured Essay Questions (40 marks)**

**Q 1.** Quality parameters of a Random donor platelet concentrate are given below.

Parameters checked	obtained Values	Recommended values
Volume	110 ml	45- 75 ml
Swirling	Absent	Present
Platelet count	$90 \times 10^9/\text{Unit}$	$> 55 \times 10^9/\text{Unit}$
RBC Count	$0.9 \times 10^9/\text{Unit}$	$<1 \times 10^9/\text{Unit}$
WBC Count	$0.03 \times 10^9/\text{Unit}$	$<0.05 \times 10^9/\text{Unit}$

1.1 Comment on the above results. (3 marks)

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1.2 Mention two (02) possible reasons for above results. (4 marks)

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1.3 How do you avoid this type of errors happening repeatedly at your centre? (3 marks)

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**(Total – 10 marks)**

**Q 2.** Blood grouping results of a patient is given below.

Anti-A	Anti-AB	Anti-B	Anti-D	A cells	B cells	O cells
+1	+1	0	+4	0	+4	0

2.1 Interpret the results.

(3 marks)

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2.2 Give two possible reasons for above results.

(3 marks)

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2.3 How do you resolve the above grouping problem?

(4 marks)

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**(Total – 10 marks)**

**Q 3.**

3.1 What is the shelf life of following blood components? (5 marks)

Irradiated Red Cell unit :.....  
 Irradiated Platelets concentrate :.....  
 Washed Red cell unit :.....  
 Aphaeresis Platelet unit :.....  
 Frozen Red Cell unit :.....

3.2 Name three (03) plasma derivatives. (3 marks)

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3.3 Give two differences between Random donor Platelets and Aphaeresis Platelets. (2 marks)

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**(Total – 10 marks)**

**Q 4.**

4.1 What type of blood sample is needed to carry-out **Direct Antiglobulin Test (DAT)**? (2 marks)

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4.2 What do you understand by the term, “**positive Direct Antiglobulin Test**”. (4 marks)

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4.3 Give two (02) reasons for positive DAT results. (4 marks)

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**(Total – 10 marks)**

**Part C: Short Essay Questions (30 marks)**

**Q 1.** You are asked to produce a standard Operating procedure (SOP) for donor blood grouping to be used at the blood centre. Prepare the SOP for donor blood grouping. (15 marks)

**Q 2.** Give an account on antenatal testing protocol. (15 marks)

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