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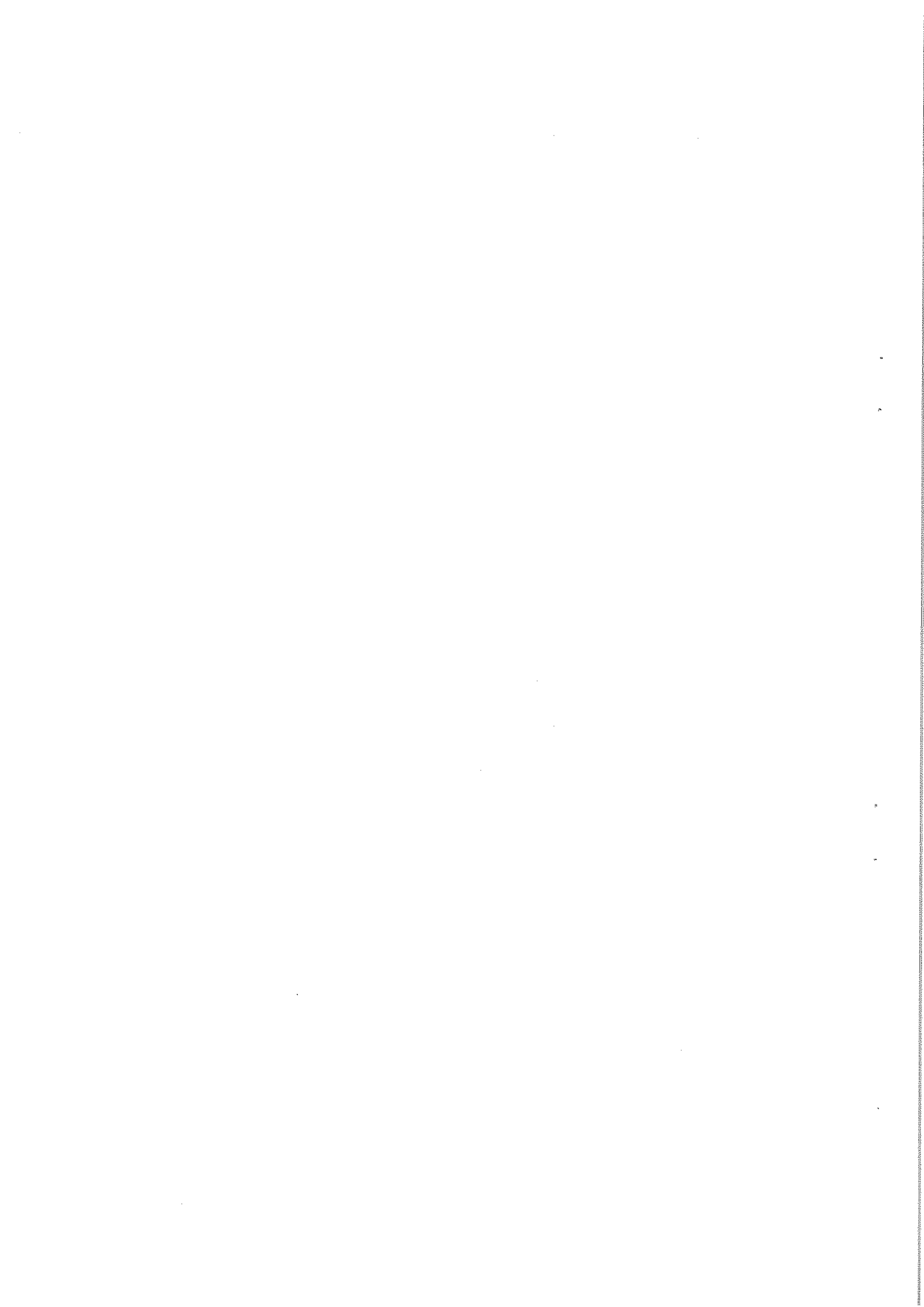
THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2018/2019 – SEMESTER I



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU4501 – HAEMATOLOGY II / MDU3456 – CLINICAL HAEMATOLOGY
FINAL EXAMINATION DURATION: THREE HOURS

DATE: 8th MARCH 2019

TIME: 09.30 AM – 12.30 PM



INDEX NO:

Part B: Structured Essay Questions (40 marks)

1.
 1.1 Write the storage temperature and shelf life of each of the following blood components. (4 marks)

Component	Storage Temperature	Shelf Life
Packed Red Cells		
Leucoreduced Red Cells		
Buffy Coat		
Fresh Frozen Plasma		
Platelets following apheresis		
Cryoprecipitate		
Irradiated Red Cells		
Washed red Cells		

1.2 List three (03) conditions that can give rise to unexpected cell group reaction (forward grouping) (3 marks)

- I.
- II.
- III.

1.3 What are the advantages of component therapy when compared with the use of whole blood? (3 marks)

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(Total 10 marks)

2.

2.1 List three (03) causes for a positive Direct Antiglobulin Test. (3 marks)

I.

II.

III.

2.2 Name three (03) red cell antibodies that can cause Haemolytic Disease of the Fetus and Newborn (HDFN). (3marks)

I.

II.

III.

2.3 Briefly explain the use of red cell antibody screening test. (4 marks)

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(Total 10 marks)

3. Red cell indices of an anemic patient with glossitis are as follows.

RBC	$1.26 \times 10^{12}/L$
HGB	5.7 g/dL
HCT	16.3 %
MCV	130 fL
MCH	45.2 pg
MCHC	34.9 g/dL
RDW	18.1%

A stained blood smear of the same patient shows hypersegmented neutrophils.

3.1 What is the likely diagnosis? (1 mark)

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3.2 Name two (2) causes of the anaemia of the above patient. (2 marks)

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3.3 Briefly explain the laboratory diagnosis of the above condition. (7 marks)

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(Total 10 marks)

4. A husband and wife are both carriers for beta thalassemia (beta thalassemia trait).

4.1 What is the probability of them having a child with beta thalassemia major? (2 marks)

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4.2 What is the predominant type of haemoglobin in beta thalassemia major? (2 marks)

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4.3 Briefly explain the major changes in a blood picture of patient with beta thalassemia major. (6 marks)

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(Total 10 marks)

Part C: Essay Questions (30 marks)

1. Describe the clinical features of iron deficiency anemia. (15 marks)
2. Write short notes on following topics.
 - 2.1 Laboratory diagnosis of glucose-6-phosphate dehydrogenase (G6PD) deficiency (7 marks)
 - 2.2 The pathophysiology of sickle cell anemia. (8 marks)

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