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THE OPEN UNIVERSITY OF SRI LANKA

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF MEDICAL LABORATORY SCIENCES

ACADEMIC YEAR 2023/2024 – SEMESTER II

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

MDU5401- ADVANCED HAEMATOLOGY

FINAL EXAMINATION

Part B: Structured Essay Questions (40 marks)

Q1. Acquired bleeding disorders occur as a result of acquired defects in coagulation cascade.

1.1. State the underlyne reason for the hemorrhagic disease of newborn. (2 marks)

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1.2. State three (03) causes for the hemorrhagic disease of newborn. (3 marks)

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1.3. Write the laboratory findings you would expect for the following investigations of a patient with hemorrhagic disease of newborn. (2 marks)

Investigation	Results
Prothrombin Time (PT)	
Activated Partial Thromboplastin Time (APTT)	
Platelet Count	
Fibrin degradation products	

1.4. Name three (03) causes for Disseminated Intravascular Coagulation (DIC). (3 marks)

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(Total 10 marks)

Q2. Myeloproliferative disorders are a heterogeneous group of disorders characterized by the cellular proliferation of one or more hematologic cell lines (a clone) in the bone marrow.

2.1. What is meant by "Essential Thrombocythaemia"? (1 mark)

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2.2. Mention the underlyne pathophysiology of essential thrombocythaemia. (2 marks)

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2.3. Define the following terms.

a. Relative polycythemia (2 marks)

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b. Secondary polycythemia (2 marks)

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2.4. Write three (03) characteristic features of the blood picture of a patient with idiopathic myelofibrosis. (3 marks)

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(Total 10 marks)

Q3. Flow cytometry is an advanced, high-throughput technique used for rapid analysis of multiple characteristics of single particles.

3.1 Name three (03) systems of the flow cytometer. (3 marks)

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3.2 Mention three (03) types of specimens that can be used for flow cytometry. (3 marks)

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3.3 State two (02) cell components contribute to light scattering in flow cytometry. (2 marks)

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3.4 Briefly explain the role of fluorochromes in flow cytometry. (2 marks)

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(Total 10 marks)

Q4. The antiphospholipid syndrome (APS) is an autoimmune disorder that causes an increased risk of blood clots (thrombosis) in either arteries or veins.

4.1 State two (02) characteristics of lupus anticoagulants that aid in the laboratory identification of them. (2 marks)

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4.2 Mention two (02) screening tests and two (02) confirmatory tests for detecting lupus anticoagulant. (2 marks)

Screening tests	Confirmatory Tests
i.	i.
ii.	ii.

4.3 Briefly explain two (02) limitations of the confirmatory tests mentioned in 4.2. (4 marks)

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4.4 Name two (02) other types of antiphospholipid antibodies. (2 marks)

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(Total 10 marks)

Part C: Essay Questions (30 marks)

Answer the question in the booklet provided.

Q1. Write short notes on, **(Total 15 marks)**

i. Major types of stem cells found in humans. (06 marks)

ii. Basic principles of modern blood cell counting systems. (09 marks)

Q2. Write a brief account on the laboratory diagnosis of multiple myeloma. **(15 marks)**

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