

Candidate Number:.....



“Investing in Africa’s Future”

**COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES
DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES**

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

END OF SEMESTER EXAMINATIONS

NSLS407: HEMATOLOGY II

APRIL, 2026

LECTURER: PROF. EMMANUEL OBEAGU

DURATION: 3 HOURS

INSTRUCTIONS

1. Write your candidate number on the space provided on top of each page
 2. Answer **all** questions in sections A on the question paper.
 3. Answer **all** questions in section B on separate answer sheets provided.
 4. Answer any **3** questions in section C on separate answer sheets provided
 5. Mark allocation for each question is indicated at the end of the question
 6. Credit will be given for logical, systematic and neat presentations in sections B and C
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SECTION A (MULTIPLE CHOICE): 20 MARKS

Instruction: Answer all questions by encircling the correct response T for TRUE or F for FALSE for each statement in all the questions

1. **The most common cause of microcytic anaemia worldwide is:**

A. Vitamin B12 deficiency	T or F
B. Folate deficiency	T or F
C. Iron deficiency	T or F
D. Chronic kidney disease	

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2. **Macrocytic anaemia is commonly due to:**
 - A. Iron deficiency **T or F**
 - B. Vitamin B12 or folate deficiency **T or F**
 - C. Chronic blood loss **T or F**
 - D. Hemolysis **T or F**
3. **Normocytic anaemia with reticulocytosis usually indicates:**
 - A. Iron deficiency **T or F**
 - B. Megaloblastic anaemia **T or F**
 - C. Acute blood loss or hemolysis **T or F**
 - D. Chronic disease **T or F**
4. **Haemolytic anaemias show increased:**
 - A. Ferritin **T or F**
 - B. Reticulocyte count **T or F**
 - C. MCV **T or F**
 - D. Platelet count **T or F**
5. **Which peripheral blood film finding is characteristic of iron deficiency anaemia?**
 - A. Macrocytes **T or F**
 - B. Hypersegmented neutrophils **T or F**
 - C. Microcytic hypochromic cells **T or F**
 - D. Spherocytes **T or F**
6. **Primary polycythaemia is also known as:**
 - A. Secondary polycythaemia **T or F**
 - B. Polycythaemia vera **T or F**
 - C. Relative polycythaemia **T or F**
 - D. Anaemia **T or F**
7. **Polycythaemia vera is commonly associated with mutation in:**
 - A. JAK2 **T or F**
 - B. HFE **T or F**
 - C. JAK2 V617F **T or F**
 - D. BCR-ABL1 **T or F**
8. **Secondary polycythaemia can be caused by:**
 - A. Iron deficiency **T or F**
 - B. Chronic hypoxia **T or F**
 - C. Vitamin B12 deficiency **T or F**
 - D. Leukemia **T or F**
9. **Laboratory feature of polycythaemia vera includes:**
 - A. Low haematocrit **T or F**
 - B. Elevated RBC mass and leukocytosis **T or F**
 - C. Thrombocytopenia **T or F**
 - D. Pancytopenia **T or F**
10. **Relative polycythaemia is due to:**
 - A. True RBC increase **T or F**
 - B. Reduced plasma volume **T or F**
 - C. Bone marrow hyperplasia **T or F**
 - D. Hemolysis **T or F**

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11. **Neutrophilia is typically seen in:**
- A. Viral infections **T or F**
 - B. Bacterial infections **T or F**
 - C. Allergic reactions **T or F**
 - D. Parasite infections **T or F**
12. **Lymphocytosis is commonly caused by:**
- A. Viral infections **T or F**
 - B. Bacterial infections **T or F**
 - C. Iron deficiency **T or F**
 - D. Polycythaemia **T or F**
13. **Leukemia is classified as:**
- A. Acute only **T or F**
 - B. Chronic only **T or F**
 - C. Acute or chronic, myeloid or lymphoid **T or F**
 - D. Lymphoid only **T or F**
14. **The most common cause of immune thrombocytopenic purpura (ITP) is:**
- A. Drug-induced **T or F**
 - B. Autoantibody-mediated platelet destruction **T or F**
 - C. Bone marrow failure **T or F**
 - D. Infection **T or F**
15. **Thrombocytosis may be:**
- A. Only primary **T or F**
 - B. Only secondary **T or F**
 - C. Primary or secondary **T or F**
 - D. Only reactive **T or F**
16. **Laboratory feature of Glanzmann thrombasthenia includes:**
- A. Low platelet count **T or F**
 - B. Normal count with abnormal aggregation **T or F**
 - C. Low hemoglobin **T or F**
 - D. Leukopenia **T or F**
17. **Bernard-Soulier syndrome is characterised by:**
- A. Small platelets **T or F**
 - B. Giant platelets with defective adhesion **T or F**
 - C. Leukocytosis **T or F**
 - D. Hemolysis **T or F**
18. **Haemophilia A is caused by deficiency of:**
- A. Factor IX **T or F**
 - B. Factor VII **T or F**
 - C. Factor VIII **T or F**
 - D. Factor V **T or F**
19. **Haemophilia B is caused by deficiency of:**
- A. Factor VIII **T or F**
 - B. Factor IX **T or F**
 - C. Factor XI **T or F**
 - D. Factor X **T or F**

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20. Prothrombin time (PT) assesses the function of:

- | | |
|------------------------|---------------|
| A. Intrinsic pathway | T or F |
| B. Extrinsic pathway | T or F |
| C. Common pathway only | T or F |
| D. Fibrinolysis | T or F |

SECTION B: 20 MARKS

Instruction: Answer all questions on separate answer sheets provided

- | | |
|--|----------------|
| 1. Name five (5) causes of microcytic anaemia | 5 Marks |
| 2. Mention five (5) causes of macrocytic anemia | 5 Marks |
| 3. State five (5) causes of secondary polycythaemia | 5 Marks |
| 4. Name five (5) causes of immune thrombocytopenic purpura (ITP) | 5 Marks |

SECTION C: 60 MARKS

Instruction: Answer any 3 questions from this section on separate answer sheets provided

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|---|-----------------|
| 1. Critically Compare and contrast megaloblastic anaemia with non-megaloblastic macrocytic anaemia. | 20 Marks |
| 2. Discuss Polycythaemia Vera | 20 Marks |
| 3. Describe neoplastic and non-neoplastic causes of leucocytosis | 20 Marks |
| 4. Give a detailed account of disseminated intravascular coagulation (DIC) | 20 Marks |
| 5. Discuss anaemia of chronic disease (anaemia of inflammation) | 20 Marks |