



(University of Choice)

**MASINDEMULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2019/2020 ACADEMIC YEAR

SECOND YEAR, THIRD TRIMESTER EXAMINATION

FOR THE DEGREE

OF

BACHELOR Of Science In Clinical medicine

COURSE CODE: HCM 465

COURSE TITLE: HEAMATOLOGY

DATE: FRIDAY 29TH JANUARY

TIME: 9.00-12.00 NOON

INSTRUCTIONS TO CANDIDATES

Section A: Multiple choice questions (CHOOSE THE BEST ANSWER IN SECTION A)

Section B: Short Answer Questions

Sections C: Long Answer Questions

Attempt all questions

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

SECTION A-MCO (BEST ANSWER QUESTION).(20MKS).

1. Which hemoglobin does not predispose to sickling?
 - A. Hb-C
 - B. Hb-E
 - C. Hb-F
 - D. Hb-S
2. A patient homozygous for sickle cell anemia would inherit which of the following genetic patterns?
 - A. AS
 - B. AA
 - C. SS
 - D. AF
3. The principal biochemical defect that leads to the development of sickle hemoglobin involves which substitution at the sixth position of the β -polypeptide chain.
 - A. phenylalanine for lysine
 - B. valine for glutamic acid
 - C. proline for cysteine
 - D. glutamic acid for alanine
4. The principal goal of hydroxyurea therapy is to:
 - A. decrease the amount of circulating S hemoglobin
 - B. increase polymerization of S hemoglobin
 - C. decrease the water content of red cells
 - D. decrease the amount of circulating F hemoglobin
5. Which of the following initiates the coagulation cascade IN VIVO?
 - A. Factor XII
 - B. Thrombin
 - C. Tissue factor
 - D. Factor X
6. What does von Willebrand factor do?
 - a. Binds platelets to each other
 - b. Binds platelets to the subendothelium
 - c. Binds platelets to the phospholipid surface
 - d. Carries factor VII
7. Which of the following anti-clotting substances acts on factors V and VIII?
 - a. ATIII
 - b. Protein C
 - c. TFPI
 - d. Plasmin
8. What are the ingredients in a PTT?

- a. Plasma + phospholipid + calcium
 - b. Plasma + thromboplastin + calcium
 - c. Plasma + phospholipid + thromboplastin
 - d. Plasma + thrombin + calcium
9. Which test evaluates the extrinsic pathway?
- a. PT (INR)
 - b. PTT
 - c. TT
 - d. Closure time
10. Which of the following is true regarding the bleeding time?
- a. It is a highly reliable and reproducible test
 - b. The sample is evaluated using an optical densitometer
 - c. It evaluates platelet function in vivo
 - d. It is a commonly ordered test
11. A 24 year-old woman presents with a bleeding history, a normal aPTT and a prolonged PT. The element of interest here is
- A. Her von Willebrand portion of VIII
 - B. Her platelet count
 - C. This is statistically impossible as she has two X chromosomes.
 - D. Her factor VII level
12. The majority of patients complaining of ease of bruising are going to have.
- A. von Willebrand disease
 - B. Factor VIII deficiency
 - C. Aspirin induced platelet dysfunction
 - D. Grackelguber's disease
13. Some patients with Hodgkin lymphoma have B symptoms associated with the disease. These symptoms can include:
- A. Loss of approximately 10% of the patient's body weight over 6 months
 - B. Drenching night sweats
 - C. Fever without an infection
 - D. All of the above
14. For a patient presenting with lymphadenopathy and a suspected diagnosis of lymphoma, the most appropriate diagnostic test would be:
- a. Abdominal x-ray
 - b. Fine-needle aspirate
 - c. Surgical lymph node excision
 - d. Bone scan
15. Standard chemotherapy for front-line treatment for advanced (stage III/IV) diffuse large B-cell lymphoma is:
- a. m-BACOD
 - b. PROMACE-CytaBOM
 - c. CHOP

- d. Rituximab + CHOP
16. What is the most common type of lymphoma?
- Hodgkin lymphoma
 - Follicular lymphoma
 - Diffuse large B-cell lymphoma
 - Mantle-cell lymphoma
17. The defining histopathologic cell for Hodgkin lymphoma is:
- Transformed cytotoxic T cell
 - Malignant NK cell
 - Reed-Sternberg cell
 - CD33 + clonal B cell
18. The shape of a cell is maintained by which of the following?
- Microtubules
 - Spindle Fibers
 - Ribosomes
 - Centrioles
19. Normal Adult Hb A contains the following polypeptide chains
- alpha and beta
 - alpha and epsilon
 - alpha and delta
 - alpha and brotherton
20. What is the most common cause of iron-deficiency anemia in the elderly?
- Malnutrition
 - Chronic kidney disease
 - Medication side effects
 - Gastrointestinal blood loss

SECTION B.SHORT ANSWER QUESTIONS 40 MKS.

- Describe the peri-transfusion management of a patient in need of red cell transfusion (10 marks)
- Outline the Ann Arbor staging of lymphoma (5 marks)
- A 65 year old female patient presents to you with easy fatigability, palpitations and faintness. She has been using indomethacin and prednisolone to manage rheumatoid arthritis. Outline the investigations of this patient (10 marks)
- State five risk factors to leukemia (5marks)
- Describe the pathophysiology of sickle cell disease (6marks)
- State the myeloproliferative disorders (4marks)

SECTION C.LONG ASSAYS QUESTIONS 40 MKS.

1. Describe the various ways of classification of anemia, giving specific examples under each class (20 marks)
2. A 12 year old male patient presents to you with swollen, stiff knee joint. He also reports of recurrent epistaxis. The aspirate from the swollen knee joint is hemorrhagic. Describe the management of this patient (20 marks)

