



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2023 -2024 ACADEMIC YEAR**

**FOURTH YEAR THIRD TRIMESTER MAIN EXAMINATIONS**

**FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN CLINICAL MEDICINE**

**COURSE CODE: HCM 467**

**COURSE TITLE: MEDICINE IV**

**DATE: WEDNESDAY 6<sup>TH</sup> DECEMBER 2023**

**TIME: 2:00PM - 4:00PM**

**INSTRUCTIONS TO CANDIDATES**

SEC A: Multiple Choice Questions (MCQ)	20 MARKS.
SEC B: Short Answer Questions (SAQ)	40 MARKS.
SEC C: Long Answer Question (LAQ)	40 MARKS

Time: 2 HOURS

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

**Section A: Multiple Choice Questions 20 marks****Only One Answer is Correct – select the most correct answer**

1. **The Haemoglobin is 8.5 G/dl and MCV is 65 FL, which statement is most correct**
  - A: The patient is anaemic but cannot tell the type of anaemia
  - B: This is typical of pernicious anaemia
  - C: The patient should be investigated for blood loss
  - D: This is consistent with anaemia of chronic illness
  - E: The patient has sickle cell anaemia
  
2. Sickle cell screening test is positive and the patient is jaundiced
  - A: He has a chronic liver disease
  - B: There is an effect of antimalarial treatment
  - C: The parents of this patient do not have sickle cell genes
  - D: This diagnosis requires confirmatory test
  - E; Homozygous individuals are resistant to malaria
  
3. This patient has platelet count of  $< 50 \times 10^9 /L$ 
  - A: This is a case of thrombocytosis
  - B: It is unlikely that he has malaria
  - C: Case of tumour cells crowding the spleen
  - D: Spontaneous bleeding is likely
  - E: Fresh frozen plasma is indicated
  
4. Reed –Steinberg cell
  - A: Diagnostic of both Hodgkin and Non Hodgkin Lymphoma
  - B: Pathognomonic of Hodgkin Lymphoma
  - C: Can have one or more nuclei in a cell the size of normal lymphocytes
  - D: If it is like the face of an owl then it is non Hodgkin Lymphoma
  - E: It has nothing to do with EBV infection
  
5. The patient has come to the clinic with painless generalized lymphadenopathy and B symptoms. The following are B symptoms except
  - A. Drenching night sweats
  - B. Headaches
  - C. Fever
  - D. Unintended weight loss
  - E. Loss of more than 10% of body weight
  
6. A 76 year old patient has a form of Leukaemia and treatment is not strongly recommended. Which type could this be?
  - A ALL
  - B. AML
  - C. CLL
  - D. CML
  - E. Aleukaemic leukaemia
  
7. Which of the following does not require antigen priming for immune effectiveness?
  - A B cells
  - B. T cells

- C: NK cells
  - D: Lymphoblasts
  - E: Erythroblasts
8. The following may predispose to leukaemia except
- A: Previous radiation therapy
  - B: Turners Syndrome
  - C: Smoking
  - D: Industrial chemicals
  - E: Down's syndrome
9. The following are helpful for diagnosis if a patient has Multiple Myeloma, except
- A: Bence Jones test is positive
  - B: Bone pains are main presenting symptoms
  - C: Pathological fractures are rare though
  - D: Clotting tendency is high
  - E: Cryoglobulinaemia may occur
10. The following may be consequent to bone marrow crowding by plasma cells, except
- A. Patient reports fatigue and weakness
  - B: Pneumonia may occur
  - C: Easy bruising and bleeding
  - D: Thrombocythaemia is always present
  - E; G –CSF use may be indicated
11. Whole blood transfusion is indicated in the following conditions except
- A: Acute Haemorrhage
  - B, Exchange transfusion
  - C. Anaemia complicated with heart failure
  - D. If plasma is needed
  - E: To replace ongoing losses in a bleeding disorder
12. This patient can be having a transfusion reaction, if she presents with the following except
- A. Dropping blood pressure
  - B. Fever
  - C. Severe back pain
  - D. Polyuria
  - E. Jaundice
13. The following diseases can be transmitted through blood transfusion except
- A. HIV
  - B. Hep C
  - C. Hep B
  - D. Hep A
  - E. Malaria
14. What must be done if a patient has transfusion reaction except
- A. Continue the transfusion but very slowly

- B. Stop the transfusion
  - C. Hydration
  - D. Run Urinalysis
  - E. Re-check paperwork
15. This is true about Bone Marrow failure except
- A. Can affect production of RBCs
  - B. Can affect production of Neutrophils
  - C. Can affect production of platelets
  - D. Can affect production of Neurons
  - E. Can affect production of lymphocytes
16. About Idiopathic Bone Marrow Failure Syndrome, except
- A. Incidence higher in thrombocytopaenia with absent radii
  - B. Incidence higher in Bantus of Central Africa
  - C. Incidence higher in Ashkenazi Jews
  - D. Incidence higher in Boers of South Africa
  - E. Incidence higher in Romani people of Spain
17. In Paroxysmal Nocturnal Haemoglobinuria the following is true except-
- A: Haemolysis occur any time of day
  - B: Haemolysis occur only at night
  - C: Intravascular haemolysis occurs
  - D: Thrombotic tendency common
  - E: Associated with Inherited Bone Marrow Failure
18. The following are common anticoagulant, antiplatelet and thrombolytic agents
- A: Warfarin
  - B: Aspirin
  - C: Acetaminophen
  - D: Streptokinase
  - E: Alteplase
- 19: The following is true about polycythaemia vera except
- A: Affects production of RBCs only
  - B: Often associated with bleeding and clotting tendency
  - C: Pruritus is common after warm bath
  - D: Acute Leukaemia is a possible sequele
  - E: Rheumatoid arthritis is more frequent event than Gout
- 20: Transfusion of packed red blood cells indicated in the following except:
- A: Sickle Cell Anaemia
  - B: Anaemia with heart failure
  - C: Chronic haemolytic anaemias
  - D: Severe menorrhagia episode
  - E: Anaemia due to hook worm infection

**Section B: Short Answer Questions (SAQ's)****40 Marks.**

Answer all Questions in this section

- |   |          |
|---|----------|
| 1. Briefly describe polycythaemia vera and its diagnosis                    | 5 marks  |
| 2. Describe briefly at least 5 major types of anaemia                       | 5 marks  |
| 3. Classify leukemia by speed of progression and cell type                  | 5 marks  |
| 4. List at least five infections possible with blood transfusion            | 5 marks  |
| 5. Describe Reed Sternberg cell and diagnosis of Lymphoma                   | 5 marks  |
| 6. Describe briefly principles of management of Bone Marrow failure         | 5 marks  |
| 7. Briefly describe steps to take in the case of blood transfusion reaction | 5 marks  |
| 8. Describe how to carry out Bence Jones test in Multiple Myeloma           | 5 marks. |

**SECTION C: LONG ANSWER QUESTIONS****(40 MARKS)**

- Describe the possible causes, diagnosis, and management of a 15 year old school girl with Hb of 5.2G/dl (20 marks)
- A 30 year old university student has painless generalized lymphadenopathy, unintended weight loss, drenching night sweats, describe diagnosis steps to take, and management and prevention for at least one of the possible diagnosis (20 marks)

