KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN NURSING
SECOND SEMESTER 2022/2023
[JANUARY-APRIL, 2023]

NUR 223: HAEMATOLOGY

STREAM: Y2S2 **TIME: 3 HOURS**

DAY: WEDNESDAY, 2:00 – 5:00 PM **DATE: 05/04/2023**

INSTRUCTIONS

1. **Do not write anything on this question paper.**
2. ***Answer ALL questions in section A and B***
3. ***In section C, answer Question ONE (Compulsory) and any other question***

SECTION A Answer ALL questions in section (20marks)

1. The most common form of childhood leukemia is:
   a) Acute lymphocytic
   b) Acute monocytic
   c) Acute Myeolocytic
   d) Acute granulocytic
2. All the following conditions are associate with Myeloproliferative disorders of blood EXCEPT:
   a) Myeolocytic leukaemia
   b) Lymphocytic leukaemia
   c) Idiopathic thrombocythemia
   d) Polycythemia Vera
3. What immunodominant sugar confers B blood group specificity?
   a) D-galactose
   b) L-Fucose
   c) N –acetylgalactosamine
   d) L-glucose
4. Which of the following cells are responsible for the production of antibodies and lymph-kinase?
   a) Lymphocytic cells
   b) Macrophages

c) Monocytic cells
d) Neutrophilic cells

5. A Leukemoid reaction describes a blood disorder to demonstrate the following;
    a) Responses to infections
    b) Chronic myeloid leukemia
    c) Acute lymphocytic leukemia
    d) Chronic lymphocytic leukemia
6. What ABO and Rh type of blood is selected for Red blood cells unit issued to a patient in emergency release?
    a) Group O Rh negative
    b) Group O Rh positive
    c) Group A Rh negative
    d) Group AB Rh negative
7. Which of the following is a cause of permanent deferral of a donor?
    a) Diabetes
    b) Jaundice of unknown cause
    c) History of therapeutic rabbis
    d) Resident of malaria endemic areas
8. Granulocyte colony-stimulating factor (G-CSF) causes an increase in the production of which of the following in the bone marrow?
    a) Neutrophils
    b) Mast cells
    c) Eosinophils
    d) Monocytes/Macrophages
9. Which of the following is not a requirement for erythropoiesis?
    a) Erythropoietin
    b) Amino acids
    c) Magnesium
    d) Iron
10. Which of the following is true about haemoglobin F?
    a) It is unable to give oxygen readily
    b) Contains alpha and beta globin chains
    c) Contains alpha and gamma globin chains
    d) Contains alpha and delta globin chains
11. There are ……. ABO group phenotypes that arise from 6 possible genotypes (AA, AO, BO, BB, AB and AO?
    a) 1
    b) 2
    c) 3
    d) 4

12. Which of the following is the leading cause of anaemia in pregnant women?
    a) Low erythropoietin in circulation
    b) Nutritional deficiency
    c) Low immunity
    d) Bone marrow stress
13. The following are the classes of immunoglobulin used in transfusion science except?
    a) Ig A
    b) Ig F
    c) Ig G
    d) Ig M
14. Which of the following best shows the correct composition of the H-active substance?
    a) The precursor substance and L-Fucose
    b) The precursor substance and N-Acetylgalactosamine
    c) The precursor substance and D-Fucose
    d) The precursor substance and L-Galactose
15. Which of the following is the possible genotypes is for the phenotype A?
    a) AA and OO.
    b) AA and AO.
    c) BB and BO.
    d) AB.
16. Which of the following blood products is recommended for hemophilia patients by hospital transfusion committee?
    a) Radiated RBCs
    b) Cryoprecipitate
    c) FFP
    d) Washed RBCs
17. The term used for decreased number of platelets is?
    a) Thrombocytopenia
    b) Lymphocytosis
    c) Thrombombocythaemia
    d) Megakaryocytosis
18. Which of the following leucocyte cell is an agranulocytes?
    a) Neutrophil
    b) Lymphocyte
    c) Eosinophil
    d) Thrombocyte

19. Which of the following is true about Aplastic anaemia?
    a) The Haemopoietic tissue is completely obliterated and sometimes infiltrated
    b) It due to deficiency of iron
    c) It is due to deficiency of vitamin B12
    d) It is due to underproduction of Erythropoietin
20. A person with eosinophilia, greater than normal counts both total and absolute, is most likely suffering from _____.
    a) allergies or internal parasites
    b) anemia
    c) an autoimmune disease
    d) diabetes

SECTION B Answer ALL questions in section (20marks)

1) Briefly explain two (2) mechanisms of developing Rhesus antibodies to be used in transfusion science (4marks)
2) List any four requirements for effective erythropoiesis during the formation and development of cellular components of blood to derive a mature red blood cell (1marks)
3) Explain briefly the possible causes of errors in Blood Transfusion Science and their modalities of minimizing such errors (4marks)
4) Briefly outline the classifications of leukemia conditions of a patient (4marks)
5) Outline the five major types of anaemia that a patient can be manifested by a patient in life. (5marks)
6) Outline the predisposing factors that can cause leukemia conditions of a patient (2marks)

SECTION C Answer Question ONE (Compulsory) and ANY OTHER question

1. Write short notes to describe the pathophysiology and management of the following disorders of blood:
    a) Hemophilia A and B (10marks)
    b) Disseminated intravascular Coagulopathy (5marks)
2. Describe in details the actions taken to attenuate some acute immunological blood transfusion reactions in the management of anaemia conditions (15marks)
3. Briefly discuss Leukaemia under the following subheadings
    i. Etiology (4marks)
    ii. Classifications (4marks)
    iii. The care and management of a patient with an Acute Myeloid Leukaemia (AML). [7 marks]