CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN NURSING

NURU 124: HEMATOLOGY

STREAMS: BSC NURSING Y1S3 **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 29/09/2021 **8.30 A.M – 10.30 A.M.**

INSTRUCTIONS:

- **Do not write anything on the question paper.**
- **Mobile phones and any other reference materials are NOT allowed in the examination room.**
- **All questions are compulsory.**

PART I: MULTIPLE CHOICE QUESTIONS(20 MARKS)

1. Most of the volume of normal human blood is composed of:
   a) red cells
   b) hemoglobin
   c) plasma
   d) white cells
2. Antigens are:
   a) found on the surface of red cells
   b) kinds of red cells that identify a blood type
   c) relatively large carbohydrate molecules
   d) a and b
3. Which of the following statements is true of antigen-antibody interactions?
   a) They are used by our bodies only to identify blood types.
   b) They are used to identify and reject microorganisms, such as viruses and bacteria that invade our bodies.
   c) They are the way our blood clots when we are bleeding from an open wound.
   d) b and c

4. Which agency regulates blood donation?
    a) American Medical Association
    b) U.S. Health and Human Services
    c) FDA
    d) American Red Cross
5. Donated blood undergoes screening for which diseases?
    a) HIV
    b) Viral hepatitis
    c) Diabetes
    d) a and b
6. What is the minimum you should weigh to donate blood?
    a) 100 pounds
    b) 110 pounds
    c) 115 pounds
    d) 125 pounds
7. Normal count of reticulocytes is:
    a) 0-1‰
    b) 2-12‰
    c) 20-25‰
    d) 25-50‰
8. What kind of anemia is characterized by decreasing synthesis of heme?
    a) iron deficiency anemia
    b) sickle-cell anemia
    c) thalassemia
    d) none of the above
9. What factors may cause iron deficiency anemia
    a) deficiency of intrinsic Castl's factor
    b) a decreased production of hydrochloric acid by gastric mucosa
    c) a decreased iron demand
    d) deficiency of vitamin Bl2
10. Manifestations in patients with hemolytic anemia include all except:
    a) jaundice
    b) systolic heart murmur
    c) reduction of the reticulocyte count
    d) splenomegaly

11. One of the developmental stages of neutrophylic leukocyte is:

a) myeloblast
b) prolymphocyte
c) promonocyte
d) monoblast

12. Leukopenia may be a result of:
    a) splenomegaly
    b) allergic skin diseases
    c) tuberculosis
    d) malaria
13. The endothelial cells of intact vessels prevent blood coagulation by secretion of:
    a) prostacyclin
    b) thromboxane
    c) factor IX
    d) vitamin K
14. Anticoagulative effect of heparin is realized through inhibition of:
    a) prothrombinase synthesis only
    b) the synthesis of thrombin only
    c) fibrin synthesis only
    d) all the phases of blood coagulation
15. Fresh frozen plasma is indicated for treatment of all except
    a) liver disorders
    b) disseminated intravascular coagulopathy
    c) thallasemia
    d) coagulation factor deficiency
16. The factor which converts the prothrombin to thrombin:
    a) factor I
    b) factor VII
    c) factor IXa
    d) factor Xa
17. Idiopathic thrombocytopenic purpura is example of a:
    a) coagulation disorder
    b) thrombocytopenia
    c) angiopathy
    d) thrombophilia
18. Deficiency of fibrinogen leads to disorder of:
    a) synthesis of prothrombinase
    b) thrombinogenesis
    c) fibrinogenesis
    d) retraction and fibrinolysis
19. Lack of vitamin K leads to:
    a) coagulation disorder

b) Disseminated intravascular coagulation (DIC) syndrom
c) thrombocytopenia
d) angiopathia

20. Coagulation factor which is reduced in hemophilia A?
a) factor I
b) factor VIII
c) factor XII
d) factor V

PART II: SHORT ANSWER QUESTIONS (30 MARKS)

1) Explain three types of sickle cell crisis (6 marks)
2) Outline four types of blood transfusion (4 marks)
3) Describe the components of complete blood count with normal values (8 marks)
4) Explain three causes of blood transfusion reactions (6 marks)
5) Describe secondary hemostasis (6 marks)

PART III: LONG ANSWER QUESTION (20 MARKS)

1) A 42 year old has been newly diagnosed with leukemia
a) Describe the leucopoiesis process (10 marks)
b) Compare and contrast acute and chronic leukemia (10 marks)