

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN NURSING**

NURS 222: HEMATOLOGY

STREAMS: Y2S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 24/3/2021

2.30 PM – 4.30 PM

INSTRUCTIONS:

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

PART I: MULTIPLE CHOICE QUESTIONS(20 MARKS)

1)Platelets are formed from what type of cell?

- a) Melanocytes
- b) Macrophages
- c) Astrocytes
- d) Megakaryocytes

2)Which of the following statements about erythrocytes is correct?

- a) They fight infection.
- b) They clot blood.
- c) They lack a nucleus.
- d) They are produced in the spleen.

- 3)The hormone erythropoietin stimulates red blood cell production in the red bone marrow.
Where in the body is erythropoietin produced?
- a) Spleen
 - b) Kidney
 - c) Liver
 - d) Thyroid
- 4)What would happen to red blood cells if the haem group were removed from haemoglobin?
- a) Red blood cells would not be able to bind oxygen.
 - b) Red blood cells would not be able to reproduce.
 - c) White blood cells would not be able to reproduce.
 - d) Blood clot formation would be inhibited.
- 5)Which of the following white blood cells is capable of phagocytosis?
- a) Basophil
 - b) Eosinophil
 - c) Lymphocyte
 - d) Neutrophil
- 6)The process of coagulation is classically divided into how many pathways?
- a) 3
 - b) 5
 - c) 2
 - d) 4
- 7)The kind of granulocytes which kills the parasites and breaks the inflammatory substances are
- a) basophils
 - b) chlorophylls
 - c) eosinophils
 - d) neutrophils
- 8)The life span of white blood cells is
- a) seconds to minutes
 - b) months to even years
 - c) minutes to days
 - d) none of above
- 9)The blood disease which is caused by the occurrence of mutations in hemoglobin genes is
- a) leukemia
 - b) bleeding disorders
 - c) thalassemia
 - d) hepatitis
- 10)The cancerous mutation in lymph tissue cells or bone marrow leads to defective
- a) Agranulocytes
 - b) erythrocytes
 - c) leukocytes
 - d) thrombocytes

- 11) What is hemophilia?
- a) group of bleeding disorders
 - b) An inherited bleeding disorder
 - c) A blood disorder that involves poor clotting
 - d) All of the above
- 12) Hemochromatosis means there is too much _____ in the blood.
- a) Iron
 - b) Carbon
 - c) Plasma
 - d) Alcohol
- 13) When blood clumps or forms visible islands in the still liquid plasma, it is called:
- a) Clotting
 - b) Agglutination
 - c) Thrombus
 - d) None of the above
- 14) 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
- 15) Most of the volume of normal human blood is composed of:
- a) red cells
 - b) hemoglobin
 - c) plasma
 - d) white cells
- 16) An individual's ABO blood type is normally determined by:
- a) Genetic inheritance and environmental influences during life
 - b) Environmental influences alone
 - c) Genetic inheritance only
 - d) The inheritance of 1 of 3 possible alleles (A, B, or O) from each parent
- 17) Which of the following statements is true?
- a) Specific ABO blood types are known to be linked with increased or decreased susceptibility to particular diseases.
 - b) Antibodies to alien antigens in the ABO group may be present in one's body prior to the first contact with blood of a different ABO type.
 - c) When our blood comes in contact with blood of a different type, our bodies can develop long-term immunity to the alien blood type.
 - d) All of the above are correct.
- 18) Mother-fetus Rh blood type incompatibility problems can occur if the mother is _____ and her fetus is _____.
- a) Rh positive; Rh positive
 - b) Rh positive; Rh negative

- c) Rh negative; Rh positive
 - d) Rh negative; Rh negative
- 19) Which of the following is true of Rh positive people?
- a) They are all homozygous dominant (DD).
 - b) They are all homozygous recessive (dd).
 - c) They are either homozygous recessive (dd) or heterozygous (Dd) for this trait.
 - d) They are either homozygous dominant (DD) or heterozygous (Dd) for this trait.
- 20) A lack of which of these will result in abnormally large red blood cells and a condition called megaloblastic anemia?
- a) Vitamin C
 - b) Vitamin B-12 and folic acid
 - c) Carbon dioxide
 - d) Oxygen

PART II: SHORT ANSWER QUESTIONS(40MARKS)

- 1) Describe the complete blood count and the normal count for each component. (8Marks)
- 2) Explain three ways of managing iron overload (6Marks)
- 3) Explain four factors that may hinder coagulation process (8Marks)
- 4) Outline five characteristics of an ideal anticoagulant (5Marks)
- 5) Describe the mechanisms by which hemostasis is achieved after rupture of a vessel (6Marks)
- 6) State five reasons for donor rejection during blood donation (5Marks)

PART III: LONG ANSWER QUESTIONS(40MKS)

- 1) A 40 year old Mr. L is admitted with a diagnosis of leukemia
 - a) Describe the hematopoietic process of the white blood cells (10Marks)
 - b) Compare and contrast acute and chronic leukemia (10Marks)

- 2) 34 year old Miss D has been on a long term treatment for anemia and is admitted for blood transfusion
 - a) Giving an example in each case, outline morphological classification of anemia(6Marks)
 - b) Describe the role of the nurse before the transfusion (10Marks)
 - c) Explain two types of blood transfusion reactions (4Marks)

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