

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR BACHELOR OF SCIENCE IN NURSING NURS 222– HEMATOLOGY

STREAMS: Y2S1

TIME: 3 HOURS

DAY/DATE :

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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.
- Iron
 - Carbon
 - Plasma
 - Alcohol
- 13) When blood clumps or forms visible islands in the still liquid plasma, it is called:
- Clotting
 - Agglutination
 - Thrombus
 - None of the above
- 14) Which of the following statements is true of antigen-antibody interactions?
- They are used by our bodies only to identify blood types.
 - They are used to identify and reject microorganisms, such as viruses and bacteria, that invade our bodies.
 - They are the way our blood clots when we are bleeding from an open wound.
 - b and c
- 15) Most of the volume of normal human blood is composed of:
- red cells
 - hemoglobin
 - plasma
 - white cells
- 16) An individual's ABO blood type is normally determined by:
- Genetic inheritance and environmental influences during life
 - Environmental influences alone
 - Genetic inheritance only
 - The inheritance of 1 of 3 possible alleles (A, B, or O) from each parent
- 17) Which of the following statements is true?
- Specific ABO blood types are known to be linked with increased or decreased susceptibility to particular diseases.
 - 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.
 - When our blood comes in contact with blood of a different type, our bodies can develop long-term immunity to the alien blood type.
 - All of the above are correct.
- 18) Mother-fetus Rh blood type incompatibility problems can occur if the mother is _____ and her fetus is _____.
- Rh positive; Rh positive
 - Rh positive; Rh negative
 - Rh negative; Rh positive
 - 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(8mks)

2) Explain three ways of managing iron overload (6mks)

3) Explain four factors that may hinder coagulation process(8mks)

4) Outline five characteristics of an ideal anticoagulant(5mks)

5) Describe the mechanisms by which hemostasis is achieved after rupture of a vessel(6mks)

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(10mks)
- b) Compare and contrast acute and chronic leukemia(10mks)

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(6mks)
- b) Describe the role of the nurse before the transfusion(10mks)
- c) Explain two types of blood transfusion reactions(4mks)