

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

NURU 124: HEAMATOLOGY

STREAMS: BSC Y1S2

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 08/04/2020

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.**
- **The paper has three sections. Answer ALL questions.**
- **All your answers for section I (MCQs) should be on one page.**
- **Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.**
- **Write your answers legibly and use your time wisely.**

PART I: MULTIPLE CHOICE QUESTIONS (20 MARKS)

1. Normal blood PH range is
 - (a) 7.35 to 7.45
 - (b) 6.35 to 6.45
 - (c) 8.35 to 8.45
 - (d) 7.00 to 8.00
2. The dark red colour of blood indicates that
 - (a) It has a high oxygen content
 - (b) It has a low oxygen content
 - (c) It has a high carbon dioxide content
 - (d) It has a low carbon dioxide content
3. The blood volume in an average-sized adult male is about

- (a) 7 to 8 liters
 - (b) 5 to 6 liters
 - (c) 4 to 5 liters
 - (d) 10 to 12 liters
4. Which one makes the biggest percentage of plasma proteins in blood?
- (a) Fibrinogen
 - (b) Albumin
 - (c) Globulin
 - (d) Prothrombin
5. Albumins
- (a) Transport steroid hormones
 - (b) Antibodies help attack viruses and bacteria
 - (c) Plays role in blood clotting
 - (d) Transport iron, lipids, and fat-soluble vitamins
6. Fragments of megakaryocytes are
- (a) Reticulocytes
 - (b) Platelets
 - (c) Clotting factors
 - (d) Eosinophils
7. The process by which the formed elements of blood develop is called
- (a) Hematopoiesis
 - (b) Erythropoiesis
 - (c) Leukocytosis
 - (d) Granulocytosis
8. Hematopoietic growth factors regulate the differentiation and proliferation of particular progenitor cells. Which one is not?
- (a) Erythropoietin
 - (b) Thrombopoietin
 - (c) Cytokines
 - (d) Autacoids
9. Agranular leukocytes include
- (a) Neutrophils and Eosinophils
 - (b) Lymphocytes and monocytes
 - (c) Basophils and Eosinophils

- (d) Megakaryocytes and reticulocytes
10. Blood clot retraction is
- (a) Clot consolidation
 - (b) Clot formation
 - (c) Clot resolution
 - (d) Clot regression
11. Prothrombin time measures/ evaluates
- (a) The time required to generate thrombin and fibrin polymers via the intrinsic and common pathways
 - (b) The generation of thrombin and the formation of fibrin via the extrinsic and common pathways
 - (c) Time to form a clot by measuring the time of fibrinogen conversion to fibrin
 - (d) Amount of time needed to form a clot especially those on heparin therapy
12. A normal adult hemoglobin (hemoglobin A) consists of
- (a) Four heme groups and four polypeptide chains
 - (b) Two polypeptide chains and four heme groups
 - (c) Two heme groups and four polypeptide chains
 - (d) Two polypeptide chains and two heme groups
13. The following is true about Hemoglobin
- (a) Heme synthesis occurs in the mitochondria
 - (b) Globin synthesis occurs in the lysosomes
 - (c) Heme synthesis occurs in the ribosomes
 - (d) Globin synthesis occurs in the peroxisomes
14. Red blood cells life span is about
- (a) 120 hours
 - (b) 120 days

- (c) 120 months
 - (d) 120 years
15. Production of abnormal hemoglobin leads to
- (a) Thalassaemia
 - (b) Hydropsfetalis
 - (c) A plastic anemia
 - (d) Sickle cell anemia
16. Blood constitutes about 20% of
- (a) Extracellular fluid
 - (b) Intracellular fluid
 - (c) Total body mass
 - (d) Total body fluid
17. Blood is about
- (a) 55% formed elements and 45% blood plasma
 - (b) 65% blood plasma and 35% formed elements
 - (c) 35% blood plasma and 65% formed elements
 - (d) 45% formed elements and 55% blood plasma
18. Blood osmotic pressure is maintained by
- (a) Plasma proteins
 - (b) Formed elements
 - (c) Plasma
 - (d) Oxygen
19. The bleeding time test measures:

- (a) Platelet function
 - (b) Common pathway
 - (c) Intrinsic pathway
 - (d) Extrinsic pathway
20. Which of the following refers to Hemoglobin F?
- (a) It is an inactive hemoglobin
 - (b) It is resistant to alkaline denaturation
 - (c) It has low affinity for oxygen
 - (d) It has high affinity for oxygen

PART II: SHORT ANSWER QUESTIONS (30 MARKS)

- 1. Describe what happens when a sample of blood is centrifuged (spun) in a small glass tube and the constituents of blood in relation to that. (8 marks)
- 2. Explain the three (3) steps of blood clotting. (6 marks)
- 3. Describe the normal red blood cells destruction (catabolism). (8 marks)
- 4. Describe four (4) functions of blood. (8 marks)

PART III: LONG ANSWER QUESTION (20 MARKS)

Mr. Mwasia is admitted with features suggestive of anemia. On further investigations, a diagnosis of vitamin B12 deficiency anemia is made.

- (i) State four (4) signs and symptoms of anemia. (4 marks)
 - (ii) Describe the nursing management of Mr. Mwasia until discharge. (16 marks)
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