AFRICA UNIVERSITY
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COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

SLS 202 HAEMATOLOGY SUPPLEMENTARY

END OF SECOND SEMESTER EXAMINATIONS

APRIL/MAY 2019

LECTURER: P NAGO

INSTRUCTIONS

Do not write your name on the answer sheet

Use Answer Sheets Provided

Begin your answer for Each Question on a New Page

Credit is Given for Neat Presentation

Section A: (40 Marks)

1. With regards to quality assurance in specimen collection:

T F (A) It is essential that blood collection process is monitored

T F (B) Specimen handling does not require monitoring

T F (C) The correct tube or specimen container must be used

T F (D) The competence of the phlebotomist does not matter

2. The following are qualities of an ideal haematology control substance:

T F (A) Inexpensive

T F (B) Prolonged stability

T F (C) must have optical & electrical properties similar to blood

T F (A) Assayable by independent methods

3. Under which of the following circumstances an MSDS would be used?

T F (A) A phlebotomist has experienced a needle puncture with a clean needle.

T F (B) a fire extinguisher failed during routine testing.

T F (C) A pregnant laboratory staff member has asked whether she needs to be concerned about working with a given reagent.

T F (D) during a safety inspection, an aged microscope power supply is found to have a frayed power cord

4.

T F (A) as blood viscosity increases, so is the pressure required to enable the flow.

T F As blood viscosity increases, the pressure required to enable flow decreases

T F (C) the Renin-Angiotensin-Aldosterone- mechanism has an overall effect of decreasing blood pressure

T F (D) as vessel diameter decreases, the resistance increases and blood flow decreases

5. The following are bone marrow needles :

T F (A) Jamshidi

T F (B) Westerman –Jensen

T F (C) Snare coil

T F (D) Mac Millan

6. The following are supra vital stains used in haematology:

T F (A) Brilliant Cresyl blue

T F (B) Methylene blue

T F (C) New Methylene blue

T F (D) Giemmsa

7. Packed cell volume is also called

T F (A) Erythrocyte volume fraction

T F (B) MCV

T F (C) HCT

T F (D) ESR

8. Sites of haemopoiesis throughout life include:

T F (A) Bone marrow

T F (B) Yolk sac

T F (C) Spleen

T F (D) All of the above

9. With regards to the nervous regulation of blood on blood vessels:

T F (A) It is mediated by the medulla oblongata.

T F (B) The medulla oblongata has the vasomotor center.

T F (C) The liver plays a key role.

T F (D) The nervous regulation of blood vessels has an effect on the blood flow.

10. G6PD deficiency is associated with:

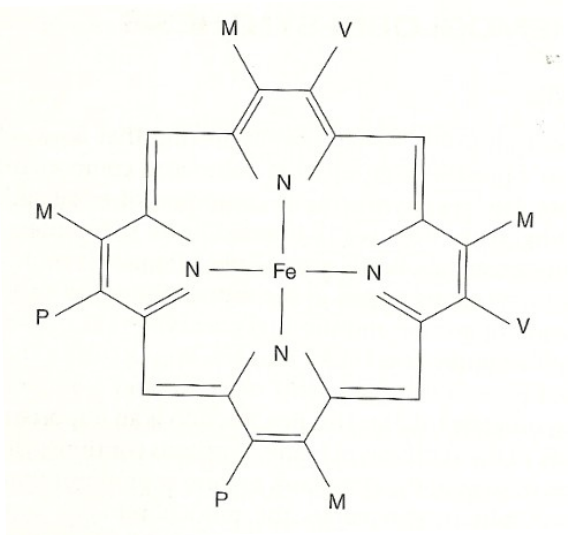
T F (A) Formation of methaemoglobin

T F (B) Non-reduction of NADP

T F (C) Heinz Bodies

T F (D) reduction of NADP

11. The diagram below shows a:



T F (A) Haem molecule

T F (B) Vit B12 molecule

T F (C) Iron molecule

T F (D) Folate molecule

12. The following are clinical features of chronic myeloid leukemia:

T F (A) Anaemia

T F (B) Sweats

T F (C) Fever

T F (D) Bone pain

13. Characteristic features of aplastic anaemia:

T F (A) Reticulocytosis

T F (B) Bone marrow hypercellularity

T F (C) Pancytopenia

T F (D) Depletion of hematopoietic stem cells

14. _____acts as the primary compound for the body's iron storage needs

T F (A) Transferrin

T F (B) Apoferritin

T F (C) Ferritin

T F (D) Cobalamin

15.

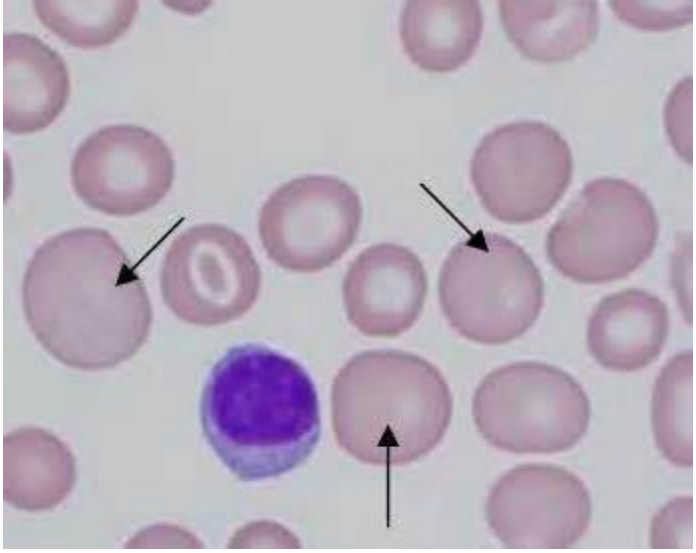
T F (A) Vitamin B_{12} absorption is an active process that occurs optimally in the jejunum

T F (B) Folate is absorbed optimally in the ileum

T F (C) Folate &Vitamin B_{12} are stored primarily in the liver

T F (D) Severe Folate deficiency is associated with megaloblastic anaemia///

16. The pointed cells in the picture are:



T F (A) Macrocytes

T F (B) Microcytes

T F (C) Tear drops

T F (D) Platelets

17. Below are causes of iron overload:

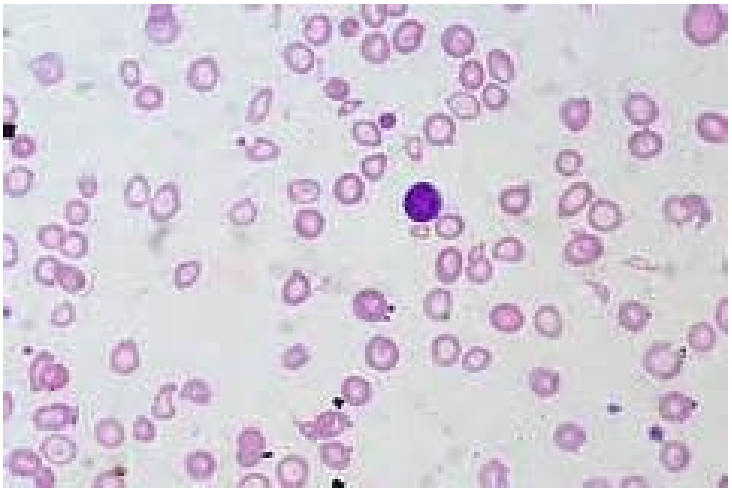
T F (A) Multiple transfusions

T F (B) Iron injections

T F (C) Increased iron absorption of iron

T F (D) (B) is incorrect

18. Diagram below is best described as:



T F Normocytic normochromic

T F (B) Macrocytic

T F (C) Polychromatic

T F (D) Microcytic hypochromic

19. The following represents globin chains in HbF:

T F (A) $\alpha_2 \beta_2$

T F (B) $\alpha_2 \delta_2$

T F (C) $\alpha_2 \gamma_2$

T F (D) $\alpha_2 \zeta_2$

20. With regard to Thalassaemia:

T F (A) Deletion of a single α-globin has no significant effect on well-being of affected individual

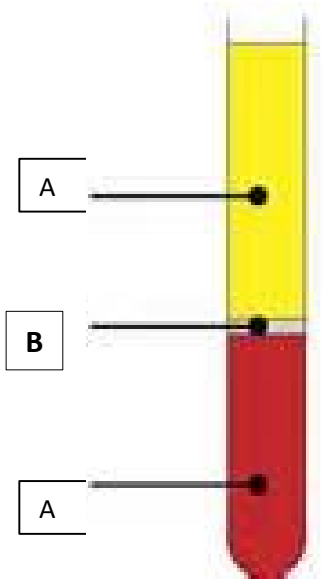
T F (B) is a qualitative haemoglobinopathy

T F (C) is a quantitative haemoglobinopathy

T F (D) Unpaired α-globin chains are extremely insoluble and cause severe damage to developing erythroblasts

Section B: Answer <u>all</u> questions: (Each question carries 5 marks)

1. List three main causes of an increased iron requirement
2. List uses five major uses of blood in the human body
3. The diagram below show whole blood in an EDTA tube, label the three major compartments :A, B &C



4. Match the following pairs (5marks)

I	Hb Barts	A	Reed Sternberg cells
II	Rouleaux formation	B	Starry night appearance
III	Hodgkin's lymphoma	C	New methylene blue
IV	Reticulocytes	D	Hydropsy fetalis
V	Burkitt's lymphoma	E	Multiple myeloma & other gammopathies

I----------II----------III----------IV----------V----------

Section C (Answer three questions, each question carries 20 marks)

1. Display your rich background of knowledge on the subject: 'Hb H disease'

2. List the three stages of iron deficiency & define characteristics of stage 3

3. Discuss on anaemia of chronic disorders.
4. Explain the usefulness of immunological techniques, chromosome analysis and cytochemistry in the diagnosis of haemopoietic neoplasms.

5. With aid of examples describe the clinical significance of clotting time.