



**Azra Naheed Medical College**  
**Hematopoietic System (31 Jan 2019)**  
**(MBBS. 4<sup>th</sup> Year)**  
**(Pathology-Objective Part)**

**Time Allowed: 20 min**

**Total Marks: 20**

Obtained Marks: \_\_\_\_\_

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Date: \_\_\_\_\_

Q 01. A 20 year old vegetarian female presented with anemia her peripheral blood picture shows large erythrocytes.

Which of the following red cell indices tells you how big your patient's erythrocytes are?

1. RBC
2. Hgb
3. MCV
4. RDW
5. MCHC

Q 02. The RDW measures:

1. The average concentration of hemoglobin in each red cell
2. The total number of red cells
3. The percentage of blood volume that is composed of red cells
4. The variation in red cell size (all the same size vs some big ones and some little ones)
5. The height of the average Christian Louboutin heel

Q3 "Chromasia" refers to:

1. How big the red cells are
2. How widely spaced the red cells are
3. How much hemoglobin is in the red cells
4. What color the red cells are
5. The age of the red cell

Q 04. A 40-year-old female says she feels tired all the time. On exam, you note that she is tachycardic and pale. You order a CBC, which shows the following:  
(Hgb 10 g/dL) (12-16), MCV 75 (80-100).  
Her reticulocyte count is not increased. Which of the following is most likely?

1. She has iron-deficiency anemia
2. She has megaloblastic anemia, probably due to folate deficiency
3. She has megaloblastic anemia, probably due to B12 deficiency
4. She has a hemolytic anemia

Q 05. A 60-year-old male has a hemoglobin of 9 g/dL. He also has the following lab results: MCV normal; LDH increased; haptoglobin decreased. Which of the following is most likely?

1. Iron-deficiency anemia
2. Megaloblastic anemia
3. Hemolytic anemia
4. Hodgkin lymphoma
5. Leukemia

Q 06. A 35 year old female presented with low hemoglobin count her HB is 9.0, Platelet  $480 \times 10^3$ , WBC  $7 \times 10^3$ . A physician ordered direct Antiglobulin Test, which comes back positive for complement, but not IgG. What is the most likely diagnosis?

1. Hereditary spherocytosis
2. Warm autoimmune hemolytic anemia
3. Cold autoimmune hemolytic anemia
4. Any of a number of non-immune causes of hemolysis

Q 07. A 6 year old boy is suffering from lethargy and shortness of breath since 1 year. On examination he is pallor. His CBC shows low HB, low MCV and peripheral picture shows sickle shaped RBCs. What causes the anemia in sickle cell disease?

1. An inability of the red cell to reduce organic peroxides.
2. An abnormal hemoglobin which polymerizes and irreversibly injures the red cell.
3. Insufficient Hgb A and excess unpaired  $\beta^2$ ,  $\beta^3$ , and  $\beta^1$  chains.
4. Insufficient Hgb A and excess unpaired  $\beta^{\pm}$  chains.
5. Consumption of red cells by splenic macrophages.

Q 08. On a routine physical examination of an elderly male patient with no other medical problems, you note that his earlobes and fingertips are pale and slightly bluish. A CBC shows a hemoglobin of 10.6 g/dL (12 - 16) and an MCV of 88 (80 - 100). Numerous red blood cell agglutinates are seen on the blood smear, made by smart technologists in your laboratory. Which of the following statements is true?

1. The antibody bound to the patient's red blood cells in this disorder is probably IgG
2. Complement is probably bound to the patient's red cells
3. The spleen is the main site of red cell destruction in this patient
4. 1 and 3
5. 1, 2, and 3

Q 09 A 55 yrs White man comes to you with c/o headache & generalized itching. On examination you notice that he has ruddy/plethoric complexion. His heart & lungs examination is normal but his spleen is palpable 3cm below left the costal margin.  
CBC Shows: Hb- 19g/dl Hematocrit - 68% RBC-  $9 \times 10^6$  WBC 3,000MM<sup>3</sup> Platelets 700mm<sup>3</sup>. Following is the probable diagnosis

- 1- Hemolytic anemia
- 2- Leukemia
- 3- Fanconis anemia
- 4- Inflammation
- 5- Polycythemia

Q 10 A young man is suffering from enlarged lymph nodes. Biopsy of lymph node reveals Hodgkin disease. The Hodgkin's disease patient described undergoes a lymph node biopsy for definitive diagnosis. If the diagnosis of Hodgkin's disease were correct, which of the following cells would the pathologist expect to find?

1. Reed-Sternberg cells.
2. Lymphoblastic cells.
3. Gaucher's cells.
4. Rieder's cells

Q 11 Non-Hodgkin lymphoma can spread to almost any part of the body, including the liver, bone marrow, and spleen. Mode of spread is

1. Symmetrical
2. Asymmetrical
3. Haphazard
4. Single node
5. Group of nodes

Q 12- 14 year old boy presented with history of fever malaise and unresponsive to antibiotics treatment. Upon investigation Philadelphia chromosome is positive. Philadelphia chromosome is a hallmark feature of

1. acute myelocytic leukemia
2. acute lymphocytic leukemia
3. Chronic lymphocytic leukemia
4. Chronic myloid leukemia
5. None of above

Q 13 Which of the following is not a sign of red cell destruction?

1. Increased free haptoglobin
2. Increased LDH
3. Increased bilirubin
4. Increased reticulocytes
5. Increased LAP

Q 14 Indolent lymphomas

1. Have a long median survival
2. Usually have a high mitotic rate
3. Display prominent nucleoli
4. Are usually curable
5. Are arrested at a precursor stage of development

Q 15 24 year old male presented with high grade fever nausea loss of weight and decrease appetite upon investigation aggressive lymphoma is diagnosed. Which is

1. Are arrested at differentiation phases normally associated with low proliferation
2. Rarely display nucleoli
3. Do not respond to chemotherapy
4. Are potentially curable
5. Are rarely seen in children

Q 16 A 25 year old suffering with high grade fever malaise weight loss. Upon examination he is pallor and his lymph nodes are palpable. The biopsy of one of the lymph node show the Reed Sternberg cell. Which is associated with following disease

1. Burkitt's lymphoma
2. Follicular lymphoma
3. Mantle cell lymphoma
4. Large B cell lymphoma
5. Hodgkin's lymphoma

Q 17 Prognosis in lymphoma is based on all of the following except

1. Race
2. Stage of disease
3. Age
4. Histologic type
5. International prognostic index

Q 18 following is not a type of classical Hodgkin lymphoma

1. Nodular sclerosis Hodgkin's lymphoma
2. Lymphocyte-rich classical Hodgkin's lymphoma
3. Mixed cellularity Hodgkin's lymphoma
4. Lymphocyte depletion Hodgkin's lymphoma
5. Burkitt's lymphoma

Q 19 What is the most common cause of anemia?

1. Too little sleep
2. Too much sugar
3. Too little iron in the blood
4. Exposure to X-ray radiation
5. None

Q 20 A vegetarian patient is presented with anemia her CBC shows high MCV. The lack of which of these will result in abnormally large red blood cells and a condition called megaloblastic anemia?

1. Oxygen
2. Vitamin C
3. Vitamin B-12 and folic acid
4. Carbon dioxide
5. sugar