1. BLOOD

Station 1: Leukocytes

References: ***Lab Manual, Exercise 27, p. 144-145.***
Textbook, p. 537-540 and Table 14.5, p. 541, Figs. 14.9-14.11, p. 538 and Fig. 14.12-14.13, p. 539.
Workbook, complete p. 168, #2 and p. 170, #4.

Observe the leukocytes in the microscopes:

Q1A.—Q5A. Identify the leukocyte and give the relative percentage of it in the total number of leukocytes.
Q1B.—Q5B. Give the function of the leukocyte identified in the A part of the question.
Q6A. Name the test that is performed to determine the relative percentages of the types of leukocytes.
Q6B. What could a high eosinophil count indicate?
Complete page 170 in your workbook as the instructions indicate and turn it in with your lab report.

Erythrocytes

References: ***Text, p. 530-537 and Fig. 14.4, p. 532.***
Workbook, complete p. 169, Fig. 10-1.

Observe the erythrocytes in the microscope.

Q7A. What is the normal range of red blood cells for adult males?
Q7B. What is the normal range of red blood cells for adult females?
Q8A. When an erythrocyte is destroyed, where is the hemoglobin broken down?
Q8B. What is the major function of hemoglobin?
Q9A. When heme is broken down, what is the main product?
Q9B. Iron is stored in the liver bound to what molecule?

Station 3: Volume of Packed Red Cells—Hematocrit

References: ***Lab Manual, p. 146-148.***
Text, p. 529-530 and Fig. 14.2, p. 530.

Q10A. What characteristic do all the different types of anemia have in common?
Q10B. What is a normal hematocrit range for females?
Q11A. Why is the hematocrit tube heparinized?
Q11B. Record the percentages of packed red cells from the hematocrit tubes on the lab table.
Q12A. Name the piece of lab equipment that is used to separate blood into plasma and formed elements.

Station 5: Clotting Time

References: ***Lab Manual, p. 148.***
Workbook, complete p. 172, #8 and #9.
Textbook, p. 545-550.

Q12B. What is normal clotting time?
Q13A. Define the term, COAGULATION.
Q13B. What triggers the extrinsic clotting mechanism?
Q14. Name the three most effective mechanisms for hemostasis.
Q15A. What ions must be present for coagulation to take place?
Q15B. What leukocyte releases an anticoagulant? Name that anticoagulant.
Q16A. What is the function of an anticoagulant?

View the thrombocytes in the microscope. Note the small blue fragments between the red blood cells.

Q16B: Name the bone marrow cells that give rise to thrombocytes or platelets.

Station 6: Blood Typing

References: ***Lab Manual, p. 148-149 and Table 27.2.***
Text, p. 550-555.
Workbook, complete p. 173, #10, #11, and #12.

Select a blood sample from the lab table and follow the directions on the table.

Q17A. Write the sample letter here. Did the blood sample agglutinate with the Anti-A serum?
Q17B. Did your blood agglutinate with the Anti-B serum?
Q18A. What is the ABO blood type of the sample you chose?
Q18B. What agglutinogens are present on the red blood cells of your sample?
Q19A. What agglutinins are present in the blood plasma of the sample you chose?
Q19B. In blood typing terminology, how would you describe the molecules in the bottle labeled Anti-B serum?
Q20A. Did your blood sample agglutinate with the Anti-D serum? What is the Rh type of your sample?
Q20B. Are there Rhesus antibodies in Rh positive blood plasma?

Q21: **Clinical Application Thought Question:** (Answer at the bottom of your lab report.)
A patient presents with recurrent bacterial infections. All the bacteria with which he has been infected are known to like an iron-rich environment such as a tissue. He also has a bronze tint to his skin, and he insists that he has not spent any time in the sun. What condition does he have? How will he be treated?

Turn in p. 170 (labeled and colored) with your lab report.