Name _____
Human Biology Lab Manual Lab Report
Laboratory Exercise 5: Urinary System

URINALYSIS

*Activity 1: Determine the **color** and **transparency** of each urine sample.*

Table 5.1

Urine Sample	color	transparency
A		
B		
C		

*Activity 2: Determine the **pH** of each urine sample.*

Table 5.2

Urine Sample	pH
A	
B	
C	

*Activity 3: Determine the presence of **ketones** in each urine sample.*

Table 5.3

Urine Sample	Odor Description
A	
B	
C	

*Activity 4: Determine the presence of **glucose** in each urine sample.*

Table 5.4

Urine Sample	Color Before Hot Water Bath	Color After Hot Water Bath
A		
B		
C		

*Activity 5: Determine the presence of **protein** in each urine sample.*

Table 5.5

Urine Sample	Color Before Biuret's Reagent	Color After Biuret's Reagent
A		
B		
C		

*Activity 6: Determine the presence of **chloride** in each urine sample.*

Table 5.6

Urine Sample	White Precipitate (Yes or No)
A	
B	
C	

Table 5.7: Overall Results of Urinalysis

Record the results of each urine sample by stating whether they show normal ("negative") or abnormal ("positive") results in each urine sample.

Test	Urine Sample A	Urine Sample B	Urine Sample C
Color			
pH			
Ketone			
Glucose			
Protein			
Chlorides			

Activity 7: Use of multi-test strips to determine various characteristics of each urine sample.

Table 5.8 Record Urine test strip results by checking if the constituent is present or not. In most cases, a negative result is normal urine.

Test	Urine Sample A		Urine Sample B		Urine Sample C	
	Negative	Positive	Negative	Positive	Negative	Positive
Leukocytes						
Nitrite						
Urobilinogen						
Protein						
pH						
Blood						
Specific Gravity						
Ketone						
Bilirubin						
Glucose						

Activity 8: Urinalysis Results and Lab Review

1. By analyzing the results of urinalysis and reading the background information of this procedure, determine if the urine samples are normal urine or indicators of what particular conditions (urinary tract infection, proteinuria, diabetes mellitus, kidney failure or disease, dehydration, starvation, ketonuria, etc.).
    a. Urine Sample A result: _____
    b. Urine Sample B result: _____
    c. Urine Sample C result: _____
2. The hormone insulin promotes the uptake of glucose by cells. When glucose is in the urine, either the pancreas is not producing insulin (diabetes mellitus type I) or cells are resistant to insulin (diabetes mellitus type 2). Ketones (acids) are also in the urine because the cells are metabolizing fat instead of glucose. Explain why cells are metabolizing fat. _____

    _____

    Why is the pH of urine lower than normal? _____

    _____

3. If you were a doctor and a patient's urinalysis came back with an alkaline pH and high levels of albumin (protein), what diagnosis would you immediately look into?

    _____

    _____

4. Number the following structures to indicate their respective positions in relation to the nephron. Assign number 1 to the part attached to the glomerular capsule.
    ____ loop of nephron
    ____ collecting duct
    ____ distal convoluted tubule
    ____ proximal convoluted tubule
    ____ renal pelvis

5. Name a substance that is in the glomerular filtrate but not in the urine. _____

6. Name the process by which molecules move from the proximal convoluted tubule into the blood. _____

7. Does urinalysis prove the presence of disorders/ conditions or diseases? Explain. _____

_____

_____

_____

_____

_____

_____