# UNIT FOUR EXAM (CHAPTERS 16, 20 AND 21)

## CHAPTER 16:

THE STUDENT WILL BE ABLE TO:

1. Describe the general functions of the lymphatic system.
2. Describe the location of the major lymphatic pathways.
3. Describe how tissue fluid and lymph are formed, and explain the function of lymph.
4. Explain how lymphatic circulation is maintained and describe the consequence of lymphatic obstructions.
5. Describe a lymph node and its major functions.
6. Describe the location of the major chains of lymph nodes.
7. Discuss the function of the thymus and spleen.
8. Distinguish between specific and nonspecific body defenses, and provide examples of each.
9. Explain how two major types of lymphocytes are formed and how they function in immune mechanisms.
10. Name the major types of immunoglobulins and discuss their origins and actions.
11. Distinguish between primary and secondary immune responses.
12. Distinguish between active and passive immunity.
13. Distinguish between natural and artificial immunity.
14. Explain how allergic reactions and tissue rejection reactions are related to immune mechanisms.

## CHAPTER 20

THE STUDENT WILL BE ABLE TO:

1. Name the organs of the urinary system and list their general functions.
2. Describe the locations of the kidneys and the structure of a kidney.
3. List the functions of the kidneys.
4. Describe a nephron, and explain the functions of its parts.
5. Explain how glomerular filtrate is produced and describe its composition.
6. Explain how various factors affect the rate of glomerular filtration and how this rate is regulated.
7. Discuss the role of tubular reabsorption in urine formation.
8. Explain why the osmotic concentration of the glomerular filtrate changes as it passes through a renal tubule.
9. Describe a countercurrent mechanism and explain how it helps concentrate urine.
10. Define tubular secretion and explain its role in urine formation.
11. Describe the structure of the ureters, urinary bladder, and urethra.
12. Discuss the process of micturition and explain how it is controlled.

## CHAPTER 21

THE STUDENT WILL BE ABLE TO:

1. Explain what is meant by water and electrolyte balance and discuss the importance of this balance.
2. Explain how electrolytes enter and leave the body and how the input and output of electrolytes are regulated.
3. Explain what is meant by acid-base balance.
4. Review how hydrogen ion concentrations are expressed.
5. Explain how changing pH values of the body fluids are minimized by chemical buffer systems, the respiratory system, and the kidneys.
6. Discuss respiratory and metabolic acidosis and alkalosis.