

## Lecture Exam 4 Objectives

Upon completion of this unit, the student should be able to achieve the following performance objectives as well as utilize a vocabulary containing the following terms.

Androgen	Emulsification	Incontinence
Anuria	Gametes	Intrinsic factor
Appendicitis	Gluconeogenesis	Ketogenesis
Beta oxidation	Glycogenesis	Lipogenesis
Bile	Glycosuria	Menopause
Carbonic anhydrase	Gonads	Menses
Chylomicron	Graafian follicle	Metabolic acidosis
Chyme	Hyperglycemia	Metabolic alkalosis
Circumcision	Hyperkalemia	Micturition
Compensation	Hypernatremia	Peritonitis
Deamination	Hypervolemia	Polar body
Deglutition	Hypoglycemia	Polyuria
Dehydration	Hypokalemia	Respiratory acidosis
Diuretic	Hyponatremia	Respiratory alkalosis
Edema	Hypovolemia	Zygote

1. Describe the functions of the urinary system.
2. List the pathways of excretion in the body.
3. List the major organs of the urinary system and give the generalized functions of each.
4. Name the parts of a nephron and describe the role of each component in the formation of urine.
5. Describe the renal blood supply and trace blood flow through the specialized vessels of the kidney
6. Trace urine from its point of formation to the exterior of the body.
7. Explain the importance of filtration, tubular re-absorption, and tubular secretion in urine formation.
8. Describe the fate of most of the water that leaves the glomerulus.
9. Describe the fate of glucose in the glomerular filtrate
10. Describe the control mechanisms affecting the volume of urine production.
11. Differentiate between plasma and glomerular filtrate with respect to normal composition.
12. List those substances normally found in urine.
13. Identify the hormones that influence urine output and blood volume and explain their modes of action.
14. List and compare the major fluid compartments and subdivisions in the body.
15. Identify differences in electrolyte and protein concentrations in plasma, interstitial fluid, and intracellular fluid.

16. Discuss pathways by which water enters and leaves the body.
17. Explain the mechanisms that maintain homeostasis of the body fluid.
18. Describe the respiratory and renal physiology involved in acid-base balance.
19. State the normal pH range of blood and interstitial fluid.
20. Contrast the respiratory and urinary mechanisms of pH control.
21. Describe the effect of increasing blood PCO<sub>2</sub> on blood pH.
22. Identify the buffer systems used to maintain the pH of the blood.
23. Discuss the functions of the digestive system.
24. Define and compare mechanical (physical) and chemical digestion.
25. List, in sequence, each of the component parts of the digestive tract from mouth to anus and identify the accessory structures that are located within or open into the gastrointestinal tract.
26. Explain the division, sphincters, layers, and glands of the stomach.
27. Discuss the functions of the stomach and explain the process of the emptying of the stomach.
28. Discuss the size and divisions of the small and large intestines.
29. Discuss the functions of the liver, gall bladder, and pancreas.
30. State the composition and functions of bile.
31. Describe the problem caused by the obstruction of the opening of the pancreatic duct in the duodenum.
32. Outline the digestive sequence for carbohydrates, fats, and proteins, including the enzymes, hormones, anatomical structures, and end products.
33. Describe the hormonal control of digestion, stating the source and function of the following digestive hormones: gastrin, secretin, and CCK.
34. Describe the different types of gastrointestinal movements, such as peristalsis and segmentation, characteristic of the digestive system.
35. State the function of the villi in the lining of the small intestine.
36. State the functions of the small intestine and colon.
37. Describe the functions of the male and female reproductive systems.
38. Describe the following hormones as to site of production, function and target: follicle stimulating hormone (FSH); luteinizing hormone (LH) also known as interstitial cell stimulating hormone (ICSH); prolactin; oxytocin; testosterone, estrogens, progesterone and human chorionic gonadotropin (hCG).
39. List the essential and accessory organs of the male reproductive system and give the generalized function of each.
40. List the substances found in semen.
41. Discuss the composition and function of seminal fluid.
42. Trace the passage of sperm from the point of formation, in sequence, through the genital ducts to the exterior.
43. Describe the involvement of the nervous system with respect to erection, emission, and ejaculation.
44. List the essential and accessory sex organs of the female reproductive system and give the generalized function of each.
45. Discuss the structure of the uterus including the layers and divisions.
46. Give the endocrine functions of the placenta.
47. Identify the structures that together constitute the female external genitals.
48. Identify the phases of the endometrial or menstrual cycle.

49. Explain the hormonal control of the cyclical changes that occur in the ovaries.
50. Discuss male and female fertility.
51. State the secondary male and female sex characteristics expressed at puberty.
52. Review all the body systems and how they work together to keep the body in a homeostatic state.

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