

# Sharyland ISD Study Guide

## Anatomy & Physiology Semester 2



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

Student ID: \_\_\_\_\_

# Anatomy & Physiology CBE Pt.2 - STUDY GUIDE

1. Know the 4 different types of muscle tissues, their structure, function, locations, and injuries or disorders of this system.
2. Understand the structure and function of the Endocrine system, the various types of glands and how they regulate hormones to target different types of tissues.
3. Study the structure and function of the Respiratory System, including the process/site of gas exchange, lung capacity, and different respiratory diseases/disorders.
4. Understand the structures and functions of the Lymphatic/Immune System, the location of lymphatic organs, vessels, and lymphatic fluids.
5. Study the various types of immunity, the cellular response of the Immune System, and the agents of disease.
6. Know the structure and function of the Digestive System, including a focus on the various organs involved, following the steps in digestion and absorption both on the microscopic and macroscopic level, and recall the 4 biomolecules in process of metabolism and energy.
7. Understand the structure and function of the Urinary System, including specific terminology, the process of urine formation, and effects of diseases and disorders of the renal system.
8. Understand the structure and function of the Female Reproductive System, focusing on primary and secondary sex organs, process of menses, and pregnancy.
9. Know the structures involved in fertilization, such as the development of egg and sperm, cellular characteristics of each cell, the process of fertilization, implantation, fetal development, and birth.
10. Understand the structure and function of the Male Reproductive System, focusing on the primary and secondary sex organs.

**REVIEW Anatomy & Physiology CBE Pt.2**

**Matching**

*Match the following terms and identifying phrases.*

- |                       |                     |
|-----------------------|---------------------|
| A. smooth muscle      | K. fascicle         |
| B. motor unit         | L. tendinitis       |
| C. perimysium         | M. action potential |
| D. intercalated discs | N. extension        |
| E. sarcolemma         | O. muscle fiber     |
| F. insertion          | P. skeletal muscle  |
| G. abduction          | Q. peristalsis      |
| H. aponeurosis        | R. cross bridges    |
| I. flexion            | S. origin           |
| J. adduction          |                     |

- \_\_\_\_\_ 1. Individual skeletal muscle cell.
- \_\_\_\_\_ 2. Cell membrane of a muscle fiber.
- \_\_\_\_\_ 3. Flat, sheetlike fiber that connects muscle to muscle.
- \_\_\_\_\_ 4. Strong fibrous membrane that wraps groups of muscle fibers.
- \_\_\_\_\_ 5. Unit of muscle fibers wrapped with perimysium.
- \_\_\_\_\_ 6. Voluntary muscle.
- \_\_\_\_\_ 7. Visceral muscle.
- \_\_\_\_\_ 8. Symmetrical squeezing of the walls of the digestive tract.
- \_\_\_\_\_ 9. Structures found only in cardiac muscle.
- \_\_\_\_\_ 10. The electrical charge produced in nerve or muscle fiber by stimulation.

*Match the following terms and identifying phrases.*

- |                        |                             |
|------------------------|-----------------------------|
| A. steroid hormones    | K. adrenal cortex           |
| B. adrenal medulla     | L. anterior pituitary gland |
| C. parathyroid gland   | M. diabetes insipidus       |
| D. pineal gland        | N. downregulated            |
| E. hypothyroidism      | O. goiter                   |
| F. hormones            | P. thyroid gland            |
| G. tropic hormones     | Q. diabetes mellitus        |
| H. dwarfism            | R. upregulated              |
| I. amino acid hormones | S. testes                   |
| J. ovaries             | T. pancreas                 |

- \_\_\_\_\_ 11. Chemical messengers secreted by the endocrine glands.
- \_\_\_\_\_ 12. Lipid hormones.
- \_\_\_\_\_ 13. Increased.

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

ID: A

- \_\_\_ 14. Hormones composed of proteins.
- \_\_\_ 15. Decreased.
- \_\_\_ 16. Outer layer of the adrenal gland.
- \_\_\_ 17. Gland that releases melatonin.
- \_\_\_ 18. Pituitary hormones that stimulate other endocrine glands.
- \_\_\_ 19. Gland that secretes calcitonin.
- \_\_\_ 20. Gland that secretes follicle stimulating hormone.

*Match the following terms and identifying phrases.*

- |                         |                      |
|-------------------------|----------------------|
| A. surfactant           | K. sinuses           |
| B. pores of Kohn        | L. alveoli           |
| C. mediastinum          | M. tidal volume      |
| D. trachea              | N. bronchioles       |
| E. conchae              | O. pharynx           |
| F. nares                | P. vital capacity    |
| G. internal respiration | Q. palate            |
| H. larynx               | R. epiglottis        |
| I. external respiration | S. respiration       |
| J. pleural sac          | T. thyroid cartilage |

- \_\_\_ 21. Air sacs, which are the main sites of gas exchange in the lungs.
- \_\_\_ 22. Two openings in the nose.
- \_\_\_ 23. Small openings in the alveolar walls.
- \_\_\_ 24. The roof of the mouth.
- \_\_\_ 25. Uneven, scroll-like nasal bones.
- \_\_\_ 26. Voice box.
- \_\_\_ 27. Serous membrane that surrounds the lungs.
- \_\_\_ 28. The throat.
- \_\_\_ 29. Adam's apple.
- \_\_\_ 30. Windpipe.

*Match the following terms and identifying phrases.*

- |                     |                       |
|---------------------|-----------------------|
| A. lymph nodes      | K. macrophages        |
| B. lymphocytes      | L. complement system  |
| C. T cells          | M. interstitial fluid |
| D. palatine tonsils | N. inflammation       |
| E. fever            | O. B cells            |
| F. spleen           | P. pyrogens           |
| G. lingual tonsils  | Q. adenoid            |
| H. interferons      | R. neutrophil         |
| I. lymph            | S. endothelial cells  |
| J. mast cell        | T. pathogens          |

- \_\_\_ 31. Fluid in the spaces between cells.
- \_\_\_ 32. The largest lymphatic organ in the human body.
- \_\_\_ 33. The distinctive cells of the lymphatic system.
- \_\_\_ 34. Cells that form the walls of lymphatic capillaries.
- \_\_\_ 35. Cells that phagocytize foreign cells and substances.
- \_\_\_ 36. Clear fluid collected from tissues throughout the body.
- \_\_\_ 37. Small, bean-shaped organs found along the lymphatic vessels throughout the body.
- \_\_\_ 38. Lymphocytes that mature in bone marrow.
- \_\_\_ 39. Lymphocytes that complete their maturation in the thymus.
- \_\_\_ 40. Two masses of lymphatic tissue that lie in the back of the mouth.

*Match the following terms and identifying phrases.*

- |                         |               |
|-------------------------|---------------|
| A. minerals             | K. ulcer      |
| B. basal metabolic rate | L. esophagus  |
| C. chyme                | M. hepatitis  |
| D. monounsaturated fat  | N. nutrients  |
| E. alimentary canal     | O. gallstones |
| F. energy               | P. fats       |
| G. ingestion            | Q. diarrhea   |
| H. micronutrients       | R. colon      |
| I. defecation           | S. absorption |
| J. polyunsaturated fat  | T. vitamins   |

- \_\_\_ 41. The amount of energy required to sustain a person's metabolism for one day of rest.
- \_\_\_ 42. Substances that the body needs for energy, growth, and maintenance.
- \_\_\_ 43. The ability of a physical system to do work.
- \_\_\_ 44. Elements that the body needs in relatively small amounts.
- \_\_\_ 45. Organic chemicals needed for normal functioning of metabolism and good health.
- \_\_\_ 46. Vitamins and minerals that are essential to the body in small amounts.

- \_\_\_ 47. Lipids.  
 \_\_\_ 48. Corn oil and soybean oil.  
 \_\_\_ 49. Canola oil and olive oil.  
 \_\_\_ 50. The longest segment of the large intestine.

*Match the following terms and identifying phrases.*

- |                         |                           |
|-------------------------|---------------------------|
| A. trigone              | K. detrusor               |
| B. nephron              | L. renal corpuscle        |
| C. reabsorption         | M. renal dialysis         |
| D. glomerulus           | N. renin                  |
| E. micturition          | O. creatinine             |
| F. renal cortex         | P. ureter                 |
| G. diuresis             | Q. urinalysis             |
| H. renal medulla        | R. urethra                |
| I. hydrostatic pressure | S. urine specific gravity |
| J. renal pelvis         | T. bladder                |

- \_\_\_ 51. The basic working unit of each kidney.  
 \_\_\_ 52. A cluster of capillaries around the renal corpuscle.  
 \_\_\_ 53. The outer layer of the kidney.  
 \_\_\_ 54. The inner layer of the kidney.  
 \_\_\_ 55. The deepest part of the kidney.  
 \_\_\_ 56. The part of a nephron that consists of a glomerular capsule and its glomerulus.  
 \_\_\_ 57. Protein made in the kidneys, which aids in the production of angiotensin.  
 \_\_\_ 58. The duct from the kidney to the bladder.  
 \_\_\_ 59. Tube from the bladder to the outside.  
 \_\_\_ 60. Stores urine.

*Match the following terms and identifying phrases.*

- |                         |                 |
|-------------------------|-----------------|
| A. epididymis           | K. oocyte       |
| B. ejaculation          | L. centromere   |
| C. sperm                | M. uterus       |
| D. semen                | N. menarche     |
| E. ductus deferens      | O. cervix       |
| F. zygote               | P. haploid      |
| G. gonads               | Q. ovulation    |
| H. gametes              | R. diploid      |
| I. seminiferous tubules | S. implantation |
| J. chromatids           | T. meiosis      |

- \_\_\_ 61. A type of cell division that occurs only in the sex organs.  
 \_\_\_ 62. A cell with two copies of each chromosome.

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

ID: A

- \_\_\_ 63. A cell with just one version of each chromosome.
- \_\_\_ 64. The first menstrual bleeding.
- \_\_\_ 65. Divides the chromosome into two arms.
- \_\_\_ 66. Paired strands of a duplicated chromosome.
- \_\_\_ 67. Mature haploid male or female cells.
- \_\_\_ 68. Diploid cell produced by the fusion of a sperm and an egg.
- \_\_\_ 69. The fluid that contains sperm.
- \_\_\_ 70. The discharge of sperm.

**REVIEW Anatomy & Physiology CBE Pt.2  
Answer Section****MATCHING**

- |            |        |
|------------|--------|
| 1. ANS: O  | PTS: 1 |
| 2. ANS: E  | PTS: 1 |
| 3. ANS: H  | PTS: 1 |
| 4. ANS: C  | PTS: 1 |
| 5. ANS: K  | PTS: 1 |
| 6. ANS: P  | PTS: 1 |
| 7. ANS: A  | PTS: 1 |
| 8. ANS: Q  | PTS: 1 |
| 9. ANS: D  | PTS: 1 |
| 10. ANS: M | PTS: 1 |
| 11. ANS: F | PTS: 1 |
| 12. ANS: A | PTS: 1 |
| 13. ANS: R | PTS: 1 |
| 14. ANS: I | PTS: 1 |
| 15. ANS: N | PTS: 1 |
| 16. ANS: K | PTS: 1 |
| 17. ANS: D | PTS: 1 |
| 18. ANS: G | PTS: 1 |
| 19. ANS: P | PTS: 1 |
| 20. ANS: L | PTS: 1 |
| 21. ANS: L | PTS: 1 |
| 22. ANS: F | PTS: 1 |
| 23. ANS: B | PTS: 1 |
| 24. ANS: Q | PTS: 1 |
| 25. ANS: E | PTS: 1 |
| 26. ANS: H | PTS: 1 |
| 27. ANS: J | PTS: 1 |
| 28. ANS: O | PTS: 1 |
| 29. ANS: T | PTS: 1 |
| 30. ANS: D | PTS: 1 |
| 31. ANS: M | PTS: 1 |
| 32. ANS: F | PTS: 1 |
| 33. ANS: B | PTS: 1 |
| 34. ANS: S | PTS: 1 |
| 35. ANS: K | PTS: 1 |
| 36. ANS: I | PTS: 1 |
| 37. ANS: A | PTS: 1 |
| 38. ANS: O | PTS: 1 |



- 39. ANS: C                   PTS: 1
- 40. ANS: D                   PTS: 1
  
- 41. ANS: B                   PTS: 1
- 42. ANS: N                   PTS: 1
- 43. ANS: F                   PTS: 1
- 44. ANS: A                   PTS: 1
- 45. ANS: T                   PTS: 1
- 46. ANS: H                   PTS: 1
- 47. ANS: P                   PTS: 1
- 48. ANS: J                   PTS: 1
- 49. ANS: D                   PTS: 1
- 50. ANS: R                   PTS: 1
  
- 51. ANS: B                   PTS: 1
- 52. ANS: D                   PTS: 1
- 53. ANS: F                   PTS: 1
- 54. ANS: H                   PTS: 1
- 55. ANS: J                   PTS: 1
- 56. ANS: L                   PTS: 1
- 57. ANS: N                   PTS: 1
- 58. ANS: P                   PTS: 1
- 59. ANS: R                   PTS: 1
- 60. ANS: T                   PTS: 1
  
- 61. ANS: T                   PTS: 1
- 62. ANS: R                   PTS: 1
- 63. ANS: P                   PTS: 1
- 64. ANS: N                   PTS: 1
- 65. ANS: L                   PTS: 1
- 66. ANS: J                   PTS: 1
- 67. ANS: H                   PTS: 1
- 68. ANS: F                   PTS: 1
- 69. ANS: D                   PTS: 1
- 70. ANS: B                   PTS: 1

I 14.

N 15.

K 16.

D 17.

G 18.

P 19.

L 20.

L 21.

F 22.

B 23.

Q 24.

E 25.

H 26.

J 27.

O 28.

T 29.

D 30.

M 31.

F 32.

B 33.

S 34.

K 35.

I 36.

A 37.

O 38.

C 39.

D 40.

B 41.

N 42.

F 43.

A 44.

T 45.

H 46.

P 47.

J 48.

D 49.

R 50.

B 51.

D 52.

F 53.

H 54.

J 55.

L 56.

N 57.

P 58.

R 59.

T 60.

T 61.

R 62.

P 63.

N 64.

L 65.

J 66.

H 67.

F 68.

D 69.

B 70.

O 1.

E 2.

H 3.

C 4.

K 5.

P 6.

A 7.

Q 8.

D 9.

M 10.

F 11.

A 12.

R 13.